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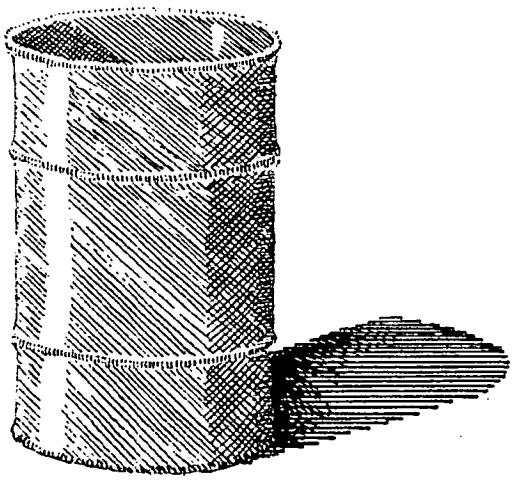
Hazardous Waste In The SACOG Region

Sacramento Area Council Of Governments, February 1982

SACOG-82-001



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HAZARDOUS WASTE
IN THE
SACOG REGION

FEBRUARY 1982

Sacramento Area Council of Governments

Suite 300, 800 "H" Street Sacramento, California 95814

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Purpose Of Report

PURPOSE

The problem of hazardous waste management is a fast evolving and rapidly changing field with responsibilities split among Federal, State and local governments. Local elected officials, city and county staff, and citizens have often been confused by the number of laws, regulations and agencies that affect hazardous wastes.

The purpose of this report is to provide an overview of hazardous wastes in the region, a description of hazardous waste generation and disposal patterns, a description of existing local activities, an indication of problems in the location of hazardous waste disposal facilities, and recommendations for improvement in existing hazardous waste management practices.

SUMMARY

The products we use contain chemicals, the food we eat is grown by using pesticides, and our manufacturing processes often require the use of toxic substances. This results in hazardous waste. Unfortunately, these hazardous wastes have often been mishandled.

Hazardous wastes can be toxic, corrosive, flammable, irritating, or sensitizers. The two most common forms of hazardous wastes are solids and liquids.

Toxic substances and waste vary in their hazard to humans. Some toxic substances are only moderately dangerous, while others can cause death. The strength of a toxic substance and the duration of exposure determine the danger. Exposure to toxic substances can be through contact with the skin, ingestion, inhalation, or absorbtion.

Although accidents and spills have received a great deal of publicity, toxic substances can enter the environment in other ways that pose significant danger to humans. Drinking water contamination, air pollution, worksite contact and food chain contamination have all occurred. Improper management of toxic substances and hazardous wastes is one of our most serious environmental problems.

Most hazardous waste in California is disposed of by dumping it into land disposal sites because it is easy and cheap. Because of nationwide problems with land fills, the Federal Resource Conservation and Recovery Act (RCRA) was passed in 1976. This law requires a "cradle-to-grave" hazardous waste management program. In California, this requirement is the responsibility of the State Department of Health Services (DHS). DHS manages hazardous waste by requiring hazardous waste producers to identify hazardous wastes, licensing hazardous waste haulers, and permitting hazardous waste disposal sites. Hazardous waste dumps in California can only accept wastes they can safely control. Class I sites can accept almost all hazardous wastes. There are no Class I sites in the SACOG region; the closest are in Solano and Contra Costa Counties.

How to dispose of hazardous waste is a hotly debated issue. Industry wants more Class I dump sites, but the Governor has opposed this. He has suggested that new technology be used to safely destroy or dispose of hazardous wastes. Compounding the problem is intense local opposition to hazardous waste dump sites.

It is difficult to obtain comprehensive data on the amount and types of toxic materials and hazardous wastes in an area. The Environmental Protection Agency (EPA) has produced some data, but it does not provide a clear picture. By using EPA data and hazardous waste transportation manifest data analyzed by the University of California-Davis Chemical Engineering Department, estimates of the types and amounts of hazardous waste generated in the SACOG region and disposed of off-site have been developed.

Generally, the SACOG region accounts for about 4 percent of the statewide total generation of hazardous wastes. All of this waste is disposed of outside the region. Drilling mud, sulfur sludge, and aqueous solutions with organic residues account for over half of the hazardous waste generated in the SACOG region.

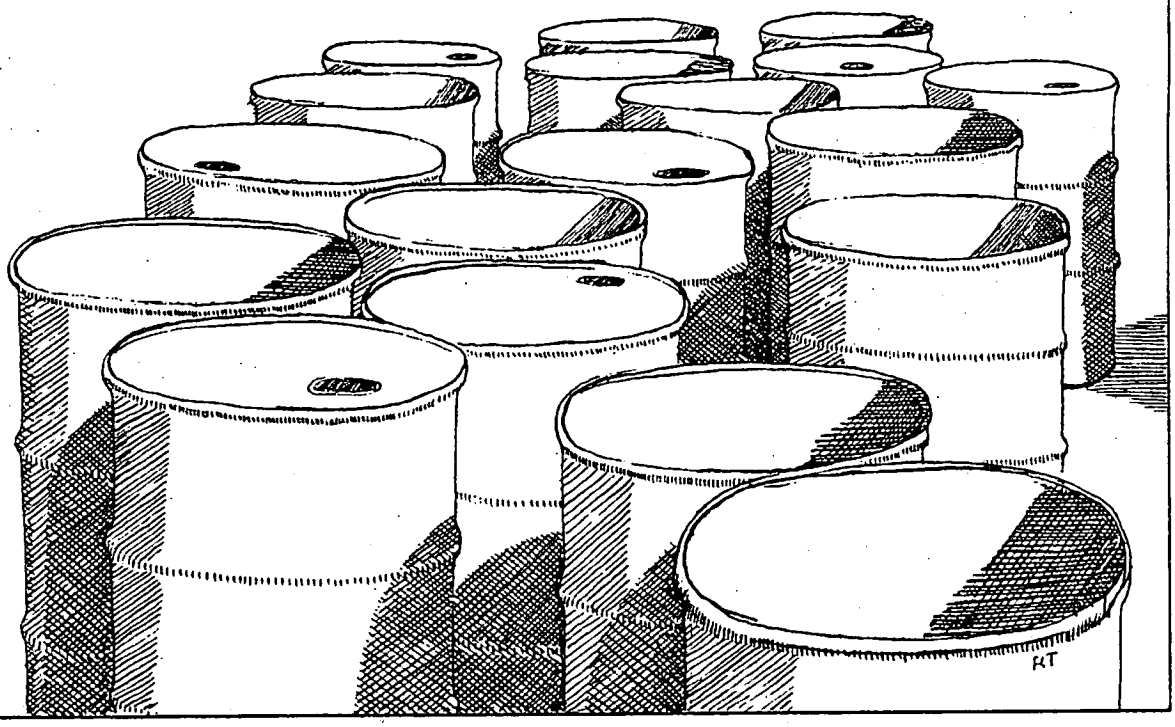
Local Cities and Counties are becoming aware of the problems of hazardous waste and are developing hazardous waste management and emergency response plans. Problems of transporting toxic substances and hazardous wastes are evident in the news each week. Accidents, leaks, and spills are becoming commonplace, yet those required to respond are uneasy. Lack of funds to pay for training, equipment and cleanup operations is frequently mentioned as a problem.

Locating hazardous waste facilities is an emotional issue. Although the issue usually revolves around land disposal sites, treatment, storage, and transfer facilities also face controversy. At present, five permits are required, one from the local city or county and four from state agencies.

Special criteria, to be used by local jurisdictions in conjunction with the existing approval process, have been suggested. These criteria would prohibit hazardous waste facilities near water supplies, rivers, lakes, existing urban areas, earthquake faults, or areas subject to flooding.

II.

Recommended Hazardous Waste Management Practices



Most local activity concerning hazardous materials and hazardous waste has been in the area of emergency response. This occurred because of immediate needs to respond and because little was known about the existence of hazardous materials.

It is clear, however, that the problems of hazardous materials and disposal of hazardous waste facing local jurisdictions are much broader than responding to spills. The recommendations that follow attempt to provide a sound information base on which local cities and counties can take action, a regulatory structure to improve safety, management activities that lead to long-term coordinated plans, emergency response activities that improve local capabilities, and requests to the State to share data and information needed by local jurisdictions.

A. REQUESTS TO OTHER AGENCIES

1. Cities and Counties should request the State Department of Health Services to transmit on a regular basis information on the type, amount, and disposal location for hazardous wastes generated within their area, which the State receives through the State mandated hazardous waste manifest system.

2. Cities and Counties should request the State Department of Health Services to provide a list of hazardous waste facilities located within their boundaries that have received interim hazardous waste facility permits, a copy of the complete permit application for each facility, and an indication of which facilities were inspected prior to permit issuance.

3. Cities and Counties should request the State Department of Health Services to transmit complete copies of new hazardous waste facility applications to the city or county in which the proposed facility is located prior to issuing a permit.

4. Cities and Counties should request that the State of California speed up implementation of the State "Superfund".

5. Cities and Counties should request that the State Department of Health Services develop a 24-hour hazardous material identification response capability that would be available to assist local cities and counties in emergency incidents.

6. Cities and Counties should request the State Department of Health Services and the State Water Quality Control Board to develop a management and monitoring program to control the underground storage of toxic materials and prevent leakage into surrounding water supplies.

B. REGULATORY ACTIVITIES

1. Cities and Counties should adopt disclosure ordinances requiring businesses that use hazardous materials or generate hazardous waste to provide detailed information on the types and amounts to the local jurisdiction when applying for a business license, and thereafter on an annual basis.

2. Cities and Counties should require that all buildings containing toxic materials or hazardous waste be labeled at all doorways with easy to read signs that provide emergency response teams with information on the hazardous contents of the building and proper containment procedures. Labeling should be based on existing systems, such as the National Fire Protection Association (NFPA) 704 System.

3. Cities and Counties should designate transportation routes for hazardous waste haulers that direct trucks away from residential, business, and education centers and any areas where a large number of people gather regularly.

4. Cities and Counties should ensure that environmental impact reports for new industrial or commercial projects and CEQA pre-studies for negative declarations contain a complete analysis of hazardous materials to be used, the hazardous waste to be generated, method of hazardous waste disposal, and emergency response requirements. Particular attention should be paid to underground storage of toxic materials.

5. Cities and Counties should use special siting criteria when considering Class I and Class II-1 land disposal sites and hazardous waste treatment, storage, and transfer facilities.

6. Cities and Counties should require new industries locating in their community to incorporate feasible alternative technologies in order to reduce the amount of hazardous waste generated or the danger of wastes.

7. Cities and Counties should require the users of hazardous materials and the generators of hazardous wastes to pay the costs of new regulatory, management, and emergency response activities.

C. MANAGEMENT ACTIVITIES

1. Cities and Counties should develop management plans for toxic materials and hazardous waste and should coordinate their activities with surrounding jurisdictions by participating in a countywide hazardous waste coordinating committee.

2. A regional hazardous waste coordinating committee should periodically review the need, benefits, and negative impacts of regional hazardous waste land disposal, treatment, or transfer facilities and report their findings to Cities and Counties.

3. Cities and Counties should ensure that fire, building, planning and health departments, along with citizens, have access to hazardous material and waste information gathered through passage of local disclosure ordinances.

4. Cities and Counties should institute hazardous waste public education and "citizen watch" programs in order to educate the public to the dangers of illegal dumping and to identify illegal dumpers.

5. Cities and Counties should consider development of public information programs explaining the dangers of improper disposal of household hazardous wastes and provide residents with suggestions on proper disposal.

6. Cities and Counties should consider establishment of household hazardous waste disposal programs.

7. Cities and Counties not receiving information on abandoned dump sites from the State Department of Health Services should initiate an "abandoned hazardous waste dump site" program to identify abandoned sites, determine the contents, and develop cleanup plans.

D. EMERGENCY RESPONSE ACTIVITIES

1. Cities, Counties and Fire Districts should develop hazardous material incident emergency response plans, based on specific information received through disclosure ordinances and from the State, that result in a clear designation of a scene manager, coordination with surrounding jurisdictions, and a direct link to the State Hazardous Material Incident Contingency Plan.

2. Cities, Counties and Fire Districts should ensure that emergency response personnel receive training in the proper containment and cleanup methods for hazardous materials and have easy access to special equipment.

3. The regional hazardous waste coordinating committee should evaluate the feasibility of a regional emergency response capability patterned after and coordinated with the City of Sacramento HAZMAT Program, that might reduce the training and equipment needs for individual jurisdictions.

4. Fire departments should prepare facility notebooks and pre-fire plans for buildings that contain concentrations of hazardous materials which describe safe containment, fire-fighting, and cleanup methods.

E. STATE LEGISLATIVE REQUESTS

1. Cities and Counties should take an active part in any State legislative activity which might change local involvement in hazardous waste facility siting decisions.

2. Cities and Counties should support any legislative effort to increase fines for illegal disposal of hazardous wastes.

3. Cities and Counties should support legislation that would require hazardous waste facility operators to have long-term liability insurance that would cover the facility during operation and after closure.

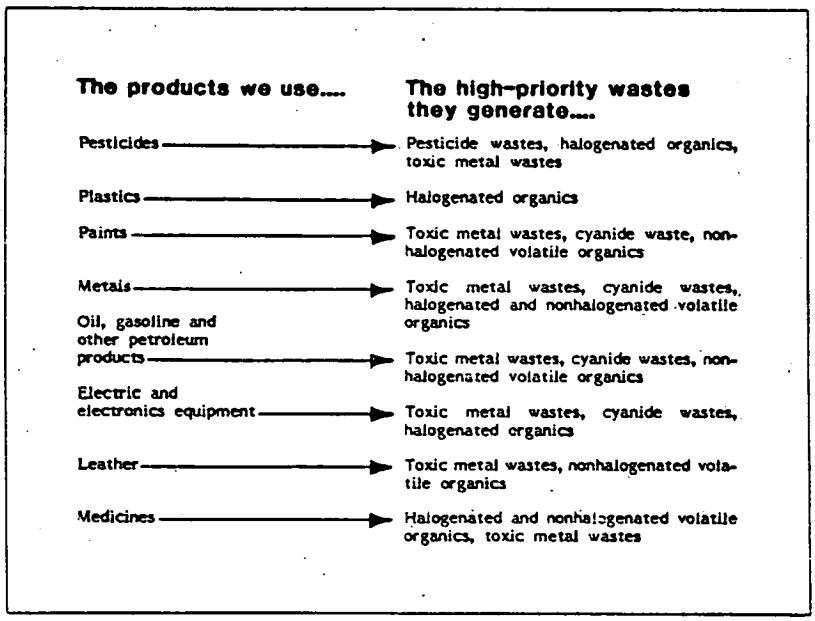
4. Cities and Counties should support legislation providing incentives to re-cycling, exchange and alternative disposal technologies for hazardous wastes.

III.

Overview Of Hazardous Wastes And Their Impact On The Region

In today's modern society we are surrounded by substances that contain chemicals. Food additives, pesticides, fertilizers, cosmetics, drugs, solvents, glue, and asbestos are examples of common goods that contain chemicals. In addition, manufacturing processes for a wide variety of goods depend on materials that contain chemicals. To some, the wide use of chemicals is non-threatening and contributes to their high standard of living; but, to others, it has caused fear and health problems.

Since the end of World War II, the chemical industry has produced nearly 1,000 new chemical compounds per year. Today, nearly 80,000 different compounds are in regular use. Along with any benefits that result from use of these chemicals come some heavy burdens. Unavoidably generated in the production of many common goods, hazardous wastes emerged in the 1970s as a national health and environmental concern.



Source: Office of Appropriate Technology.

Numerous news stories have documented how mismanagement, lack of concern, or illegal activities have damaged our land, water, and air. Additionally, the cost to clean up past mistakes is beginning to be recognized. The Environmental Protection Agency (EPA) has estimated that the cost of total cleanup of dangerous abandoned or uncontrolled dump sites could cost as much as $44 billion.1/ Unfortunately, there is no estimate of the personal costs to people exposed to these wastes.

1/ "Hazardous Waste Information," EPA Publication SW-737, June 1980.

After a 75-year absence, salmon have returned to the waters of the Hudson River. Long polluted with sewage and chemical pollutants, the river now is clean, thanks to determined clean-up efforts. But the salmon cannot be eaten because they are contaminated with polychlorinated biphenyls, PCBs. The 640,000 pounds of PCBs could be cleaned off the river bottom where they have settled; however, dredging will only stir them up and speed their entry into the food cycle. The Environmental Protection Agency would like to leave them undisturbed, and let them disperse gradually. The only problem with this approach is that New York harbor is located at the mouth of the Hudson River and if the river is not dredged routinely, the harbor will eventually be closed due to silt buildup. The U.S. Corps of Engineers is now seeking $3.7 billion to divert water from the river into the New York City Water System.

A. WHAT ARE HAZARDOUS WASTES?

Hazardous waste means any waste material or mixture of waste material that is toxic, corrosive, flammable, an irritant, a strong sensitizer, or which generates pressure through decomposition, heat or other means, if the waste may cause substantial injury or serious illness or harm to humans, domestic livestock, or wildlife.[1/]

The five characteristics that cause wastes to be considered hazardous are:

1.	Toxic:	Capable of producing injury, illness or damage to humans, domestic livestock or wildlife through ingestion, inhalation or absorption through any body surface.
2.	Corrosive:	Capable of destroying by chemical action living tissue through contact.
3.	Flammable:	Capable of burning during normal handling and may produce harmful gas or particles.
4.	Irritant:	Capable of causing a local inflammatory reaction.
5.	Strong Sensitizers:	Capable of causing an allergic or hypersensitive reaction.

1/ California Administrative Code, Title 22, Division 4, Chapter 30.

Of these five characteristics, toxics have had a significant amount of publicity. Those wastes that exhibit the characteristics of toxicity, or toxic wastes, tend to get that publicity because they can injure, permanently disable, or kill humans or animals.

In California, toxic wastes are more carefully defined as "extremely hazardous waste", which is "...any hazardous waste or mixture of hazardous wastes which, if human exposure should occur, may result in death, disabling, personal injury or illness because of the quantity, concentration, or chemical characteristics...." 1/

Hazardous and extremely hazardous wastes take many physical forms:

- Solids: a substance that does not flow.
- Liquids: a substance with free flowing movement.
- Dusts: solid particles generated by crushing or grinding.
- Fumes: solid particles generated by condensation.
- Mists: suspended liquid droplets.
- Vapors: gaseous form of liquids or solids.
- Living Agents: bacteria, mold, or parasites.

Of these forms, the most serious waste problems are centered around the disposal of solids, liquids, dusts, and living agents; but by far, solids and liquids are the two most common forms of hazardous and extremely hazardous wastes.

B. WHAT ARE THE HAZARDS?

Toxic substances vary greatly in their hazards to humans. Low Hazard Toxics are generally substances that cause changes in the human body which are readily reversible and which will disappear following termination of exposure. Moderate Hazard Toxics may cause irreversible as well as reversible changes in the human body, but not of such severity so as to threaten life or produce serious physical impairment. High Hazard Toxics cause permanent impairment, disfigurement, irreversible change, or death.

The level of the hazard and the severity of the associated effect on the human body do not always relate directly to duration or amount of exposure. Some toxic substances present high toxic hazard from short exposure to small amounts, while other toxic substances are hazardous only through long and continued exposure.

1/ California Administrative Code, Title 22, Division 4, Chapter 30.

Toxic substances also vary in the effects they cause. Some toxics have only "local" effects on the skin or mucous membranes. Other toxics have "systemic" effects on the body which result from inhalation, ingestion, or dermal absorption.

> Through carelessness, a few bags of chemical fire retardant were included in a shipment of feed supplement to a Michigan dairy feed co-op. The fire retardant, which contained poly-brominated biphenyl (PBB), was included in the dairy feed mixture distributed to 30 dairies. As a result, 25,000 prime dairy cows had to be destroyed and PBB is now present in virtually every person in the State of Michigan. The PBB was discovered only after exhaustive efforts by a dairyman, who happened to be a chemist, and the accidental running of a laboratory machine too long during a test. How many other PBB incidents occur around the country where there is no farmer-chemist or accidental correct chemical test?

Corrosive substances may cause serious injury, permanent disfigurement, physical impairment, and in extreme cases death through the destruction of living cells.

Flammable substances may cause injury not only from the heat and smoke, but also from harmful gases or particles that are generated during burning.

Irritants and strong sensitizers are substances which cause irritation or hypersensitivity on normal living tissue. These reactions can be inflammations or allergic reactions.

Exposure to hazardous or toxic wastes can be through direct contact to the skin, ingestion, absorption or inhalation. Contact with the skin and absorption through the skin do occur, but not nearly as often as ingestion and inhalation. Ingestion is commonly a result of eating food or drinking water that has been contaminated by hazardous or toxic wastes. Thus, hazardous wastes that find their way into the food chain and water supply pose significant dangers.

Inhalation of air containing toxic substances or irritants is also a major threat. Inhalation of toxic-laden vapors, mists, gases, fumes, or dusts pose serious problems when accidental spills or incidents occur.

> A tank truck parked at a truckstop on I-5 at Castaic spilled 2,000 gallons of a toxic chemical on the ground in October 1981. After inhaling the fumes, 67 people were taken to the hospital complaining of respiratory distress, coughing, congestion, eye irritation, nausea, and vomiting.. Twenty-two of those hospitalized were firemen working on the spill. The chemical on the ground also posed a threat to underground water supplies. Cleanup operations were delayed when it was discovered that the truck carried an additional 2,000 gallons of a flammable chemical considered even more irritating than the one spilled.

While accidents, spills, or other incidents get much publicity, there are many ways hazardous wastes enter the environment. A truck accident or train derailment often get extensive news coverage; however, equally dangerous occurrences are common. The slow leaking of chemicals from abandoned dump sites into the surrounding water supply; the deliberate dumping of toxic wastes into sewers, storm drains, or along roads; and the unknowing disposal of hazardous household wastes with regular trash all result in significant impacts on the surrounding environment.

There are a number of ways that hazardous and toxic wastes can enter the environment, but the main ways are:

- Groundwater contamination from hazardous waste land disposal sites or poor disposal practices.
- Surface water contamination from runoff.
- Air pollution from waste incineration, evaporation, wind erosion of disposal sites, or wind drift.
- Direct contact from worksites or spills during storage or transportation.
- Indirectly through the food chain.
- Fire, explosion, or accidental discharge into the air or water.

Hazardous waste entering the environment can pollute groundwater; contaminate rivers, lakes, ponds, and marsh areas; pollute the air; burn or explode without warning; enter the food chain; and injure or kill humans and animals. By far, however, the most common problem is contamination of groundwater. This is significant because over half of the drinking water supply in the United States comes from groundwater.

One of the confusing aspects of hazardous waste contamination is that the amounts of hazardous and toxic substances that cause dangerous contamination levels varies greatly. The measurement of this concentration is normally measured as weight per volume. Thus, water quality contamination is often expressed in micrograms per liter and air quality in milligrams per cubic meter of air. Probably the most commonly used measurement, however, is parts per million (ppm). This measure describes how much of a hazardous or toxic chemical is in food, air or water and the amount of food, air or water consumed determines the dose of chemicals a person receives. Occasionally a part per billion measure will be used.

One part per million (ppm) concentrations are very small. One teaspoon of salt in two gallons of water would result in a concentration of 1,000 ppm and the water would not taste salty. In percentage terms, 10,000 parts per million equals one percent (.01) and 100,000 parts per million equals ten percent (.10).

One part per million is the equivalent of one minute in two years or one teaspoon of salt in 1,000,000 gallons of water.

Further confusing the measurement of hazardous and toxic contamination is the question of potency, because hazardous and toxic substances vary in power. The potency of a material is a measure of its power. The more powerful a hazardous or toxic material is, the less it takes to injure or kill.

Before a chemical can be released for sale, extensive tests are required to determine its potency. Based on this potency measure, safety standards and tolerance limits are set. These safety standards are then used as standards to determine if hazardous contamination exists.

> On December 31, 1981, a Sacramento newspaper reported that a state department had been disposing of toxic chemicals in an unsafe manner. Initial tests showed a dichloroethelene level of 1,300 micrograms per liter. The EPA cancer risk level is 0.03 micrograms per liter. Trichloroethylene was found in concentrations of 3,500 micrograms per liter, compared to an EPA level of 5 micrograms per liter.

In order to define hazardous wastes, both the Federal and State governments have developed lists of chemicals that pose contamination hazards. Wastes containing these chemicals or wastes containing mixtures of these chemicals are considered hazardous. In California, these wastes are further sub-divided into hazardous and extremely hazardous wastes, and there are 791 chemical names listed.1/

C. HOW ARE HAZARDOUS WASTES MANAGED AND DISPOSED OF?

Improper management and disposal of hazardous waste is probably the most serious environmental problem we face. Mismanagement and indiscriminant disposal have caused serious hazards. In many instances, water supplies were contaminated so badly that they could not be used for drinking, while in others, a lack of awareness allowed people to continue to drink the contaminated water and later suffer health problems.

In California, hazardous wastes have historically been dumped into land disposal sites or landfills. This method has been cheap and easy; however, it has caused problems. Some sites were inadequate when it

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1/ California Administrative Code, Title 22, Division 4, Chapter 30, Section 66680.

came to containing hazardous waste and surrounding areas and water supplies have suffered. Other sites were not controlled or maintained adequately during operation or after closure. Some sites suffered from growth around them and emerging incompatible land uses. In many cases, disposal practices were simply inadequate.1/

This pattern also occurred in other states and prompted a number of federal laws intended to control hazardous wastes. The most significant law was the Federal Resource Conservation and Recovery Act (RCRA). This law established a "cradle-to-grave" management system for hazardous waste and directed the Environmental Protection Agency (EPA) to:

- Identify which wastes and in what quantities are hazardous.
- Issue management standards for: hazardous waste generators; transporters; and treatment, storage, and disposal facilities.
- Issue permits to treatment, storage, and disposal facilities based on performance and design standards.
- Develop guidelines for state authorization to carry out their own hazardous waste management programs.

In response to the opportunity to operate its own program, the State of California applied for and received "interim authorization" in 1980. The State program is substantially equivalent to the RCRA program and contains the following key control points:

- Hazardous Waste Producer: Must identify and report each month all hazardous wastes to be treated, stored, or disposed of. Must submit manifests for each shipment giving type and amount of wastes.
- Hazardous Waste Transporter: Must be registered and licensed by the State; must carry manifests for each load; and must submit copies of each manifest to the State each month.
- Hazardous Waste Facility Operator: Must have a State issued permit; cannot accept hazardous waste without proper manifest; and must submit copies of manifests for wastes accepted on a monthly basis to the State.

Under the State Hazardous Waste Management Program, land disposal sites for hazardous waste and the hazardous waste itself are also

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1/ "Alternatives to Land Disposal of Hazardous Wastes, An Assessment for California," California Office of Appropriate Technology, 1981.

controlled. Wastes are grouped according to hazards and waste sites are only permitted to accept wastes they can safely control. Generally hazardous waste to be disposed of on land must be deposited in a Class I site, although a limited number of less hazardous wastes are allowed in certain Class II-1 sites.

TABLE III-A
CLASS I DISPOSAL SITES

No.	Site Name	County	Closing Date	Volume (Tons) 1977	Volume (Tons) 1979	Remarks
1	Casmalia	Santa Barbara	Indeterminate (greater than 10 yrs.)	1,460	11,000	No apparent problems--permitted 1972. Only PCB disposal site.
2	West Covina (BKK)	Los Angeles	2000	177,900	275,700	City of West Covina is requiring EIRs for any hazardous waste generated outside LA County. Local pressure for site closure.
3	Kettleman	Kings	2025	21,060	115,900	No apparent problems (long distance from major hazardous waste generation centers).
4	Benicia	Solano	2020	172,570	137,000	Problems managing stormwater in wet weather caused extended shutdown 1979-80.
5	Richmond	Contra Costa	1987	29,050	31,300	Problems managing stormwater in wet weather caused extended shutdown 1979-80. Since reopening, the site has stopped accepting solid and containerized hazardous waste and many types of liquid hazardous waste.
6	Martinez	Contra Costa	Indeterminate	210,700	141,000	Treatment of hazardous wastes (solids disposed of elsewhere).
7	Big Blue Hill	Fresno	2000	11,330	5,900	Accepts hazardous wastes (one month per yr.)

Source: California Department of Health Services, 1980.

Hazardous dump sites, or waste facilities, can be "on-site" or "off-site". On-site facilities are on the property of the hazardous waste producer and can only accept his waste. Off-site facilities are commercial or government operated and accept wastes from anyone.

Under present State regulations, all facilities that treat, store, or dispose of hazardous waste must have a permit to operate. This includes both on-site and off-site facilities. One problem with this, however, is that inspections prior to permitting have not always occurred.

TABLE III-B

EXISTING CLASS II-1 DISPOSAL SITES

I. D. NO.	FACILITY NAME	LOCATION CITY/COUNTY	OPERATING AGENCY	TYPE OF WASTE ACCEPTED
1A-1	Sheepy Ridge Solid Waste Disposal Site	Tulelake/Siskiyou County	City of Tulelake	Empty Pesticide Containers Selected Materials
1B-1	Sonoma County Site	/Sonoma County	Sonoma County	Drilling Mud Pesticide Containers
1B-2	Mesa State No. 1	The Geysers/Mendocino County	Sun Oil Company	Drilling Mud
1B-3	Sump Torchio and Ferro No. 2	The Geysers Mendocino	Sun Oil Company	Drilling Mud
1B-4, 5, 6	Disposal Sumps	The Geysers Sonoma County	Pacific Energy Company	Petroleum Fractions
1B-7, 3	Disposal Sumps	Sonoma County	Shell Oil Company	Drilling Mud Additives
1B-9 to 27	Disposal Sumps	The Geysers/Sonoma County	Union Oil Company	
2-1	Acme Field Landfill	Martinez/Contra Costa County	Acme Corporation	Oil Wastes, Drilling Mud
3-1	Hollister-San Benito County Refuse	Hollister/San Benito County	City of Hollister	Munitions Plant Wastes - Sludges, Heavy Metals, Acetone Wastes
4A-1	Sludge Disposal for District 26 and 32	Magic Mountain/Los Angeles County	Los Angeles County Sanitation District	Wastewater Treatment Sludges
4B-1	Operating Industries, Inc. Landfill	Monterey Park/Los Angeles County	Operating Industries, Inc.	Liquids, Drilling Mud
4B-2	Spadra	Pomona/Los Angeles County	Los Angeles County Sanitation District	Liquids
4B-3	Puente Hills	Puente Hills/Los Angeles County	Los Angeles County Sanitation District	Liquids
5A-1	Eastlake Sanitary Landfill	Eastlake/Lake County	Lake County Department of Public Works	Pesticide Containers
5A-2	Geothermal Operation	/Lake County	Union Oil Company	Drilling Muds
5A-3	WW Disposal Facility	Auburn/Placer County	Auburn Sanitary Landfill	Sanding Dust, Cleanup Liquid from Melamine Treaters
5A-4	Flannery Road Mud Disposal	/Solano County	Aqua Clear Farms	Waste Drilling Muds
5A-5	Solid Waste Disposal Facility	Davis/Yolo County	Yolo County Central Landfill	Pesticide Containers
5A-6	Evans Road Landfill	Colusa/Colusa County	Colusa Co. Public Works	Pesticide Containers
5A-7	Stonyford Landfill	Stonyford/Colusa County	Colusa Co. Public Works	Pesticide Containers
5B-1	Buena Vista Landfill	Ione/Amador County	Amador County	Pesticide Containers
5B-2	Class II-1 Solid Waste Disposal	/San Joaquin County	Foreward, Inc.	Pesticide Containers
5D-1	Environmental Disposal Service	/Fresno County	McKay Trucking	Oil Sump Sludge, Brine and Drilling Mud
5D-2	Disposal Facility	/Kern County	M. P. Oil Company	Oil Wastes
5D-3	Eastside Disposal Farm	/Kern County	McKay Trucking	Oil Wastes
5D-4	Westside Disposal Farm	/Kern County	McKay Trucking	Oil Wastes
5D-5	Disposal Facility	/Kern County	Diversified Chemical Corp.	Oil Wastes
5D-6	Elk Hills Disposal Site No. 1	Elk Hills/Kern County	Williams Brothers	Oil Wastes
5D-7	Elk Hills Disposal Site No. 2	Elk Hills/Kern County	Williams Brothers	Oil Wastes
5D-8	Kerto Disposal Facility	Kerto/Kern County	Williams Brothers	Oil Wastes
5D-9	McKittrick Solid Waste Disposal Site	McKittrick/Kern County	Williams Brothers	Oil Wastes
5D-10	Liquid Waste Disposal	/Kings County	McKay Trucking	Oil Wastes
5D-11	Disposal Facility	/Kings County	Kings Waste Disposal Company	Oil Wastes
5D-12	Beacon Oil Company Kettleman	Kettleman/Kings County	Beacon Oil Company	Oil Wastes - related
5D-13	Standard Oil	Kettleman/Kings County	Standard Oil	Oil Wastes
6A-1	Sanitary Landfill	/Lassen County	Lassen County Solid Waste	Pesticide Containers
6B-1	Solid Waste Disposal Site	/Inyo County	Union Carbide Corporation	Sodium Sulfate Slurry
6B-2	Brine Disposal	Barstow/San Bernardino Co.	City of Barstow	Brine
6B-3	Fort Irwin Road SWDS	Barstow San Bernardino Co.	Atchison, Topeka and Santa Fe Railroad	Oil Sludge
6B-4	Ash Hill	/San Bernardino Co.	Santa Fe Railroad	Oil Sludge

Source: California Department of Health Services, 1980.

In October, 1981, the California State Auditor General released a report indicating that 85 percent of operating hazardous waste facilities had not been inspected, that hazardous waste haulers had not been inspected despite a year-old State law requiring inspections, that only 18 of 1,200 hazardous waste facilities had been given operating permits, and that the State's control of hazardous waste was so poor that it could only account for one-third of the hazardous waste shipments is was supposed to know about.

On the day the report was released, the Director of the State Department of Health Services told the Joint Legislative Audit Committee she concurred with the report. The Director indicated she intended to improve the activities of the Department and reported that a reorganization of Department activities had begun in order to "...bring top management of the Department into direct contact with the program."

As usual, lack of money and inadequate staff are blamed for the problem. According to the Department of Health Services, lack of funds has limited the Department to emergency situations.

In addition to the lack of inspections, the State has been unable, to date, to provide an effective computer based information system that would supply detailed transportation manifest data to local jurisdictions. An effective system of sharing manifest data with local jurisdictions would give local jurisdictions detailed information on which to base actions.

How to dispose of hazardous waste is a hotly debated issue. Industry representatives urge the opening of new land disposal facilities to handle what they see as a rapidly increasing need. Opposed to this is the Governor, who has effectively prohibited the land disposal of six priority wastes. He has suggested alternative technologies be used to treat hazardous wastes. Industry responses to this have cited the high costs associated with building new treatment facilities, the problems surrounding approval of new treatment facilities, and the time gap between prohibition of land disposal and the operation of new alternative treatment facilities.

Further confusing the issue are indications from State staff and elected officials that new land disposal sites for hazardous wastes are desperately needed. In fact, there have been suggestions that local decisionmaking authority should be preempted by a State siting board because the need is so severe.

The issues of siting and importation are obviously emotionally charged and politically volatile. Citizen opposition can be immense, particularly if public information and education is lacking. The State Office of Planning and Research (OPR) is presently studying the issue of hazardous waste siting and should release a report shortly. In early discussions, the advisory committee appointed to assist OPR has discussed the need to include social and economic criteria and public education in siting decisions.

One aspect of the siting debate that is often overlooked is the permitting of on-site treatment, storage, or disposal facilities. There is little public knowledge of this process and almost nobody knows who has been issued permits.

One of the causes of public opposition to new off-site dump sites is the history of mismanagement of some sites. Because of this hazardous waste facilities are not desirable neighbors. Few deny the need for them, yet no one wants one nearby.

The irony of the siting debate is that properly designed and operated facilities for hazardous waste treatment and disposal will reduce the dangers of hazardous waste and a lack of them simply encourages illegal dumping, an activity that poses far greater dangers.

Another area of concern in the management of hazardous wastes is emergency response to accidents and spills. Explosions, fires, leaks, highway accidents, or railroad derailments all pose dangers. Because of the interstate rail lines and highways converging in the SACOG region, the potential danger of accidents involving hazardous waste is high.

Responsibility for response to spills involving transportation of hazardous materials is assigned based on the type of road the spill is on. On State highways and the Interstate, the California Highway Patrol and CALTRANS are responsible. On County roads, the Highway Patrol is responsible for site control but the County is responsible for cleanup. In a City, the City police, fire department and street department are responsible.

For fires, explosions, leaks, and other non-transportation related incidents, the local fire department is usually called on to respond. Response to this type of incident often results in fire-fighters being exposed to unknown dangers. Unmarked buildings containing hazardous or toxic materials are not uncommon.

A significant problem exists in paying for accident and spill containment and cleanup. There is no specific responsibility for containment costs and if the party that spilled the waste cannot be identified, costs will usually end up with the local jurisdiction.

Two additional points should also be recognized: first, public agencies are liable for their actions, lack of action, and negligence in responding to hazardous spills; and, second, the recently released December 1981 draft of the State Hazardous Waste Incident Contingency Plan states, "Barring special circumstances of federal or state pre-emption, local agencies have primary responsibility to arrange for personnel and equipment for emergency response to incidents."

Transportation of hazardous wastes is an area of growing concern, both on the part of the public and by elected officials. The reason concern has increased is the amount of hazardous wastes transported and the number of incidents involving these wastes. The American Automobile Association estimates that 2 billion tons of hazardous material are transported in highway vehicles each year.1/ The Association of American Railroads estimates over 1 million tank cars, about 80 million tons of hazardous materials, are shipped by rail each year.2/

Most of this shipping is done in tank trucks or tank cars. Some is done by barge or ship in areas with navigable waters. Air carriers do not carry significant amounts.

TABLE III-C

HAZARDOUS MATERIAL INCIDENTS IN 1979 (U.S.)

TRANSPORTATION MODE	NUMBER OF INCIDENTS	DEATHS	INJURIES
Air	284	0	13
Highway	15,978	20	697
Rail	1,215	26	228
Water	34	0	1
Other	13	0	2
Pipeline	2,219	49	419

Source: U.S. Department of Transportation, 10th Annual Report: Hazardous Material Transportation, 1980.

1/ "Highway Transportation of Hazardous Materials", AAA, 1979.

2/ "Transportation of Hazardous Materials", U.S. Department of Transportation, 1980.

It is easy to see that in 1979, highway incidents far exceeded all other types, with 80.9 percent of the total. Yet, railroad and pipeline incidents resulted in a greater chance of death or injury.

A U.S. Department of Transportation analysis of incidents by hazard type for 1971-75 indicates: 1/

Hazard	Incidents	%
Flammable Liquid	16,406	51.3
Corrosive	10,672	33.3
Poison	2,053	6.4
Compressed Gas	718	2.2
Oxidizing Material	644	2.0
Non-Flammable Gas	535	1.7
Flammable Solid	189	0.6
Radioactive	144	0.5
Explosive	122	0.4
Combustible Liquid	69	0.2
Unknown	472	1.4
	32,024	100.0

One problem in the area of regulating the transporting of hazardous wastes is that to a large degree, Federal laws and regulations, particularly the Hazardous Materials Transportation Act (Title 49, CFR), have preempted State and local action. Regulation of truck movements is the area where local governments have the most latitude. Some states and local jurisdictions have enacted restrictions on the transportation of hazardous materials; however, the courts have normally overturned restrictions that impinge on interstate commerce.

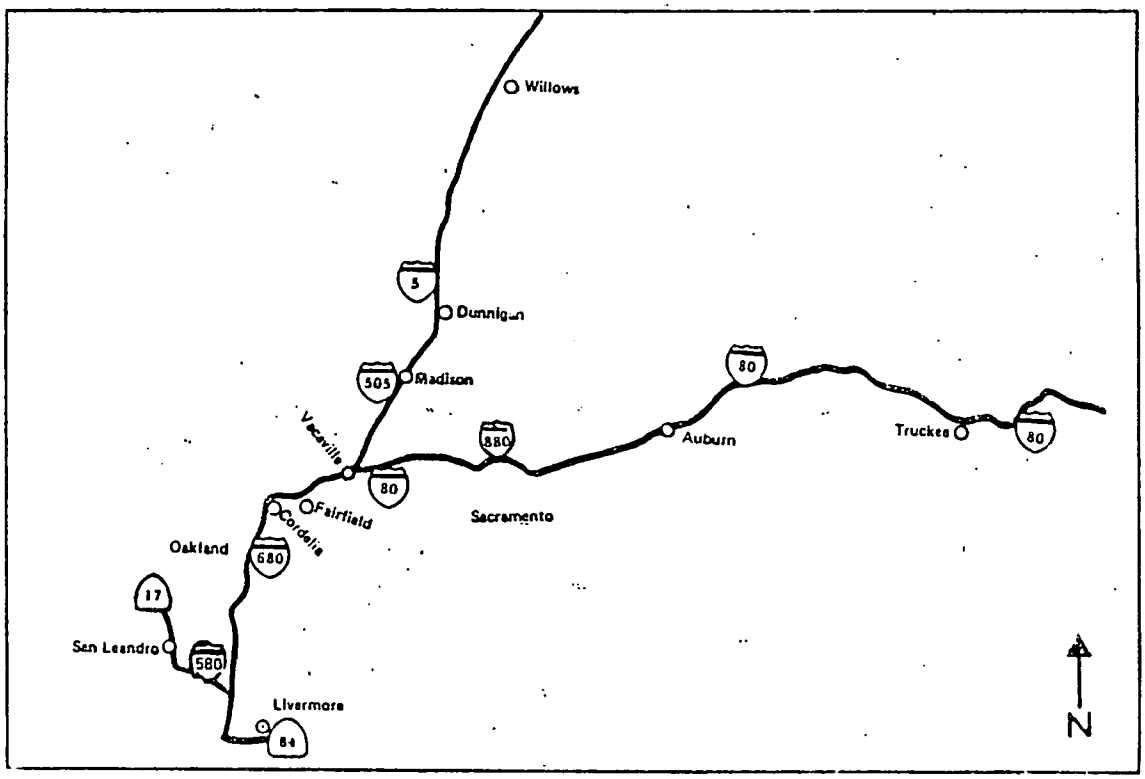
Despite concern over the transportation of radioactive material, the safety record is good. Between 1971 and 1979, the U.S. Department of Transportation estimated that 2.5 million packages of high and low level radioactive materials were carried and only 463 incidents occurred. Of these, 373 were highway related, and in only 50 were packages of radioactive material burned, thrown out of a truck, or crushed by a vehicle.1/

At the present time, the State of California is adopting regulations in the Vehicle Code (Section 33000) specifying routes to be used and shipment times for radioactive material. In the SACOG area, the proposed routes are I-80 from the California border to the Yolo-Solano County line and I-5 through Sutter and Yolo County to I-505 and I-80 at Vacaville. If local resistance to these routes is high, public hearings may be held before adoption.

1/ "Transportation of Hazardous Materials", U.S. Department of Transportation, 1980.

MAP III-A

PROPOSED ROUTES FOR RADIOACTIVE MATERIALS



Source: Department of Highway Patrol Memo: File #2.4062.A4829, October 1981.

D. REGULATORY STRUCTURE

The legislation and regulations governing toxic materials and hazardous wastes are extensive and confusing. Because toxic substances and hazardous wastes can affect so many different segments of society and areas of the environment, a wide range of legislation has been enacted and regulations approved at the Federal and the State level. The range of areas that can be impacted by toxic and hazardous materials has also resulted in a wide range of Federal and State departments, agencies, and offices being involved.

1. History of Legislation and Regulations

- 1947 Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)- regulates the generation and use of pesticides, fungicides, and rodenticides (EPA)[1/]
  - Amended 1972, Federal Environmental Pesticides Control Act
  - Amended 1978, Federal Pesticides Act

- 1956 Federal Water Pollution Control Act - to clean up toxic spills in navigable waters (EPA)
  - Amended 1972 and 1977, Water Pollution Control Act Amendments
  - Amended 1977, Federal Clean Water Act - to restore and maintain the chemical, physical, and biological integrity of the nation's waters

- 1960 Federal Hazardous Substances Act - prohibits hazardous or misbranded substances from interstate commerce (Consumer Product Safety Commission)

- 1963 Federal Clean Air Act - regulates hazardous air pollutants (EPA)
  - Amended 1965, 1970, 1974, 1977

- 1965 Federal Solid Waste Disposal Act - regulates solid waste disposal (EPA)
  - Amended 1970, Federal Resource Recovery Act
  - Amended 1972, Federal Resource Control and Recovery Act
  - Amended 1980, Federal Solid Waste Disposal Amendments

- 1965 California Department of Health designated lead agency by Governor - started California Solid Waste Planning Study.
  - 1968, Report Released - "Status of Solid Waste in California"
  - 1970, California Program Plan for Solid Waste Management
  - 1971, California Hazardous Waste Disposal Survey

- 1969 California Porter-Cologne Water Quality Act - geological and hydrological standards for disposal sites and protection of surface and ground water quality (State Water Quality Control Board)

1/ Responsible Federal Agency.

- 1970 Federal Occupational Safety and Health Act - requires employers to provide safe working conditions, appropriate warning devices, and protective equipment (Occupational, Safety, Health Administration)

- 1970 Federal Hazardous Materials Transportation Act - regulates transportation of toxic materials (Department of Transportation)

- 1970 Federal Railroad Safety Act - regulates railroad safety and shipment of hazardous materials (DOT-Federal Railroad Administration)

- 1970 Federal Poison Prevention Act - requires special packaging of hazardous substances dangerous to children (Consumer Product Safety Commission) NOTE: No State or locality may impose standards different than those established under this Act.

- 1970 Federal Environmental Protection Agency established.

- 1972 Federal Ports and Waterways Safety Act - establishes rules for preventing and mitigating damage to marine environment from vessels carrying liquid hazardous polluting substances (Department of Transportation-Coast Guard)

- 1972 Federal Marine Protection and Research and Sanctuary's Act - ocean and sea waste dumping regulations (Department of Transportation-Coast Guard)

- 1972 California Solid Waste Management and Resource Recovery Act - 1973, State Solid Waste Management Board established.

- 1972 California Hazardous Waste Control Act
  - 1973, Hazardous Waste Management Program established in State Department of Health

- 1973 Federal Report to Congress: Disposal of Hazardous Wastes.

- 1973 California Guidelines for Hazardous Waste Disposal Facilities

- 1974 California Standards for Management of Hazardous and Extremely Hazardous Wastes - California Administrative Code Title 22, Division 4, Chapter 30.

- 1974 Federal Safe Drinking Water Act - regulates contaminant levels in public water systems and protects underground sources from contamination due to waste disposal (EPA)

- 1976 Federal Toxic Substances Control Act - regulates manufacture, distribution, processing, use, and disposal of toxic chemical substances (EPA)

- 1976 Federal Resource Conservation and Recovery Act (RCRA) - gives EPA authority to establish a nationwide program to regulate hazardous waste practices from "cradle-to-grave"; authorizes State responsibility if State program is "equivalent and consistent" with the Federal program. This is the key Federal hazardous waste legislation. (EPA)

- 1978 California Hazardous Waste Control Act Amendments (SB 2031)
  - clarified State Solid Waste Management Board responsibilities and authorities
  - established Department of Health Services as lead agency in hazardous waste control
  - established Hazardous Materials Management Section in DHS

- 1979 Special Assistant to Governor of California for Toxic Substance Control appointed.

2. Recent Legislation, Regulations, and Programs: 1980-81

- In 1980, California was granted interim authority by EPA to implement the Federal Resource Conservation and Recovery Act, Subtitle C - Management Section, under State standards. Department of Health Services lead agency.

- 1980 Federal "Superfund" bill was passed that makes $1.6 billion available to pay for the cleanup of closed hazardous waste dump sites or the closing of dump sites.

- 1980 Toxic Substances Coordinating Council created by Governor Brown to eliminate duplication and inconsistencies in State programs regulating toxic substances.

- 1980 Construction on properties contaminated by hazardous wastes banned; and identification, evaluation and treatment of abandoned hazardous waste sites program - AB 1499/AB 2370.

- 1980 Fees established for hazardous waste discharges - SB 1466/SB 1477.

- 1980 State and local enforcement powers expanded and State inspection and monitoring activities doubled to halt illegal disposal - AB 2200/AB 2408/AB 2691/AB 2362.

- 1980 Regulations governing transportation of hazardous wastes strengthened - AB 2747/AB 2140/SB 1903.

- 1980 Statewide Emergency Response system for toxic spills established, including a training program for local police and fire staff - SB 183.

- 1980 Right-to-Know for employees working in areas of exposure to chemicals - requirement that employers inform workers, and adds more inspectors for workplace inspections - SB 1874.

- 1980 Civil and criminal penalties for illegal hazardous waste disposal - SB 1465/AB 3132/AB 2823.

- 1981 Statute of limitations extended for illegal dumping of toxic wastes from one year from date of disposal to three years from date of discovery of illegal dumping - SB 802.

- 1981 California Highway Patrol program of terminals and inspections for vehicles carrying hazardous materials established - AB 1012.

- 1981 Guidelines for safe transport of hazardous materials by vehicles using California highways established - SB 477.

- 1981 Governor's Executive Order phasing out landfill of six types of toxic wastes and creating a Division of Toxic Substances in the State Department of Health Services.

- 1981 Office of Appropriate Technology released report, "Alternatives to the Land Disposal of Hazardous Wastes".

- 1981 California Pipeline Safety Act signed by Governor - requires the State Fire Marshal to adopt regulations to ensure the safe transport of hazardous liquids in California's system of pipelines and to investigate every explosion or fire involving a pipeline transporting hazardous liquids - AB 911.

- 1981 California Hazardous Substance "Superfund" enacted as an urgency measure effective September 25, 1981. Provides a $10 million per year tax upon disposers of hazardous materials for next 10 years, allows State to qualify for Federal "Superfund" allocations by providing matching funds, requires that persons responsible for causing hazardous waste accidents shall be required to pay for cleanup, and allows other activities not permitted under Federal "Superfund" regulations - SB 618.

TABLE III-D

FEDERAL LAWS AND REGULATIONS RELATING TO TOXIC SUBSTANCES AND HAZARDOUS WASTES[1/]

ACTIVITY	MANUFACTURING/ PROCESSING	COMMERCIAL DISTRIBUTION	EMISSIONS, EFFLUENTS	TRANS-PORTATION	IMPORTS	END USE (PRODUCTS)	STORAGE/ DISPOSAL	WORKPLACE EXPOSURE
PROHIBITIONS/ BANS	TSCA 5(a), (b); 6(a) CAA 211(c) CPSA 18(a)(1),(2) 2/	TSCA 6(a)(1); 6(a)(2) CAA 211(c) CPSA 8; 19(a)(1), (2) FIFRA 6; 12(a); 13(a) FFDCA 301(a), (d) FHSA 4(a),(f)	CWA 307(a)(2) 308 311(b)(1)(B) SDWA 1424(a)	TSCA 6(a)(1); 6(a)(2) CPSA 8; 19(a) HMTA 105(a)	TSCA 13(a)(b) FIFRA 6; 12(a); 13(a) CPSA 17(a) FHSA 14(a) FFDCA 801(a)	CPSA 8 TSCA 6(a)(2)(A); (c)(5) FIFRA 6;12(a);13(a) FHSA 2(q)(1)(A)(B)	TSCA 6(a)(6) RCRA 3004, 3005	OSHA 13(a)
QUANTITY LIMITATIONS	TSCA 5(b); 6(a)(2) CPSA 9(d)(2) CWA 301; 302; 304; 306	TSCA 6(a)(1); 6(a)(2)	CAA 110(a)(2)(B) CWA 301 307(a)(2)	TSCA 6(a)(1); 6(a)(2) HMTA 105(a)	TSCA 6(a)(5) CPSA 9(d)(2)	TSCA 6(a)(5)		
GUIDELINES, STANDARDS, QUALITY CRITERIA	TSCA 6(b)(2) CAA 111(b)(1) RCRA 3002(2),(3)		CWA 311(b)(1); 307(a)(2); 303;304;306 CAA 108;109;111(a); 112(b)(1); 160-169; 202 SDWA 1421; 1412	FIFRA 19(b) RCRA 3003 HMTA 106(a) CWA 311	TSCA 6(b)(2) CPSA 17(a)(1) FFDCA 801(a)	CAA 202(a)(1) CPSA 7(a)(1); 7(c) FIFRA 3(d) FFDCA 401; 406; 408 TSCA 6(a)(5)	CWA 307(a)(5) FIFRA 19 RCRA 3004, 3005 4004, 1008 TSCA 6(a)(6)	OSHA 5(a);6(a); 6(b)(5); 6(c)(1); 20(a)(2),(3); 22
REQUIRED LABELING/ PACKAGING PROVISIONS	TSCA 6(a)(3)	TSCA 6(a)(3)		TSCA 6(a)(3) RCRA 3003(a)(2) HMTA 105(a)	TSCA 13(a) FIFRA 17(c) CPSA 17(a)(2) FHSA 14(a) FFDCA 801(a)	TSCA 6(a)(3) FIFRA 3(c)(5)(B) CPSA 7;14(c);27(c) FHSA 2(p);3(b) PPPA 3 FFDCA 505(d) 602; 403; 602; 512(d)(1)	TSCA 6(a)(3) RCRA 3002(2),(3) 3004	OSHA 6(b)(7)
REGISTRATION CERTIFICATION OR PERMITS	CPSA 14(a) CAA 165(a); 172(b) FIFRA 7(a) FFDCA 510	CAA 211(a),(b); 203(a)(1) FIFRA 3(a); 6 FFDCA 505; 512	CWA 301(b)(2); 401; 402 SDWA 1421; 1424(b)	HMTA 106(b); 106(c) RCRA 3003	FIFRA 17(c) CPSA 17(a)(2)	FIFRA 3(a); 4(a); 5; 6; 18 CPSA 14(a) FFDCA 505 512 706 CAA 204; 211(b)	CWA 405 RCRA 3005	
RECALL, REPLACE, REPURCHASE, SEIZURE	TSCA 6(a)(7) CPSA 15(d) FHSA 15(a)(1)	CPSA 15(d),(c) FHSA 15(a)(2) FIFRA			FIFRA 13	TSCA 6(a)(7) FIFRA 12; 13 CPSA 15(d),(c) FHSA 8; 15(a) FFDCA 304		
TO REQUIRE NOTICE OF HAZARDS TO THOSE EXPOSED	TSCA 6(a)(7)		CWA 311 (b)(2)			CPSA 15		OSHA 6(b)(7); 8(c)(3); 13(c); 20(a)(b)
IMMINENT HAZARDS	TSCA 7	CPSA 12 TSCA 7 FIFRA 6(c)	CWA 504 CAA 303; 311 RCRA 7003 SDWA 1431	TSCA 7 RCRA 7003 HMTA 111(b) CWA 311	TSCA 13(a) CPSA 17(a)(3) FHSA 14(a) FIFRA 6(c)	TSCA 7(a)(1) FIFRA 6(c) SDWA 1431(a) CPSA 12 FHSA 2(q)(2); 3(a)(2) FFDCA 505 (a); 512(a)(1)	TSCA 7(a) RCRA 7003	OSHA 13

1/ Household Hazardous Waste Project, Technical Memorandum (Interim), Municipality of Metropolitan Seattle, November 1980.

2/ TSCA = Toxic Substance Control Act
CAA = Clean Air Act
CPSA = Consumer Product Safety Act
PPA = Poison Prevention Packaging Act
FIFRA = Federal Insecticide, Fungicide, and Rodenticide Act
FFDCA = Federal Food, Drug & Cosmetic Act
FHSA = Federal Hazardous Substances Act
SDWA = Safe Drinking Water Act
HMTA = Hazardous Materials Transportation Act
RCRA = Resource Conservation and Recovery Act
OSHA = Occupational Safety and Health Act

3. Pending Bills in California Legislature

- SB 810 (Garamendi) would require industries that generate hazardous wastes to submit waste management plans to the State. Companies that submit plans would be eligible for grants, loans, and tax incentives to help finance the purchase and installation of waste control equipment.

- AB 1543 (Tanner) would create a hazardous waste Siting Council to develop comprehensive plans for siting hazardous waste facilities in California. 1/

- SB 95 (Presley) would require each operator of hazardous waste disposal site to submit a closure and maintenance report to the Department of Health Services to ensure protection of water quality in the area.

- AB 2075 (Robinson) would require the State to pay a reward to any person who provides information that leads to the conviction of a person who illegally dumps hazardous wastes.

- AB 1005 (Duffy) would enact the Airborne Toxic Substances Act that would require State Air Resources Board to develop emission standards regulating the discharge of toxic substances into the air and increases the fine for violation from $500 to $1,000 per day.

4. Future Legislative and Regulatory Trends

The management and control of toxic substances and hazardous wastes has been the major environmental issue in California during the past year and will continue in that spot during the next several years. The single most critical issue within the hazardous waste arena will be the question of dump siting. The determination of how and, particularly, where to dispose of hazardous wastes, coupled with the decisionmaking process, will be the most significant issues debated. The debate over the decisionmaking process surrounding new hazardous waste disposal sites is particularly important to cities and counties because during the past year there have been indications from industry associations, State advisory bodies, and the Legislature that some form of preemption of local control might be needed.

In a working draft of a report of the Department of Health Services Advisory Committee on Hazardous Waste Facility Siting Criteria, there is

1/ This bill was passed by the Legislature and is awaiting approval by the Governor.

a clear dissatisfaction with the existing local government public hearing and environmental review process and a suggestion that the program of public involvement should be conducted by the site proponent, not by local government. This draft report also indicates that some members of the Advisory Committee feel that the State should select consultants responsible for preparing the EIR on new disposal sites. This appears to be based upon the concern some of the Committee members had that local people analyzing the environmental impacts may not be qualified to analyze socio-economic impacts.

This draft report also indicates the Advisory Committee was divided on the issue of State vs. local decisionmaking. Some members felt decisions should be made at the local level, but others felt a one-step decisionmaking process should be instituted at the State level. There was also a recommendation that local siting decisions should be able to be appealed to a State siting board, which could override local decisions.

Another pressure causing concern in the siting debate is coming from private industry. It has voiced concerns over what it sees as "rapidly filling land disposal sites" and no replacements. The Chemical Manufacturers Association has supported the concept of a permanent State siting board with authority to override local decisions because the need for new dump sites is so critical.

In the State Legislature, there was talk of preempting local control of hazardous waste siting decisions during the 1981 session; however, no legislation was passed. The League of California Cities has indicated that they feel this discussion will continue to be a major issue and expect that AB 1543 (Tanner), which would create a council to study the siting problem along with other hazardous waste issues, will be approved by the Governor. No matter if this bill is approved or not, the issue of siting decisionmaking authority will be a priority issue that will be keenly debated.

5. Existing Regulatory Responsibilities in California

The Federal Resource Conservation and Recovery Act (RCRA), passed in 1976, requires the U.S. Environmental Protection Agency to institute a national program to control hazardous waste. The keystone of this program is control of hazardous waste from generation to disposal and the development of a comprehensive recordkeeping and reporting system. The major provisions of RCRA for controlling hazardous wastes are: 1/

- Definition of hazardous wastes.
- A manifest system to track hazardous wastes from generation to final disposal.

1/ EPA Release SW-737, June 1980.

- Standards for generators and transporters of hazardous wastes.
- Permit requirements for facilities that treat, store, or dispose of hazardous wastes.
- Requirements for State hazardous waste programs.

EPA prepared six regulations to respond to the hazardous waste management requirements of RCRA:

- Definition of Hazardous Waste
- Standards for Generators of Hazardous Waste[1/]
- Standards for Transporters of Hazardous Waste[1/]
- Standards for Hazardous Waste Facilities (2 phases):
  - Preliminary facility standards
  - Technical design standards
- Permits for Treatment, Storage, or Disposal Facilities[2/]
- Guidelines for Development of State Hazardous Waste Programs[2/]

In passing RCRA, Congress clearly indicated that they would prefer that States assume responsibility and Federal financing assistance is available to States for developing programs. States may apply to EPA for "interim authorization" to operate their own programs and EPA may grant that authorization if the State program to control hazardous waste is equivalent and consistent with the requirements of RCRA. To qualify for interim authorization, a State must:

- control as nearly an identical universe of waste as is controlled by the Federal program;
- cover all types of hazardous waste facilities in the State;
- be based on standards to provide substantially the same degree of human health and environmental protection as do the Federal standards; and
- be administered through procedures that are substantially equivalent to procedures used in the Federal program.

1/ The U.S. Department of Transportation also proposed amendments to its hazardous materials transportation regulations, which were published in the Federal Register, May 25, 1978.

2/ The regulations covering permits for facilities and State hazardous waste programs are integrated with rules under the Clean Water Act, the Safe Drinking Water Act, and the Clean Air Act.

If a State is granted "interim authorization", it can operate its own program while upgrading its program to Federal standards. Within two years of the issuance of final hazardous waste regulations by EPA, States with interim authorizations must apply for and secure "full authorization". The three main criteria for "full authorization" are:[1]

- equivalence to Federal RCRA Program[2];
- consistency with other Federal and State programs; and
- adequacy of enforcement.

California was granted "interim authorization" by EPA in 1980. The State program for controlling hazardous wastes assigns the following key responsibilities:

- Department of Health Services (DHS)

The Department of Health Services has been designated as the lead State agency for hazardous waste planning and management under the EPA interim authorization. The DHS Hazardous Waste Management program consists of the following major elements:

- Definitions, criteria, and lists identifying hazardous and extremely hazardous wastes.
- A manifest system to track each load of hazardous wastes transported within the State.
- A registration program for hazardous waste haulers and their vehicles.
- A permit program regulating the design and operation of hazardous waste treatment, storage, and disposal facilities.
- A permit program to ensure that extremely hazardous wastes receive special handling.
- Field surveillance and enforcement teams.
- Enforcement procedures backed by civil and criminal penalties.
- Procedures to manage incompatible wastes, standardized methods for sampling and analysis of hazardous and extremely hazardous wastes, and a fully equipped analytical laboratory.

1/ EPA Release SW-847, June 1980.

2/ Equivalent is interpreted to mean "equal in effect." Thus, the regulations provide minimum requirements, with States allowed to set more stringent standards. States may not impose requirements that would interfere with the free movement of hazardous wastes with a valid permit across State boundaries to treatment, storage or disposal facilities.

- A program stimulating the recovery of resources from hazardous wastes.

- A schedule of fees to support the Hazardous Waste Management Program.

California's Hazardous Waste Management Program has a number of problems that remain to be solved:

- establishment of new hazardous waste disposal facilities;
- identification and clean-up of abandoned hazardous waste dump sites;
- management of uncontrolled hazardous waste disposal sites;
- prevention of illegal dumping of hazardous wastes;
- management of small producers of hazardous wastes; and
- dependence on disposal of hazardous wastes by landfill disposal.

• State Water Resources Control Board

The State Water Resources Control Board and the nine Regional Water Quality Control Boards are responsible for administering the Porter-Cologne Water Quality Control Act. Major responsiblities include:

- Issuing waste discharge permits which regulate the discharge of pollutants into the State's waters.

- Regulating disposal of nonsewerable wastes to land.

- Inspecting waste disposal sites for compliance with waste discharge requirements.

- Managing a self-monitoring program for waste dischargers and disposal site operators.

- Conducting a surveillance and monitoring program to determine concentration of pollutants in fresh and marine waters, sediments and organisms.

- Initiating enforcement actions where violations of waste discharge requirements have occurred.

- Developing contingency plans for dealing with emergency spills.

- Conducting a research program to evaluate pollutants following treatment and discharge.

Under existing law, each individual waste discharger must report proposed discharges to the State. The State then establishes waste discharge requirements for the discharger and issues a discharge permit. Monitoring for compliance with established discharge requirements is the responsibility of the discharger and is satisfied through self-monitoring reports supplemented by spot inspections by the Regional Water Quality Control Board.

Findings of DBCP in San Joaquin Valley wells, elevated levels of toxaphene and aldrin in the Sacramento and San Joaquin Rivers and the toxic contamination of groundwater in Rancho Cordova and Lathrop indicate deficiencies exist in the monitoring and inspection program.

- Air Resources Board

The Air Resources Board (ARB) is responsible for protecting air quality. The increased number of toxic and hazardous substance releases into the air have caused ARB to be concerned. They have indicated a need for toxic emission control strategies. Passage of AB 1005 (Duffy) would require ARB to develop emission standards regulating the discharge of toxic substances into the air.

- Department of Industrial Relations

The Department of Industrial Relations (DIR) and the Department of Health Services jointly developed the Hazard Evaluation System and Information System. This system provides employers and employees with up-to-date information on the health effects of toxic substances and methods for handling them safely. They operate out of Berkeley and have a 24-hour telephone number: (415) 540-3014, which can be called "collect".

- California Highway Patrol

The California Highway Patrol (CHP) is responsible for enforcing regulations regarding the labeling and packaging of hazardous chemicals in transit. The CHP inspects vehicles and equipment, shipment preparations, identification on containers and shipping documents to prevent container leakage and to provide detailed information in the event of accidents.

In California, two sections of the California Administrative Code (CAC) provide the key regulations concerning hazardous waste. Title 22, Division 4, Chapter 30 of the CAC provides the minimum standards for the management of hazardous wastes. Title 23, Chapter 3, Subchapter 15, governs hazardous waste disposal to land, establishes a waste classification system and establishes a disposal-site classification system. The Appendix of this report contains more specific information concerning these regulations.

a. Management of Hazardous Wastes (Title 22, Division 4, Chapter 30, CAC)

This chapter of the California Administrative Code provides the key control program for hazardous wastes that qualified the State for "interim authorization", under the Federal Resource Conservation and Recovery Act (RCRA).

- Hazardous Waste Facilities:

Minimum standards for the management of hazardous materials in California established by these regulations require that all operators of hazardous waste facilities obtain a permit to operate. Hazardous waste facilities are defined as a facility that transports, stores, treats, or disposes of hazardous wastes. A facility may be an on-site or off-site facility. On-site facilities are those on land owned or leased to a hazardous waste producer and receive only wastes produced by that facility. Off-site hazardous waste facilities or dumps are those that accept wastes from a number of producers. A company operated storage facility would be on-site, while a Class I disposal facility would be off-site.

An applicant for a hazardous waste facility permit must file an application with the Department of Health Services. The applicant is required to provide a description of the facility, the type of hazardous wastes to be contained, the types of activities, a set of operating procedures, a plan for closure of the facility, a physical description and maps, existing zoning, drainage controls, and emergency contingency plans.

The Department of Health Services (DHS) issues permits only after determining that the applicant will conform to the regulations. In addition, DHS only issues permits to sites that have been issued waste discharge requirements or received a waiver from the Regional Water Quality Control Board.

- Extremely Hazardous Waste Facilities:

In order to dispose of wastes classified as extremely hazardous, a producer of such waste must obtain an extremely hazardous waste disposal permit. The permit is issued by the Department of Health Services after the producer supplies information on the type of waste, who will haul it to the disposal site, how the waste will be handled, how it will be disposed, and the name of the disposal site. A waste disposal site operator cannot accept extremely hazardous wastes without having a copy of the permit or a waiver from DHS.

- Hazardous Waste Hauler Registration:

All persons or companies who haul hazardous or extremely hazardous wastes in California must have a valid registration as a hazardous waste hauler. The Department of Health Services issues registrations when they determine that the applicant meets the conditions of the State Code.

- Hazardous Waste Manifest System:

Producers of hazardous wastes that are to be disposed of in hazardous waste disposal sites must complete a hazardous waste manifest. The manifest describes the waste, its chemical composition, and special handling requirements. The producer of the waste provides a copy of the manifest to the registered hazardous waste hauler and submits copies to the Department of Health Services each month.

The hauler cannot accept a load of hazardous waste without a manifest and must keep a copy in his possession while transporting the waste. When unloading the waste at a disposal site, the hauler must give a copy of manifest to the disposal site operator. The operator must send copies of manifests to the DHS each month.

- Monthly Reports by Disposal Site Operators:

Operators of on-site and off-site hazardous waste facilities are required to submit a report to DHS on the last day of each month providing detailed information on the types and amounts of wastes received during the month.

- Accident Reports:

Haulers of hazardous wastes and operators of hazardous waste facilities must report within 24 hours to DHS any accident or incident that might result in a hazard.

- Fees:

Operators of hazardous waste facilities must pay fees to the Department of Health Services based upon the amount of waste accepted. Fees are required for each site of each producer disposing of up to 2,500 tons per month. Fees are $1 per load for loads weighing less than one ton and $1 per ton for loads weighing more than one ton, up to a maximum of $2,500 per month for any specific site of an individual producer.

- Lists of Wastes:

The State regulations contain lists of hazardous wastes based on specific chemical content, a list of hazardous wastes by common names, and a list of extremely hazardous wastes.

b. Waste Classification and Disposal Site Requirements (Title 23, Subchapter 15)

This section of the California Administrative Code governs hazardous waste disposal to land and establishes a statewide disposal site and waste classification system in response to the Federal Clean Water Act. The waste classification system is based upon the threat that the waste presents to water quality. The disposal site classification system is based upon the geologic and hydrologic features of the disposal area and the ability to protect surface and ground water quality. Although these guidelines are for statewide use, Regional Water Quality Control Boards may impose more stringent requirements.

- Classification of Wastes:

  There are three groups of wastes in the classification system:

  Group 1 wastes consist of or contain substances that could significantly impair water quality or contain toxic substances.

  Group 2 wastes consist of or contain chemically or biologically decomposable material which does not include toxic substances nor those capable of significantly impairing water quality.

  Group 3 wastes are non-water soluble, non-decomposable, inert solids.

- Classification of Waste Disposal Sites:

  Class I waste disposal sites are those not over usable groundwater that provide complete protection at all times for surface and ground water quality for all wastes deposited. Use of artificial barriers is severely restricted.

  Class II-1 waste disposal sites are those over usable groundwater and either naturally or through deliberate modification provide protection to water quality.

  Class II-2 sites are those that have a physical connection to usable groundwater, but because of natural or artificial means the water quality is protected.

  Class III sites are those which provide protection to water quality from Group 3 wastes.

- Use of Waste Disposal Sites:

Disposal of solid and liquid wastes in California can only be at sites approved by the Regional Water Quality Control Board. Any waste may be disposed of at unlimited Class I sites. Limited Class I sites can accept hazardous wastes subject to limitations on type, quantity, and concentrations. Class 2 sites can accept any Group 2 or Group 3 wastes. Class 3 sites can only accept Group 3 wastes. Certain Group 1 wastes can be disposed of at Class II-1 disposal sites when the Regional Water Quality Control Board finds that the disposal will not unreasonably affect water quality. Permission can be granted only after public hearing and only for specific wastes. Under no circumstances do Regional Water Quality Control Boards allow large quantities of Group I toxic wastes to be disposed of in Class II-1 sites.

- Report of Waste Discharge:

Operators of hazardous waste disposal facilities must apply for and receive site classification from the Regional Water Quality Control Board before they will receive a Department of Health Services permit to operate a hazardous waste disposal facility. The operator must supply specific information about the site, the wastes to be deposited, the measures to prevent illegal discharges, site monitoring measures, and fee collection plans to the Regional Board.

In addition, all sites must be in compliance with the County Solid Waste Management Plan, must meet the requirements of the California Environmental Quality Act (CEQA), and must have received approval of all local agencies with jurisdiction. The Department of Health Services and the Water Quality Control Boards work together to coordinate approvals.

c. Radioactive Waste

Control of nuclear material is the responsibility of the Federal Nuclear Regulatory Commission (NRC); however, in California, radioactive waste disposal management responsibility is divided between the NRC and the State Department of Health Services, Radiological Health Branch (DHS). High level nuclear waste, which normally comes from power plant operation, is rigidly controlled by the NRC. At present, this waste is stored at power plants generating the waste because the NRC has no alternative.

Low level radioactive waste is controlled by DHS[1/]. Before issuing a permit, DHS requires an applicant to demonstrate that they can safely store, use, package, and dispose of radioactive materials. The applicant must also indicate where the waste will be disposed of and must have proof the disposal site is willing to accept the waste.

At present, there are no disposal sites for low level radioactive waste in California. There is a serious potential problem because the Washington site is operating only because of a court order and the Nevada site has sometimes refused waste. Without a site in the State or one close by, there would be no place to economically dispose of the waste.

1/ Title 17, California Administrative Code (CAC).

E. SPECIAL ISSUES

1. Household Wastes

Under the Resource Conservation and Recovery Act (RCRA), certain types of hazardous wastes are excluded. Household waste or consumer generated waste streams are one of the types excluded. This exclusion includes single family, multiple unit housing, motels, and hotels. In California, there is no exclusion for households. The definition of producer in the California Administrative Code is "...any person who generates a waste material."

Even so, it is clear that household disposal of small quantities of hazardous materials is a problem. There is concern that many common household substances that are hazardous are being disposed of in a less than safe manner. It is normal for households to have many hazardous materials in their homes. Pesticides, gasoline, solvents, paints, cleaning agents, drain openers, medicines, oven cleaners, rat poisons, swimming pool chemicals and old automobile oil are all common.

It is probably safe to assume that when these materials become waste or when the containers are empty, they are disposed of by placing them in the trash, by dumping liquids down the street drain, or by flushing it down the toilet. These disposal methods pose potential dangers to trash pick-up personnel, at solid waste landfills, and in water treatment facilities. Few communities have found solutions to this problem. Three main approaches have been proposed.

- Local Government Sponsored Collection - This approach requires local government to sponsor a recall of household hazardous wastes, provide trained employees to handle the wastes, and pay for disposal in a legal manner. This can be done on a one-time or a continuous basis and a fee can be charged.

- Local Company Drop-Off - This approach requires local government to negotiate an agreement with a local firm that stores, transports, or disposes of hazardous wastes to accept household wastes. Local firm costs can be reimbursed through a fee.

- Public Information and Education - This approach is based on the preparation and distribution of a brochure or other educational material that describes the safe way to dispose of household hazardous wastes and a public information campaign.

The City of Sacramento is researching the financial feasibility of a door-to-door pickup system. The cost estimates are expected shortly.

Sacramento County is considering a dual approach. They may seek state approval for empty toxic containers to be disposed of at Class II sites and for pest control companies to collect household pesticides and chemicals. The County may also employ a public education program to inform residents of the proper disposal methods.

The City of Davis is working with Yolo County Health Department to develop a public education program on the proper disposal of household toxics.

- Priority Household Hazardous Wastes:

A recent study by the Municipality of Metropolitan Seattle[1] identified four classes of household wastes that are of the greatest concern. These four classes also pose the greatest threat to wastewater treatment systems and surface and ground water quality.

a. Automotive Products - A wide variety of hazardous wastes are associated with the automobile, including: gasoline, motor oil, anti-freeze and coolants, battery acid, transmission fluid, brake fluid, polishes and paint restorers, paints, air conditioning gases, and cleaning solvents.

b. Pesticides, Herbicides, Rodenticides - Pesticides are common in about 9 out of 10 homes.[2] They take many forms, including: lawn and garden sprays, disinfectants, mothballs, pet flea collars, no-pest strips, and flea powders. Herbicides are substances that kill weeds and take the form as weed sprays. Rodenticides usually show up as rat poison in solid or "bomb" type form. The most common method of disposal (two-thirds of all households[2]) is to throw empty containers and waste in the trash, where it gets mixed with other trash and is deposited in a Class II waste site.

c. Paint Products - This is a complex group containing a wide variety of protective and decorative coating materials. The group can also be subdivided into oil-based and water-based. This group includes: paints, varnish, laquer, stains, adhesives, putty, solvents, thinners, turpentine, wood preservatives, sealers, and caulking.

d. Household Products - This group contains a number of common household items, including: disinfectants, bathroom cleaners, drain cleaners, polishes, cleaning fluid, bleach, air fresheners, floor wax, rug cleaners, window cleaners, detergents, fabric softeners, and stain removers.

Trying to control how a household uses and disposes of household hazardous wastes and containers is almost impossible. Using education and public information may, however, offer a way to guide people toward safer disposal methods. If people feel the issue is important and are provided information on alternatives to their present habits, then change can occur.

The Municipality of Metropolitan Seattle has prepared the following booklet for distribution to households which explains the problem of household hazardous wastes and provides tips on safe disposal.

1/ Household Hazardous Waste Disposal Project, November 1981.

2/ National Household Pesticide Usage Study, 1976-1977, EPA, #540/9-80-002.

For more information and help you can contact:

Metro - Toxicant Control Planning Section - 447-5885
Information on toxic substances and disposal

Seattle/King Co. Health Dept. - Environmental Health - 625-2125
Information and referral on toxic substances and disposal

Recycle Hotline - 1-800-RECYCLE (732-9253)
Information on recycling, locations that will accept reusable wastes

Chemical Processors Inc. - 767-0350
Location to dispose of toxic substances

King County Cooperative Extension Service - 344-7984
Recorded information ("Dial Extension") on garden products, etc.

Poison Control Center - 634-5252
Accidental poisonings

Washington State Department of Ecology - 365-1900
Water pollution violations and disposal information

U.S. Coast Guard - 1-800-424-8802
Oil or chemical spills in water

U.S. Environmental Protection Agency
Public information - 442-1205
Publications and information on pesticides, other toxic substances and environmental laws.

Prepared by the Toxicant Control Planning Section, Municipality of Metropolitan Seattle, and the Toxicant Task Force of the Citizens' Water Quality Advisory Committee.

This brochure has been financed in part by the U.S. Environmental Protection Agency and printed in cooperation with the Washington State Department of Ecology. Contents do not necessarily reflect the views and policies of EPA or DOE nor does mention of trade names or commercial products constitute endorsement or recommendation

Toxic Substances In Your Home

METRO

Water Quality Protection through proper handling of home and garden products

Municipality of Metropolitan Seattle

The Problem

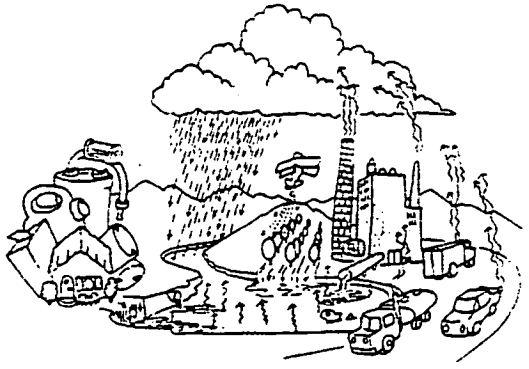
Many household, car and garden products are harmful if used or disposed of improperly. They contain chemicals which are toxic (poisonous) and/or caustic (causing burns) to people, plants and animals.

Under the Federal Clean Water Act of 1977, more than 100 of these toxic substances, or **toxicants**, commonly used by industry, commercial businesses and households, have been listed as "priority pollutants." Toxicants are usually poisonous in small quantities and can often accumulate in the environment. It is the continuous release of small amounts of toxic substances that can with time create a big problem.

Metro is studying toxicants in the sewage treatment system and local waters to define problem areas and effective control methods. At this point in our studies, three things are clear:

1. The cost of sewage treatment can increase dramatically if toxicants are in high concentrations in the waste stream;
2. Many toxicants get into our waters from sources outside the sewerage system;
3. The cost of cleaning up our waters once polluted with these toxicants would be astronomical.

Therefore, **control must begin at the source.** Your help is needed to keep toxic substances out of our streams, lakes and Puget Sound. It is up to all of us to keep our waters clean and safe.



Water Pollution Cycle

Toxic chemicals enter our waters in many ways:

- air pollutants such as lead from gasoline return to us in rain and surface runoff;
- spilled oil and grease, pesticides, fertilizers and other products wash off yards and gardens into storm drains and streams;
- chemicals in trash disposed in improperly designed or managed landfills seep out into groundwater and other nearby waterways.

General Tips

Use

- Be aware of the uses and dangers of products. If directions are unclear, contact the manufacturer or dealer before using.
- Keep unused products in their original containers for directions to follow and a list of contents for reference in the case of accidental poisonings. Store in a safe place.
- Do not overuse a product; twice as much does not mean twice the results. Follow directions.
- Never mix different products; explosive or poisonous chemical reactions may occur.
- Buy only what you need. If you don't buy an excess, you won't have to get rid of it.

Disposal

- Never dispose of products containing harmful chemicals down the drain unless you know they can be treated. Many toxic substances disturb septic tanks or pass right through the treatment systems into the Duwamish River or Puget Sound. If you are unsure, call Metro at 447-5885.
- For proper disposal of certain toxic substances (particularly hazardous pesticides), contact the Seattle-King County Health Department (625-2125). They will take some toxic products and answer questions on proper disposal.
- Take excess amounts of products containing toxicants to chemical reprocessing companies, such as Chemical Processors Inc. in Seattle (767-0350).
- Find a friend, neighbor or business (e.g. nursery) who can use up excess products instead of having to throw them away.

Automotive Wastes

Oil

Examples of toxicants in waste oil: petroleum hydrocarbons and heavy metals like lead and zinc.

Toxic effects: Waste oil is toxic to people, fish and wildlife.

Special warnings and precautions: Dumping waste oil into the sewers, storm drains or any body of water is illegal.

Disposal:

- Drain waste oil into a container with a tight-fitting lid, and take it to a local service station to be recycled.
- Call the recycle hotline (1-800-RECYCLE) for directions to the station nearest you.

Antifreeze

Example of toxicant in antifreeze: ethylene glycol.

Toxic effects: Antifreeze is poisonous to people, fish and wildlife. Many pets die after they drink from sweet tasting puddles of antifreeze on driveways and sidewalks.

Disposal:

- Do not dump or wash antifreeze into street drains. Most of these drains connect directly to nearby lakes and streams.
- If possible, pour antifreeze onto a porous surface, like gravel, away from water.
- Do not pour antifreeze down the drain into a septic tank system. If on the regional sewerage system, you should only dispose of used antifreeze down the drain as a last resort.

Pesticides and Herbicides

Examples of products in this category: rat poison, slug bait, malathion, parathion, weed & feed, 2,4-D.

Toxic effects: All pesticides are designed to kill or inhibit specific plants and animals; they are also poisonous to people, pets, and wildlife.

Special warnings and precautions: The following pesticides are now banned from sale or severely restricted in use. Do not use these products! See disposal options under General Tips.

DDT	DBCP	Mirex
Aldrin	Heptachlor	Silvex
Dieldrin	Lindane	2,4,5-T
Chlordane	Kepone	Toxaphene

Use:

- Consider alternatives to pesticide use whenever possible. Call Dial Extension (344-7984) for more information.
- After use, be careful not to over-water. The pesticide or fertilizer can run off with the excess water into a nearby stream or storm drain.

Disposal:

- All pesticides and herbicides are toxic to some degree. They should never be dumped into sewers, storm drains or septic tanks. Follow General Tips.

Paint Products and Preservatives

Examples of products in this category: paints, lacquers, paint thinners and strippers, brush cleaners, wood preservatives and turpentine.

Examples of toxicants in these products: toluene, lead (in old paint), methylchloride, pentachlorophenol, trichloroethane.

Toxic effects: Many of these toxic substances are suspected carcinogens, poisonous to people and animals, or capable of accumulating to toxic levels in the environment.

Disposal:

- Solvents, paint thinners and wood preservatives, in particular, should not be dumped in the sewer system. Follow General Tips.
- Let used turpentine or brush cleaner sit in a closed jar until paint particles settle out. Then strain and reuse; wrap the waste material and discard in the trash.

Cleaners

Examples of products in this category: deodorizers, car cleaners, polishes, spot removers and many household cleaners.

Examples of toxicants in these products: lye, petroleum distillates, naphthas, trichloroethane, phenols, dichlorobenzene.

Toxic effects: Many of these are immediately poisonous to or accumulate to toxic levels in people, fish and wildlife.

Use:

- Consider the use of non-toxic products as alternatives:

1. For clogged drains: boiling water, "snaking" with a metal line and/or using a plunger;
2. For general cleaning: baking soda;

- Use biodegradable and low phosphate products when possible.

2. Electronics Industry

The recent interest shown by electronics firms in expanding their operations into the SACOG area will have an effect on the type and amount of hazardous wastes generated in the area that will require safe disposal. High technology expansion also has the potential for adverse effects on worker health if safeguards are not enforced.

The high technology or electronics industry is viewed as a clean, light industry with few negative impacts and many attributes. While this may in general be true, this industry does generate hazardous wastes and does use hazardous and often toxic substances in its manufacturing processes. Electronic manufacturing firms produce a wide variety of high technology devices and commonly use potentially hazardous materials such as organic solvents, corrosive acids and heavy metals.

Solvents such as freons, alcohols and ketones are widely used for cleaning, stipping, and degreasing. These solvents are probably the most common hazardous workplace material and hazardous waste generated.

Acids and bases are often used in electroplating, etching, crystal polishing, and metal pickling. They are usually in solution, a mixture of the chemical and water.

Metals are used in electronics for etching, electroplating, soldering, bonding, sealing, crystallization, and for coating electronic parts. Metals can also take different forms, depending on other chemicals and the amount of heat used in manufacturing processes. Hydrides are formed by combining metals with hydrogen. Carbonyls are formed by combining metals with chemicals known as aldehydes, ketones, or organic acids. Oxides are formed by combining metals with oxygen[1/].

The use of these hazardous materials in the manufacturing process means there is a potential for worker exposure to hazards that can cause both immediate and long-term effects.

Use of hazardous materials in the high technology electronics industry results in hazardous waste, even though some companies have begun recycling and recovery operations. The specific types and amounts of hazardous waste generated depends on the products manufactured and the manufacturing processes. It is clear, however, that the local approval process for high technology industrial development should include close review of hazardous material use, hazardous waste generation, and treatment or disposal plans for hazardous waste. Local jurisdictions should also pay close attention to electronics companies who move into existing structures within their community and would, thus, not be involved in the normal reviews that accompany plant construction.

1/ "Unmasking the Hazards, A Workers Guide to Job Hazards in the Electronic Industry," Santa Clara Center for Occupational Health and Safety, U.S. Department of Labor Grant 8P409015, 1981.

TABLE III-E

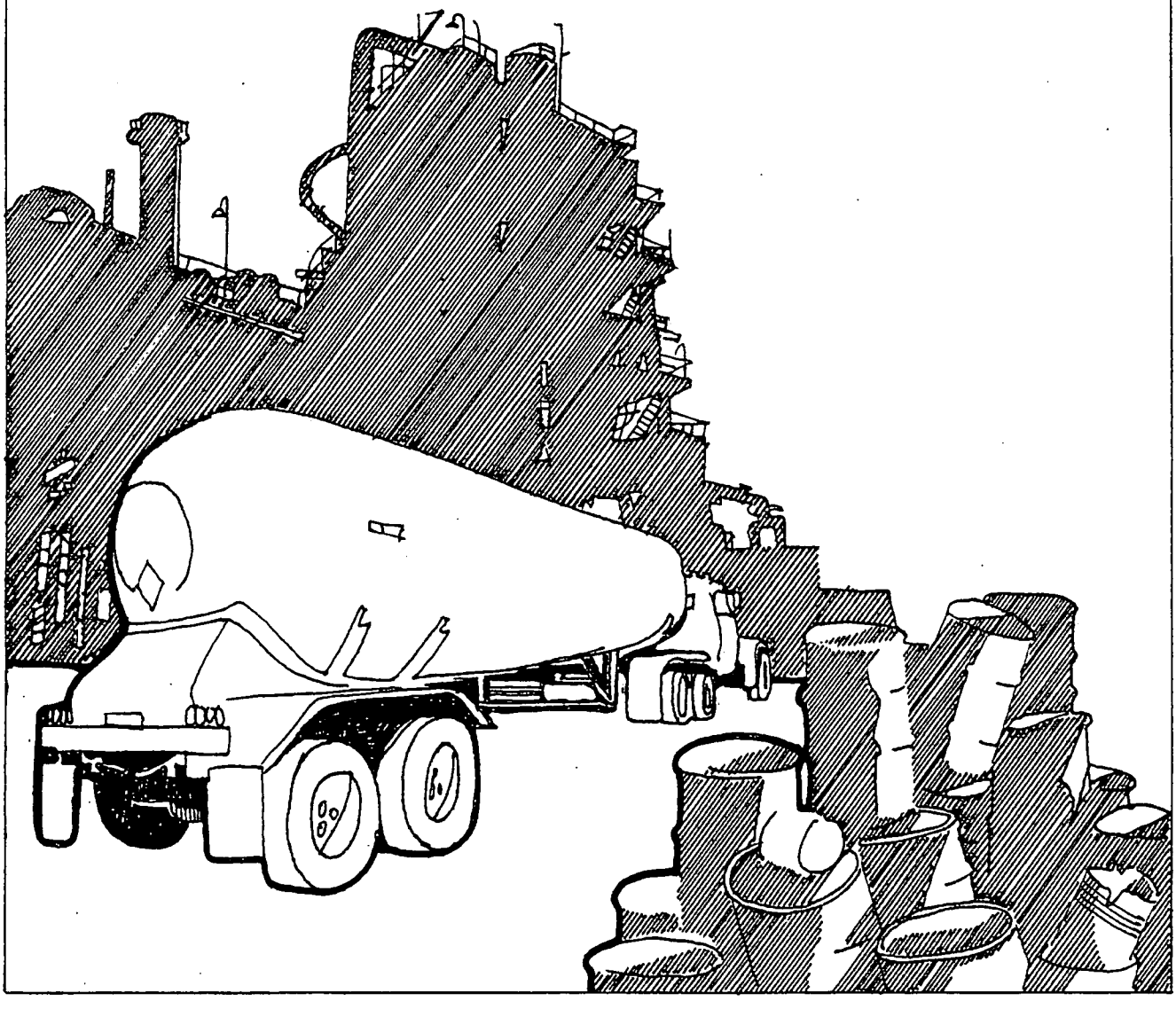
COMMON HEALTH HAZARDS
IN THE ELECTRONIC INDUSTRY[1/]

HAZARD	WHERE EXPOSURE OCCURS	IMMEDIATE SYMPTOMS	CHRONIC EFFECTS
ACIDS Sulfuric Hydrofluoric Hydrochloric	Electroplating Etching Crystal polishing	Skin burns Eye irritation	Emphysema Bone damage Erosion of teeth
METALS Arsenic Lead Cadmium	Electroplating Etching Soldering Sealing	Breathing difficulties Skin irritation Headaches Stomach pain Miscarriage	Cancer Liver damage Sterilization Birth defects
GASES Arsine Phosphine Diborane	Doping Crystal growing	Dizziness Nausea Vomiting Diarrhea	Anemia Jaundice Liver damage
PLASTICS, RESINS	Cutting Grinding Encapsulation	Breathing difficulties Skin irritation	Cancer Liver damage
RADIATION, IONIZING	X-ray equipment Electron beam equipment High voltage power supplies (unshielded)	Redness	Cancer Birth defects Sterility
RADIATION, NON-IONIZING	RF generators Microwave equipment Lasers Cathode ray tubes	Redness Heating	Sterility Cataracts
SOLVENTS	Solvents can be found at every step in producing semi-conductors and printed circuit boards.	Skin irritation Menstrual disorders Coughing Sore throat Breathing difficulties Dizziness Headache Nausea	Liver damage Kidney damage Heart damage Paralysis Leukemia

1/ "Unmasking the Hazards, A Workers Guide to Job Hazards in the Electronic Industry," Santa Clara Center for Occupational Health and Safety, U.S. Department of Labor Grant 8P409015, 1981.

IV.

Hazardous Waste Generation, Treatment, Storage, And Disposal Patterns



A. TYPES AND AMOUNTS

1. Background

The use of hazardous and toxic materials and the disposal of hazardous wastes has recently become an area of intense interest. Many organizations and groups, along with Cities and Counties, are undertaking activities or starting programs to control hazardous materials and waste; however, each is faced with a significant problem. The available information concerning the types, amounts, and locations of hazardous materials and waste is hard to find and not very extensive.

In trying to gather basic information concerning hazardous wastes in the Sacramento Area Council of Governments (SACOG) area, it became clear that no comprehensive information is available. Contact with numerous agencies resulted mainly in referrals to other agencies and little hard data.

The most commonly suggested data source was the Resource Conservation and Recovery Act (RCRA) generator listing, which was developed by the Environmental Protection Agency (EPA). SACOG was able to obtain the EPA-RCRA "RCRA Notifiers" listings for its area. The initial listing provides names, addresses, and types of hazardous waste activity for companies and organizations accumulating 1,000 kilograms (2,200 lbs.) per month of an EPA-identified hazardous waste.

A second, more specific set of information called the "Part A Database" was also obtained from EPA for those companies and organizations applying for on-site treatment, storage, or disposal permits. This database provides specific information on the type of waste, the estimated amount, and the process used for on-site treatment, storage or disposal.

One problem with both of the RCRA-EPA lists is that they exempt generators accumulating less than 1,000 kilograms (2,200 lbs.) per month of an identified hazardous waste, although EPA does have specified lower exemption rates for acutely hazardous wastes. Also, certain wastes are not subject to RCRA hazardous waste controls, including: domestic sewage; industrial wastewater discharges; nuclear wastes; household waste; wastes that are reused or recycled; utility waste (fly ash, sludge, bottom ash); and oil/gas drilling muds and brines.

Other sources suggested for data were local fire departments, local governments, and state agencies; however, contacts with them indicated some hazardous waste inventory information is available, but it is not comprehensive, it is often not current, and there is no comparability of data.

After contacting the various agencies mentioned, it was discovered that the University of California at Davis, Chemical Engineering Department, was completing a study of off-site hazardous waste generation and disposal. 1/

1/ Hazardous Waste Generation and Off-Site Disposal Patterns in California, David F. Ollis, Pao C. Chin, Daniel Coffey, University of California at Davis, Chemical Engineering Department, September 1981 (494 pp).

The UCD study is based on analysis of 12,000 hazardous waste transportation manifest records collected in September 1979 and May 1980. The months of September and May were chosen by UCD because they represented two typical months of activity. The UCD study provides the most up-to-date and comprehensive information concerning hazardous waste generation and off-site disposal at Class I and Class II-1 disposal sites that is presently available.

2. Approach

The purpose of this data is to provide information to local jurisdictions in the SACOG region concerning the extent of hazardous and toxic waste generation, storage, treatment, and disposal patterns in order to provide a base on which to evaluate proposals for alternative hazardous waste management practices and the need for new or expanded disposal sites.

The basic approach to providing the data was patterned after what appears to be the pattern of hazardous waste disposal. First, much of the hazardous waste generated in the region is simply transported off-site to existing licensed land disposal facilities and dumped. Second, some hazardous waste is stored on-site for a temporary period and then treated on-site, disposed of off-site, or transported and stored elsewhere. Third, some hazardous waste is dumped illegally, either from ignorance or by intent. Fourth, some hazardous waste is in abandoned dump sites within the SACOG area. Fifth, some pesticide waste is disposed of by washing equipment with water and results in the wastewater being dumped on the ground.

One area where there is a lack of data is the generation and disposal patterns of hazardous waste generators that are not required to notify EPA (less than 2,204 pounds per month). SACOG has requested additional computer analysis of the UCD data for its area in an attempt to more clearly define the generation and disposal patterns of small generators. This analysis, however, is not available yet. When it is completed, SACOG will determine if it is adequate. If it does not provide the required data, additional analysis or small generator inventory activities may be required.

3. EPA-RCRA Hazardous Waste Notifiers (Listed Numerically by Zip Code)

This data table provides the EPA-RCRA Notifiers listing, which indicates those companies and organizations that have notified the Environmental Protection Agency (EPA) that they either generate and dispose of off-site; transport; or treat, store, or dispose of on-site over 1,000 kilograms (2,204 lbs.) of an EPA-listed hazardous waste per month. Certain wastes have lower EPA exclusion amounts; however, except for these, there is no reporting requirement for those accumulating less than 1,000 kilograms per month.

On the data table, under "Activity Type", GEN = Generator; TRANS = Transport; and TSDF = On-Site Treatment, Storage, or Disposal Facility.

For those indicating "GEN", it means they generate and dispose of off-site at least 2,204 lbs. per month of EPA-listed hazardous wastes. For those indicating "TRANS", it means they transport at least 2,204 lbs. per month of EPA-listed hazardous wastes. For these two groups, no further information is available.

For those indicating "TSDF", it means they plan to store, treat, or dispose of on-site at least 2,204 lbs. per month of EPA-listed hazardous wastes. There is more specific information in Section 5 for those who applied for an on-site facility permit. For those who indicated "TSDF" but did not apply for an on-site facility permit, there is no detailed information.

It is highly possible that those companies and organizations indicating "GEN" and "TRANS", but not "TSDF", on this listing and the hazardous wastes disposal patterns analyzed in the following section are closely related. Most likely, a large portion of the wastes in the previous section came from those indicated as "GEN" and "TRANS" on this listing.

At present, there is no way to specifically tie the two data groups together; however, additional analysis of hazardous waste manifests may, in the future, link the two together.

NOTE: Because EPA collected this data by the first three digits of Zip Codes 956, 958, and 959, this data table contains information for areas outside the SACOG region.

FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE 1) GEN	TRANS	TSDF
CAT08[illegible]011204	SOUTHERN PACIFIC PIPE LINES IN C	17 MI. E/ST AUBURN ON HWY. 80	PLACER	95600	X		
CAT00[illegible]618694	DAWSON GEL INCORPORATED	340 SACRAMENTO STREET	AUBURN	95603	X		
CAD05[illegible]404737	GOLDEN GATE DISPOSAL CO	1039 HIGH ST	AUBURN	95603		X	
CAT08[illegible]030216	PACIFIC TELEPHONE AND TEL	992 LINCOLN WAY	AUBURN	95603	X	X	
CAT08[illegible]026715	PACIFIC TELEPHONE AND TEL	1125 LINCOLN WAY	AUBURN	95603	X	X	
CAT08[illegible]016637	PACIFIC TELEPHONE AND TELEGRAPH CO	3 MILES S/W AUBURN	AUBURN	95603	X	X	
CAT08[illegible]010645	PACIFIC TELEPHONE AND TELEGRAPH CO	PLACER HILLS	AUBURN	95603	X	X	
CAT08[illegible]026501	PACIFIC TELEPHONE AND TELEGRAPH CO	12920 EARHART AVENUE	AUBURN	95603	X	X	
CAT08[illegible]024326	PACIFIC TELEPHONE AND TELEGRAPH CO	11795 EDUCATION STREET	AUBURN	95603	X	X	
CAT08[illegible]024314	PACIFIC TELEPHONE AND TELEGRAPH CO	948 LINCOLN WAY	AUBURN	95603	X	X	
CAT08[illegible]024334	PACIFIC TELEPHONE AND TELEGRAPH CO	105 PINE STREET	AUBURN	95603	X	X	
CAD00[illegible]775635	PLACER COUNTY DEPARTMENT OF AGRICULTUR	11477 E AVE WEST	AUBURN	95603	X		
CAD09[illegible]863661	PLACER PLATING	2805 COLONEL SMITH AVE	AUBURN	95603	X		
CAD07153[illegible]003	STERLING P HOLLOWAY III INC.	1490 CHRISTIAN VALLEY RD	AUBURN	95603		X	
CAD09356[illegible]322	FRAME & NAME INC	820 E STREET	BRODERICK	95605	X		
CAD047[illegible]87518	PETERS TRUCK LINES#	805 E ST	BRODERICK	95605		X	
CAD00[illegible]002160	STOCKTON PLAT, INC DBA CAPITOL PLT. CO	319 3RD ST	BRODERICK	95605	X		
CAD07153[illegible]071	SHERWIN-WILLIAMS CO THE	4787 MANZANITA AVE	CARMICHAEL	95608	X		
CAT08[illegible]025757	PACIFIC TELEPHONE AND TELEGRAPH CO	6043 SUNRISE BLVD	CITRUS HEIGHTS	95610	X	X	
CAD06[illegible]006241	AMERICAN CRYSTAL SUGAR COMPANY	WILLOW AVENUE	CLARKSBURG	95612	X		
CAD02[illegible]021061	HARVEY LYMAN AGSERVICE	JEFFERSON BLVD & CLARKSBURG RD	CLARKSBURG	95612	X		
CAD05[illegible]183739	OXYCHEM COURTLAND	JEFFERSON & COURTLAND RD	COURTLAND	95615	X		X
CAD00[illegible]474750	COURT GALVANIZING INC	COUNTY RD 32	DAVIS	95616	X		
CAT08[illegible]014251	PACIFIC TELEPHONE & TELEGRAPH COMPANY	1700 OLIVE DR	DAVIS	95616	X	X	
CAT0[illegible]029150	PACIFIC TELEPHONE AND TEL	230 C STREET	DAVIS	95616	X	X	
CAT0[illegible]02[illegible]7	PACIFIC TELEPHONE AND TELEGRAPH CO	111 G ST	DAVIS	95616	X	X	
CAT0[illegible]02[illegible]75	PACIFIC TELEPHONE AND TELEGRAPH CO	COUNTY RD 32	DAVIS	95616	X	X	
CAT08[illegible]017171	PACIFIC TELEPHONE AND TELEGRAPH CO	UNIVERSITY OF CALIF CAMPUS	DAVIS	95616	X	X	
CAD04[illegible]123773	PG&E DAVIS CENTER	316 L STREET	DAVIS	95616	X		
CAD04[illegible]120011	UNIVERSITY OF CALIFORNIA DAVIS CAMPUS	ENVIRONMENTAL HEALTH & SAFETY	DAVIS	95616	X		
CA012[illegible]39003[illegible]	USDA FOREST SERVICE PSW EXPT STATION	2810 CHILES ROAD	DAVIS	95616			X 2)
CAD05[illegible]90335	OXYCHEM DIXON	TREMONT ROAD & SO PACIFIC R.R.	DIXON	95620	X	X	X
CAT08[illegible]026772	PACIFIC TELEPHONE AND TEL	160 SOUTH SECOND STREET	DIXON	95620	X	X	
CAT00[illegible]250[illegible]	PUREGRO COMPANY UNIT 127	DIXWAY ROAD & HWY 113	DIXON	95620	X		
CAD04[illegible]5400[illegible]	TIPTON & WOODWORK INC	INDUSTRIAL WAY	DIXON	95620	X		
CAD06[illegible]105[illegible]	INDEPENDENT DISPOSAL SERVICE	9005 ELK GROVE FLORIN RD.#5	ELK GROVE	95624		X	

FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE 1) GEN	TRANS	TSDF
CAT080017197	PACIFIC TELEPHONE AND TELEGRAPH CO	8655 KAMMERER ROAD	ELK GROVE	95624	X	X	
CAT080017189	PACIFIC TELEPHONE AND TELEGRAPH CO	KAMMERER ROAD W/O HIGHWAY 99	ELK GROVE	95624	X	X	
CAD059163028	UNION CARBIDE CORPORATION	10399 STOCKTON BLVD	ELK GROVE	95624	X		X 2)
CAD000027104	WICKES FOREST INDUSTRIES	EDWARDS RD & A STREETS	ELMIRA	95625	X		X 2)
CA9490090005	WESTERN AREA POWER AD ELVERTA FIELD SF	ELVERTA ROAD	ELVERTA	95626	X	X	X 2)
CAT080017395	PACIFIC TELEPHONE AND TELEGRAPH CO	CAPAY & WINTER STREETS	ESPARTO	95627	X	X	
CAT080014244	PACIFIC TELEPHONE & TELEGRAPH COMPANY	7931 CALIFORNIA	FAIROAKS	95628	X	X	
CAT080028794	PACIFIC TELEPHONE AND TEL	1020 SAINT ANDREWS	EL DORADO HILLS	95630	X	X	
CAT080015106	PACIFIC TELEPHONE AND TELEGRAPH CO	3 MILE SOUTH LATROBE	FOLSOM	95630	X	X	
CAT080026115	PACIFIC TELEPHONE AND TELEGRAPH CO	305 GLENN DRIVE	FOLSOM	95630	X	X	
CAD000626457	BENDIX FOREST PROD.'S CORP, FORESTHILL	AUBURN-FORESTHILL RD	FORESTHILL	95631	X		X 2)
CAT080016959	PACIFIC TELEPHONE AND TELEGRAPH CO	551 C STREET	GALT	95632	X	X	
CAT080015116	PACIFIC TELEPHONE AND TELEGRAPH CO	MAIN STREET	GEORGETOWN	95634	X	X	
CAT080016942	PACIFIC TELEPHONE AND TELEGRAPH CO	BORDEN & HERALD ROADS	HERALD	95638	X	X	
CAD000626019	RANCHO SECO NUCLEAR GENERATING STATION	ROUTE 1 BOX 550	HERALD	95638	X		X 2)
CAD028330835	INTERPACE CORP CALCINE	1 MI SOUTH ON HIGHWAY 124	IONE	95640			X 3)
CAT080010747	INTERPACE CORP CALCINE #2	1 MILE SOUTH OF HIGHWAY 88	IONE	95640			
CAT080010751	INTERPACE CORP INDIAN HILL PLANT	5MI NORTH ON HIGHWAY 104	IONE	95640			
CAT080010762	INTERPACE CORP LONE MINERALS LAB	1 MI SOUTH OF HIGHWAY 88	IONE	95640			
CAD049771112	OWENS-ILLINOIS IONE PLANT #93	1 M SO. IONE HY. 124	IONE	95640	X		
CAT000024903	OWENS-ILLINOIS VOLCANO PLANT #83	PIONEER VOLCANO ROAD	VOLCANO	95640	X		X 3)
CAT080016967	PACIFIC TELEPHONE AND TELEGRAPH CO	CHURCH & JACKSON STREETS	IONE	95640	X	X	
CAT080016975	PACIFIC TELEPHONE AND TELEGRAPH CO	HIGHWAY 88	IONE	95640	X	X	
CAT080029176	PACIFIC TELEPHONE AND TEL	303 CHURCH STREET	JACKSON	95642	X	X	
CAT080020149	PACIFIC TELEPHONE AND TELEGRAPH CO	951 S HWY 99	JACKSON	95642	X	X	
CAT080020131	PACIFIC TELEPHONE AND TELEGRAPH CO	428 SUTTER ST	JACKSON	95642	X	X	
CAT080020125	PACIFIC TELEPHONE AND TELEGRAPH CO	825 S OF HWY 49	JACKSON	95642	X	X	
CAT080016983	PACIFIC TELEPHONE AND TELEGRAPH CO	ARGONAUT HILL & MARTELL	JACKSON	95642	X	X	
CAT080016751	PACIFIC TELEPHONE AND TELEGRAPH CO	556 F STREET	LINCOLN	95648	X	X	
CAD059166456	PLACER FABRICATION INC	633 H ST	LINCOLN	95648	X		

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* CAD=9588=328	COMPOSE THE	3293 TAYLOR RD	LOOMIS	95650			X 2/
* CAT=8001=769	PACIFIC TELEPHONE AND TELEGRAPH CO	WALNUT STREET	LOOMIS	95650	X	X	
* CA4=7002=337	MCCLELLAN AIR FORCE BASE	APPROX 5200 WATT AVENUE	SACRAMENTO	95652	X	X	X 2/
* CAD=09221003	BENDIX FOREST PRODUCTS CORPORATION	[illegible] 49	MARTELL	95654	X		
* CA8=7002=4143	MATHER AIR FORCE BASE	323 CES/DEV	MATHER AIR FORCE BASE	95655	X		X
* CAT=8001=793	PACIFIC TELEPHONE AND TELEGRAPH CO	OLD STATE HIGHWAY	NEWCASTLE	95658	X	X	
* CAT=8002=424	PACIFIC TELEPHONE AND TEL	629 LINCOLN AVENUE	WOODLAND	95659	X	X	
* CAT=8001=801	PACIFIC TELEPHONE AND TELEGRAPH CO	WILLOW STREET	NICOLAUS	95659	X	X	
* CAT=8001=819	PACIFIC TELEPHONE AND TELEGRAPH CO	EAST OF HIGHWAY 70 THROWBRIDGE	NICOLAUS	95659	X	X	
* CA65700=878	NORTH HIGHLANDS ANG STATION	3900 ROSEVILLE ROAD	NORTH HIGHLANDS	95660	X		
* CAT=8002=489	PACIFIC TELEPHONE AND TEL	6491 CRAIGHURST DRIVE	NORTH HIGHLANDS	95660	X	X	
* CAT=8001=827	PACIFIC TELEPHONE AND TELEGRAPH CO	MC CLELLAN AFB BLDG 20	NORTH HIGHLANDS	95660	X	X	
* CAT=8002=786	PACIFIC TELEPHONE AND TELEGRAPH CO	4300 JETWAY COURT	NORTH HIGHLANDS	95660	X	X	
* CAT=8002=966	PACIFIC TELEPHONE AND TELEGRAPH CO	3150 ORANGE GROVE AVENUE	NORTH HIGHLANDS	95660	X	X	
* CAT=8002=958	PACIFIC TELEPHONE AND TELEGRAPH CO	4242 ROSEVILLE ROAD	NORTH HIGHLANDS	95660	X	X	
* CAT=8002=794	PACIFIC TELEPHONE AND TELEGRAPH CO	3313 ORANGE GROVE AVENUE	NORTH HIGHLANDS	95660	X	X	
* CAD=0062=358	PRESTIGE STATIONS INC	4745 WATT AVENUE	SACRAMENTO	95660	X		
* CAT=8001=370	SYSTRON-DONNER CORP, WEATHER MEAS.DIV.	3213 ORANGE GROVE AVENUE	NORTH HIGHLANDS	95660	X		
* CAT=8002=497	PACIFIC TELEPHONE AND TEL	5951 MAIN AVENUE	ORANGEVALE	95662	X	X	
* CAT=8002=297	PACIFIC TELEPHONE AND TELEGRAPH CO	9317 GREENBACK LANE	ORANGEVALE	95662	X	X	
* CAT=8002=921	PACIFIC TELEPHONE AND TEL	2970 BEDFORD AVENUE	PLACERVILLE	95667	X	X	
* CAT=8002=913	PACIFIC TELEPHONE AND TEL	7=1 E/O PLACERVILLE	PLACERVILLE	95667	X	X	
* CAT=8002=482	PACIFIC TELEPHONE AND TELEGRAPH CO	115 MAIN STREET	PLACERVILLE	95667	X	X	
* CAT=8002=982	PACIFIC TELEPHONE AND TELEGRAPH CO	525 MAIN STREET	PLACERVILLE	95667	X	X	
* CAT=8002=474	PACIFIC TELEPHONE AND TELEGRAPH CO	3251 PLEASANT ROAD	PLACERVILLE	95667	X	X	
* CAT=8002=190	PACIFIC TELEPHONE AND TELEGRAPH CO	3510 MISSOURI FLAT ROAD	PLACERVILLE	95667	X	X	
* CAT=8002=508	PACIFIC TELEPHONE AND TELEGRAPH CO	3514 MISSOURI FLAT ROAD	PLACERVILLE	95667	X	X	
* CA5=2239=034	USDA FOREST SERVICE PSW EXPT STATION	2480 CARSON ROAD	PLACERVILLE	95667	X		
* CAT=8001=142	PACIFIC TELEPHONE AND TELEGRAPH CO	2 MILE S/E PLEASANT GROVE	PLEASANT GROVE	95668	X	X	
* CAT=8001=159	PACIFIC TELEPHONE AND TELEGRAPH CO	N/W CORNER PLEASANT GROVE	PLEASANT GROVE	95668	X	X	

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CAT080015167	PACIFIC TELEPHONE AND TELEGRAPH CO	PETTIGREW ROAD	PLEASANT GROVE	95668	X	X	
CAT080017072	PACIFIC TELEPHONE AND TELEGRAPH CO	POPLAR STREET	PLYMOUTH	95669	X	X	
CAD000030494	AEROJET GENERAL CORPORATION SACRAMENTO	HWY US 50 & AEROJET ROAD	RANCHO CORDOVA	95670	X		X 2)
CAD067825364	AMERICAN WST CNTOR SRV INC	11505 DOUGLAS RD	RANCHO CORDOVA	95670		X	
CAD094377702	CORDOVA CHEMICAL CO (CALIF)	HWY 50 AEROJET ROAD	RANCHO CORDOVA	95670	X		X
CAD000819680	GENERAL ELECTRIC MEDICAL SYSTEMS	3920 SECURITY PARK	RANCHO CORDOVA	95670	X		X 2)
CAD071551051	OVERHEAD DOOR CORP	11850 FOLSUM BLVD	RANCHO CORDOVA	95670	X		
CAT080011780	PACIFIC TELEPHONE AND TELEGRAPH CO	12700 FOLSOM BOULEVARD	RANCHO CORDOVA	95670	X	X	
CAT080025802	PACIFIC TELEPHONE AND TELEGRAPH CO	2853 ZINFINDEL	RANCHO CORDOVA	95670	X	X	
CAT080026305	PACIFIC TELEPHONE AND TELEGRAPH CO	10182 CHOYDON	RANCHO CORDOVA	95670	X	X	
CAT080025810	PACIFIC TELEPHONE AND TELEGRAPH CO	11303 FOLSOM BLVD	RANCHO CORDOVA	95670	X	X	
CAD080916968	SAFETY KLEEN CORP 7-157-01	2576 / MERCANTILE DRIVE	RANCHO CORDOVA	95670	X	X	X
CAT000613950	SAFETY KLEEN CORP 7-157-01	2576 / MERCANTILE DRIVE	RANCHO CORDOVA	95670	X	X	X
CAT080015175	PACIFIC TELEPHONE AND TELEGRAPH CO	2 MILES S/W RIO LINDA	RIO LINDA	95673	X	X	
CAD000631408	PURERO COMPANY UNIT 127	4900 DEL MONTE AVENUE	ROBBINS	95676	X		
CAD000415455	FORMICA CORPORATION	3500 CINCINNATI AVENUE	SUNSET WHITNEY RANCH	95677	X		X
CAT000640174	HEWLETT PACKARD CO	3525 CINCINNATI AVE	ROCKLIN	95677	X		
CAD073774606	LOUISIANA PACIFIC ROCKLIN MDFP LANT	4300 DOMINGUEZ RD	ROCKLIN	95677	X		
CAT080015183	PACIFIC TELEPHONE AND TELEGRAPH CO	HIGH / OAK STREETS	ROCKLIN	95677	X	X	
CAD010981165	REYNOLDS METALS CO INC WEST COAST DIV	3939 CINCINNATI AVE	ROCKLIN	95677	X		
CAT080011224	SOUTHERN PACIFIC PIPE LINES INC.	6050 PACIFIC STREET	ROCKLIN	95677	X		
CAD091099667	WESTECH ELECTRIC COMPANY INCORPORATED	3300 INDUSTRIAL AVENUE	SUNSET-WHITNEY RANCH	95677	X		
CAD099690839	DAWSON, MEL INCORPORATED	1450 / PLANTIC STREET	ROSEVILLE	95678	X		
CAT080011483	HEWLETT-PACKARD ROSEVILLE DIVISION	8000 FOOTHILLS BLVD.	ROSEVILLE	95678	X		X
CAT080015191	PACIFIC TELEPHONE AND TELEGRAPH CO	E/O CIRCUIT DRIVE	ROSEVILLE	95678	X	X	
CAD000620255	SOUTHERN PACIFIC TRANSPORTATION CO	CHURCH AND CEDAR	ROSEVILLE	95678	X		
CAD056806008	CERTAINTEED CORPORATION	3500 ROBIN LA	SHINGLE SPRINGS	95682	X	X	
CAT080015209	PACIFIC TELEPHONE AND TELEGRAPH CO	W/O HIGHWAY 50	SHINGLE SPRINGS	95682	X	X	
CAT080017217	PACIFIC TELEPHONE AND TELEGRAPH CO	PINE HILL	SHINGLE SPRINGS	95682	X	X	
CAT080017106	PACIFIC TELEPHONE AND TELEGRAPH CO	CHURCH STREET	SUTTER CREEK	95685	X	X	
CAD070122293	CALIFORNIA CANNERS AND GROWERS	GALT RD	THORNTON	95686	X		X 2)

FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE GEN	TRANS	TSDF [1]
* CAT08[illegible]017114	PACIFIC TELEPHONE AND TELEGRAPH CO	OAK STREET	THORNTON	95686	X	X	
* CAT00[illegible]615005	CHEVRON USA INC TROWBRIDGE BULK PLANT	PACIFIC . TROWBRIDGE	TROWBRIDGE	95687	X		
* CAT08[illegible]012602	BC STORING DISTRIBUTING	MIDWAY RD & HIGHWAY 80	VACAVILLE	95688		X	X [3]
* CAT08[illegible]033256	PACIFIC PIPELINE SURVEY	797 ELMIRA ROAD	VACAVILLE	95688		X	
* CAT08[illegible]029416	PACIFIC TELEPHONE AND TEL	320 ELIZABETH STREET	VACAVILLE	95688	X	X	
* CAT08[illegible]029408	PACIFIC TELEPHONE AND TEL	340 ELIZABETH STREET	VACAVILLE	95688	X	X	
* CAT08[illegible]014601	PACIFIC TELEPHONE AND TELEGRAPH CO	2, 3MI. S, OF VACAVILLE	VACAVILLE	95688	X	X	
* CAT08[illegible]017504	PACIFIC TELEPHONE AND TELEGRAPH CO	MT VACA MNB	VACAVILLE	95688	X	X	
* CAT08[illegible]028407	PACIFIC TELEPHONE AND TELEGRAPH CO	300 MASON ST	VACAVILLE	95688	X	X	
* CAT08[illegible]02d475	PACIFIC TELEPHONE AND TELEGRAPH CO	878 ALAMO DR	VACAVILLE	95688	X	X	
* CAT08[illegible]017551	PACIFIC TELEPHONE AND TELEGRAPH CO	ELMIRA REPEATER	VACAVILLE	95688	X	X	
* CAD00[illegible]775692	SOLANO COUNTY AGRIC, COMM, WAREHOUSE	1430 MARSHALL ROAD	VACAVILLE	95688		X	X [3]
* CAD05[illegible]772b5	WALKERS CUSTOM CHROME	702 E MAIN ST	VACAVILLE	95688	X		
* CAT00[illegible]615101	CHEVRON USA INC WALNUT GROVE BULK PLT	14025 RIVER ROAD	WALNUT GROVE	95690	X		
* CAD02[illegible]623956	HARVEY LYMAN CHEMICALS	1261 DEPOT LANE	WALNUT GROVE	95690	X		
* CAD04[illegible]259758	A & S TRUCK PAINTING INC	1872 SOUTH RIVER ROAD	WEST SACRAMENTO	95691	X		
* CAT00[illegible]618595	AMINOIL TERMINALS INC WEST SACRAMENTO	1700 SOUTH RIVER ROAD	WEST SACRAMENTO	95691	X		
* CAD00[illegible]949958	ATLANTIC RICHFIELD SACRAMENTO TERMINAL	1701 S RIVER RD	WEST SACRAMENTO	95691	X		
* CAD09[illegible]5814[illegible]1	DRESSER MAGCOBAR SACRAMENTO	1550 SOUTH RIVER ROAD	W SACRAMENTO	95691	X		
* CAD05[illegible]46526d	ELECTRO-COATINGS	2204 DULUTH STREET	WEST SACRAMENTO	95691	X		
* CAT00[illegible]6172[illegible]5	FMC CORP AGRICULTURAL CHEMICAL GROUP	3100 DULUTH STREET 000	WEST SACRAMENTO	95691	X	X	
* CAD05[illegible]4090[illegible]2	KANOLTON ENVELOPE DIV OF KIMBERLY CLARK	2660 PORT ST	WEST SACRAMENTO	95691	X		X
* CAT08[illegible]027113	PACIFIC TELEPHONE AND TELEGRAPH CO	1250 SHORE STREET	WEST SACRAMENTO	95691	X	X	
* CAT0[illegible]026073	PACIFIC TELEPHONE AND TELEGRAPH CO	1777 GEORGIAN	WEST SACRAMENTO	95691	X	X	
* CAD04[illegible]003556	RANOS OIL RECYCLERS	1515 S RIVER RD	W SACRAMENTO	95691		X	X [2]
* CAD02[illegible]049853	SERVICE TRANSPORT LINES INC	618 GALVESTON STREET	WEST SACRAMENTO	95691		X	
* CAD00[illegible]312[illegible]7	SHELL OIL CO SACRAMENTO PLANT	15TH AND SOUTH RIVER ROADS	WEST SACRAMENTO	95691	X	X	
* CAD00[illegible]626155	UNION CHEMICALS DIVISION	3961 CHANNEL DRIVE	WEST SACRAMENTO	95691	X		X
* CAD04[illegible]568[illegible]1	VAN WATERS & ROGERS DIVISION OF UNIVAR	850 SOUTH RIVER ROAD	WEST SACRAMENTO	95691	X	X	X
* CAT06[illegible]018514	PACIFIC TELEPHONE AND TELEGRAPH CO	4TH & C STREETS	WHEATLAND	95692	X	X	
* CAT00[illegible]615[illegible]8	CHEVRON USA INC WINTERS CA BULK PLANT	VALLEY ROAD	WINTERS	95694	X		
* CAD04[illegible]945[illegible]2	HOLMES HARL WAREHOUSE	E. ABBEY STREET	WINTERS	95694	X	X	
* CAT0[illegible]017601	PACIFIC TELEPHONE AND TELEGRAPH CO	13 EDWARDS STREET	WINTERS	95694	X	X	

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CAD008608086	VALLEY FARMERS COOP	106 ELLIOT STREET	WINTERS	95694	X		
CAT010624767	AMSTAR CORP SPRECKELS SUGAR DI V F-3	CO ROAD 18C	WOODLAND	95695	X		
CAD000625448	CHEVRON CHEMICAL COMPANY	KNIGHTS LANDING HIGHWAY	WOODLAND	95695	X		
CAT000615146	CHEVRON USA INC WOODLAND CA BU LK PLANT	1121 GUM AVENUE	WOODLAND	95695	X		
CAD029062038	MOBIL CHEM. CO.-PLASTICS-WOODL AND PACK'G	BEAMER ST PO BOX 210	WOODLAND	95695	X		X
CAT000024007	PACIFIC TELEPHONE AND TELEGRAP H CO	57 KENTUCKY RD	WOODLAND	95695	X	X	
CAT000024015	PACIFIC TELEPHONE AND TELEGRAP H CO	457 SECOND ST	WOODLAND	95695	X	X	
CAD041325065	SEEDTEC INTERNATIONAL INC	STATE HIGHWAY 113&INTERSTATE 5	WOODLAND	95695	X		
CAD009442203	TITAN TRAILER CORP	1202 E KENTUCKY AVE	WOODLAND	95695	X		
CAT000614113	WILBUR-ELLIS COMPANY	1962 HAYS LANE	WOODLAND	95695	X		
CAD000637439	WOODLAND DISPOSAL CO INC	100 KENTUCKY STREET	WOODLAND	95695		X	
CAT000031362	WOODLAND PARKS AND RECREATION DEPT	1017 MAIN STREET	WOODLAND	95695	X	X	
CAD000775759	YOLO COUNTY DEPARTMENT OF AGRI CULTURE	70 COTTONWOOD STREET	WOODLAND	95695		X	X

FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE 1) GEN	TRANS	TSDF
* CAT080011232	SOUTHERN PACIFIC PIPE LINES IN C	FOLSOM BLVD & BRADSHAW RD	SACRAMENTO	95800	X		
* CAT080011257	SOUTHERN PACIFIC PIPE LINES IN C	1570 S. RIVER RD	WEST SACRAMENTO	95800	X		
* CAD000627539	TESORO GASOLINE DIGAS BROADWAY	2505 RIVERSIDE DR	SACRAMENTO	95800	X		
* CAT000614941	CHEVRON USA INC SACRAMENTO CA TERMINAL	2420 FRONT ST	SACRAMENTO	95810	X		
* CAD076134051	SHERWIN-WILLIAMS CO THE	1818 P ST	SACRAMENTO	95812	X		
* CAD004274502	CONTINENTEL CHEMICAL CO#	2175 ACOMA ST	SACRAMENTO	95813	X	X	
* CAD050216951	INTERCONTINENTAL CHEMICAL CORP	2175 ACOMA ST	SACRAMENTO	95813	X		
* CAD009189457	PROCTER AND GAMBLE MANUFACTURING COMPANY	FRUITRIDGE & POWER INN ROADS	SACRAMENTO	95813	X		X
* CA0210020780	SACRAMENTO ARMY DEPOT	FRUITRIDGE RD	SACRAMENTO	95813	X		X
* CAD076101500	ALL TEMP INSULATION INC	1501 H C ST	SACRAMENTO	95814		X	
* CAD050214634	ALTA PLATING AND CHEMICAL CORPORATION	1733 S STREET	SACRAMENTO	95814	X		
* CAD000819672	DEL MONTE CORPORATION PLANT NO. 11	16TH & C ST.	SACRAMENTO	95814	X		
* CAT000624700	EAST YOLO WASTE DISPOSAL CO IN C	360 NORTH 10TH ST	SACRAMENTO	95814		X	
* CAD029042678	ORCHARD SUPPLY CO OF SACRAMENTO	1731 17 STREET	SACRAMENTO	95814	X		
* CAD029043171	PACIFIC MOTOR TRUCKING CO	300 RICHARDS BLVD	SACRAMENTO	95814	X		
* CAT080027030	PACIFIC TELEPHONE AND TELEGRAPH CO	570 J ST	SACRAMENTO	95814	X	X	
* CAT080027022	PACIFIC TELEPHONE AND TELEGRAPH CO	1201 L ST	SACRAMENTO	95814	X	X	
* CAT000646299	SAWDCO	368 NORTH 10TH STREET	SACRAMENTO	95814		X	
* CAD000629626	SHERWIN-WILLIAMS CO THE	1820 D ST	SACRAMENTO	95814	X		
* CAD073772030	SOUTHERN PACIFIC TRANSPORTATION CO	401 FIRST STREET	SACRAMENTO	95814	X		
* CAT080029796	TREASURE CHEST ADVERTISING INC	800 N 10TH ST	SACRAMENTO	95814	X		
* CAD029017050	UNLIMITED SERVICE PICK-UP & DEL INC	500 RICHARDS BLVD	SACRAMENTO	95814		X	
* CAD073790339	A-1 PLATING CO	2170 ACOMA ST	SACRAMENTO	95815	X		X 2)
* CAT080030240	PACIFIC TELEPHONE AND TEL	1525 RESPONSE ROAD	SACRAMENTO	95815	X	X	
* CAT080025950	PACIFIC TELEPHONE AND TELEGRAPH CO	1607 ARDEN WAY	SACRAMENTO	95815	X	X	
* CAT080025877	PACIFIC TELEPHONE AND TELEGRAPH CO	1590 JULIESSE AVENUE	SACRAMENTO	95815	X	X	
* CAT080026990	PACIFIC TELEPHONE AND TELEGRAPH CO	700 LEISURE LANE	SACRAMENTO	95815	X	X	
* CAT080022155	REFINERIES SERVICE	WATERFORD ROAD	SACRAMENTO	95815		X	
* CAT080013972	ROTO ROOTER SERVICE AND PLUMB. CO	2551 ALBATROSS WAY	SACRAMENTO	95815		X	
* CAD076122811	WOODSIDE MEDICAL CENTER	3201 DEL PASO BLVD	SACRAMENTO	95815	X		
* CAT080028988	PACIFIC TELEPHONE AND TEL	3675 F STREET	SACRAMENTO	95816	X	X	
* CAT080027055	PACIFIC TELEPHONE AND TELEGRAPH CO	1821 24TH STREET	SACRAMENTO	95816	X	X	
* CAD000626598	SACRAMENTO PLATING INC	2822 S STREET REAR	SACRAMENTO	95816	X		
* CAD009110180	SACRAMENTO PLATING INC	2809 S ST	SACRAMENTO	95816	X		
* CAT080029309	PACIFIC TELEPHONE AND TEL	2216 STOCKTON BOULEVARD	SACRAMENTO	95817	X	X	

FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE 1) GEN	TRANS	TSDF
* CAT080027014	PACIFIC TELEPHONE AND TELEGRAPH CO	1925 U STREET	SACRAMENTO	95818	X	X	
* CAD000628685	TOSCO CORPORATION, SACRAMENTO TERMINAL	66 BROADWAY	SACRAMENTO	95818	X		
* CAD009590118	UNION OIL COMPANY OF CALIFORNIA	76 BROADWAY	SACRAMENTO	95818	X		
* CAT080031115	CALIFORNIA STATE UNIVERSI	6000 JAY ST	SACRAMENTO	95819	X		
* CAD990724163	ENVIROTECH CORPORATION WEMCO DIVISION	721 N B ST	SACRAMENTO	95819	X		
* CAD000625939	SMUD CORPORATION YARD	1708 59TH ST	SACRAMENTO	95819		X	X 2)
* CAT080025836	PACIFIC TELEPHONE AND TELEGRAPH CO	5850 58TH STREET	SACRAMENTO	95820	X	X	
* CAT080028996	PACIFIC TELEPHONE AND TEL	2700 WATT AVENUE	SACRAMENTO	95821	X	X	
* CAT080029002	PACIFIC TELEPHONE AND TEL	3524 MARCONI AVENUE	SACRAMENTO	95821	X	X	
* CAT080028970	PACIFIC TELEPHONE AND TEL	3707 KINGS WAY	SACRAMENTO	95821	X	X	
* CAT080025851	PACIFIC TELEPHONE AND TELEGRAPH CO	8181 INDUSTRIAL PARKWAY	SACRAMENTO	95821	X	X	
* CAT080025885	PACIFIC TELEPHONE AND TELEGRAPH CO	2929 FULTON AVENUE	SACRAMENTO	95821	X	X	
* CAT080025943	PACIFIC TELEPHONE AND TELEGRAPH CO	4111 MARCONI AVENUE	SACRAMENTO	95821	X	X	
* CAT080017080	PACIFIC TELEPHONE AND TELEGRAPH CO	3540 KINGS WAY	SACRAMENTO	95821	X	X	
* CAT000614925	CHEVRON USA INC SACRAMENTO EXEC AIRPT	6151 FREEPORT BLVD	SACRAMENTO	95822	X		
* CAT080028962	PACIFIC TELEPHONE AND TEL	2594 RIO LINDA BOULEVARD	SACRAMENTO	95822	X	X	
* CAT080028947	PACIFIC TELEPHONE AND TEL	721 L STREET	RIO LINDA	95822	X	X	
* CAT000625053	SACRAMENTO WASTEWATER TREATMENT PLANT	5699 SOUTH LAND PARK DRIVE	SACRAMENTO	95822	X		X 2)
* CAD000629840	THOMAS S B INC	8166 14TH AVENUE UNIT F	SACRAMENTO	95822	X		X 2)
* CAD076100775	MUELLER SMALL ANIMAL HOSPITAL	6420 FREEPORT BLVD	SACRAMENTO	95823	X		
* CAT000624064	PACIFIC INTERMOUNTAIN EXPRESS CO	3515 KIESSIG AVENUE	SACRAMENTO	95823	X		
* CAT080029317	PACIFIC TELEPHONE AND TEL	3809 FLORIN ROAD	SACRAMENTO	95823	X	X	
* CAT080025844	PACIFIC TELEPHONE AND TELEGRAPH CO	9727 H BUSINESS PARK DR	SACRAMENTO	95823	X	X	
* CAT080027048	PACIFIC TELEPHONE AND TELEGRAPH CO	6942 65TH STREET	SACRAMENTO	95823	X	X	
* CAT080027006	PACIFIC TELEPHONE AND TELEGRAPH CO	5555 SKY PARKWAY	SACRAMENTO	95823	X	X	
* CAT000618827	PRESTIGE STATIONS INC	4421 FLORIN BLVD	SACRAMENTO	95823	X		
* CAD041654765	SANITARY DISPOSAL CO#	7100 BOWLING DRIVE	SACRAMENTO	95823		X	
* CAD009198367	CAMPBELL SOUP COMPANY	43RD AVE & FRANKLIN BLVD	SACRAMENTO	95824	X		X
* CAD010984326	ELECTRO PAINTERS INC	6105 E STOCKTON BLVD	SACRAMENTO	95824	X		X 2)
* CAT080025828	PACIFIC TELEPHONE AND TELEGRAPH CO	8180 INDUSTRIAL PARKWAY	SACRAMENTO	95824	X	X	
* CAT000614792	CHEVRON USA INC LONE PINE BULK PLANT	1 MI EAST ON STANTON WAY	LONE PINE	95825	X		
* CAT080025893	PACIFIC TELEPHONE AND TELEGRAPH CO	1400 ETHAN WAY	SACRAMENTO	95825	X	X	
* CAT080025901	PACIFIC TELEPHONE AND TELEGRAPH CO	1428 HOWE AVENUE	SACRAMENTO	95825	X	X	

FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE 1) GEN	TRANS	TSDF
CAT080025919	PACIFIC TELEPHONE AND TELEGRAPH CO	1111 HOWE AVENUE	SACRAMENTO	95825	X	X	
CAT080025927	PACIFIC TELEPHONE AND TELEGRAPH CO	1426 HOWE AVENUE	SACRAMENTO	95825	X	X	
CAT080025935	PACIFIC TELEPHONE AND TELEGRAPH CO	2211 PARK TOWN CIRCLE	SACRAMENTO	95825	X	X	
CAD000627828	TESORO GASOLINE DIGAS ALTA	1939 FULTON	SACRAMENTO	95825	X		
CAD000627232	TESORO GASOLINE DIGAS ARDEN WAY	3400 ARDEN WAY	SACRAMENTO	95625	X		
CAD051161394	GENERAL ELECTRIC COMPANY	8516 FRUITRIDGE ROAD	SACRAMENTO	95826	X	X	
CAT000617332	LIBBY MCNEILL & LIBBY INC	3900 FLORIN PERKINS ROAD	SACRAMENTO	95826	X		
CAT080029283	PACIFIC TELEPHONE AND TEL	8295 FRUITRIDGE	SACRAMENTO	95826	X	X	
CAD054467071	E S S INC	9613 OATES DR	SACRAMENTO	95827	X		
CAT080029291	PACIFIC TELEPHONE AND TEL	3333 BRADSHAW ROAD	SACRAMENTO	95827	X	X	
CAT000616281	SACRAMENTO AGRICULTURAL COMMISSIONER	4137 BRANCH CENTER ROAD	SACRAMENTO	95827	X	X	X 2)
CAD047128442	TEXACO USA A DIVISION OF TEXACO INC	3015 BRADSHAW ROAD	SACRAMENTO	95827	X	X	X
CAT080013527	CHEVRON USA INC	FLORIN AND FRENCH	SACRAMENTO	95828	X		
CAD058945668	CHROMALLOY-AMERICAN CORP	7609 WILBUR WAY	SACRAMENTO	95828	X		
CAD067826081	CUSTOM-MADE PACKAGING INC	7640 WILBUR WAY	SACRAMENTO	95828	X		
CAD055560742	FIRE MASTER KILNS	8130 JUNIPERO STREET	SACRAMENTO	95828			X 2)
CAD000627604	TESORO GASOLINE DIGAS FLORIN	6529-B FLORIN RD	SACRAMENTO	95828	X		
CAT080014061	CALIFORNIA DEPT FOOD & AGRICULTURE	3292 MEADOWVIEW ROAD	SACRAMENTO	95832	X	X	
CAD000628156	CHEMISTRY LAB DEPT, FOOD & AGRICULTURE	3292 MEADOWVIEW RD	SACRAMENTO	95832		X	
CAD010979789	COM - STRUCT INTERNATIONAL	8600 23RD AVE	SACRAMENTO	95832	X		
CAT000625624	SACRAMENTO WASTEWATER TREATMENT PLANT	8521 LAGUNA STATION ROAD	SACRAMENTO	95832	X		X 2)
CAT080029275	PACIFIC TELEPHONE AND TEL	917 JEFFERSON BOULEVARD	SACRAMENTO	95833	X	X	
CAT000614016	SIGNETICS CORP	4130 SOUTH MARKET COURT	SACRAMENTO	95834	X		X
CAT000618967	UOP INC JOHNSON DIVISION	631 U MARKET BLVD UNIT CDWX	SACRAMENTO	95834	X		
CAT000614917	CHEVRON USA INC SACRAMENTO METRO AIRPT	AIRPORT BLVD (INTERSTATE 5)	SACRAMENTO	95837	X		
CAT080025869	PACIFIC TELEPHONE AND TELEGRAPH CO	3100 POWER INN ROAD	SACRAMENTO	95837	X	X	
CAT080014236	PACIFIC TELEPHONE & TELEGRAPH COMPANY	1407-1423 J STREET	SACRAMENTO	95841	X	X	
CAD000627851	TESORO GASOLINE DIGAS MADISON	5001 MADISON AVE	SACRAMENTO	95841	X		
CAD067829549	DYNAMIC ROOFING COMPANY INC	2541 GRENNAN COURT	RANCHO CORDOVA	95870 *	X		
CAD082106683	CERTAINTEED CORP WATER WORKS MFG	3387 PLUMAS-ARBOGA ROAD	MARYSVILLE	95901	X		
CAT080024664	PACIFIC TELEPHONE AND TELEGRAPH CO	HWY 20 & SPRING VALLEY ROAD	MARYSVILLE	95901	X	X	
CAT080024466	PACIFIC TELEPHONE AND TELEGRAPH CO	723 D STREET	MARYSVILLE	95901	X	X	
CAT080016355	PACIFIC TELEPHONE AND TELEGRAPH CO	3 1/2 MILES N/O RIO OSO	MARYSVILLE	95901	X	X	
CAT080016041	PACIFIC TELEPHONE AND TELEGRAPH CO	STERLING BOULEVARD # 4204	MARYSVILLE	95901	X	X	

* INCORRECT ZIP CODE. SHOULD BE 95670

REGION IX RCRA DATABASE

12/04/1981

FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE GEN	TRANS	TSDF
* CAT080016363	PACIFIC TELEPHONE AND TELEGRAPH CO	2 MILES S/O MARYSVILLE	MARYSVILLE	95901	X	X	
* CAT080016371	PACIFIC TELEPHONE AND TELEGRAPH CO	GORMAN HILL	MARYSVILLE	95901	X	X	
* CAT080016777	PACIFIC TELEPHONE AND TELEGRAPH CO	1 MILE S/O LOMO	MARYSVILLE	95901	X	X	
* CAT080026941	PACIFIC TELEPHONE AND TELEGRAPH CO	HI PLATEAU	MARYSVILLE	95901	X	X	
* CAT080026933	PACIFIC TELEPHONE AND TELEGRAPH CO	421 F STREET	MARYSVILLE	95901	X	X	
* CAT080027774	PACIFIC TELEPHONE AND TELEGRAPH CO	11273 LOMA RICA ROAD	LOMA RICA	95901	X	X	
* CAD098086127	WINDSOR DOOR COMPANY	1370 FURNEAUX ROAD	MARYSVILLE	95901	X		
* CAD000775767	YUBA COUNTY AGRICULTURAL COMMISSIONER	938 14TH STREET	MARYSVILLE	95901		X	
* CA7570024508	BEALE AIR FORCE BASE PHOTOWASTE PLANT	BUILDING 124	BEALE AFB	95903	X		X[2]
* CAT080016389	PACIFIC TELEPHONE AND TELEGRAPH CO	N BEALE ROAD HIGHWAY 65	MARYSVILLE	95903	X	X	
* CAT080016033	PACIFIC TELEPHONE AND TELEGRAPH CO	BLDG 2159 BEALE AFB	MARYSVILLE	95903	X	X	
* CAT080024342	PACIFIC TELEPHONE AND TELEGRAPH CO	BLDG 2172	BEALE AFB	95903	X	X	
* CAT080014749	PACIFIC TELEPHONE AND TELEGRAPH CO	MAIN STREET	ALLEGHANY	95910	X	X	
* CAT080016447	PACIFIC TELEPHONE AND TELEGRAPH CO	LAPORTE & LAS VERGELES	BANGOR	95914	X	X	
* CAT080016462	PACIFIC TELEPHONE AND TELEGRAPH CO	COMMERCIAL & OREGON STREETS	BIGGS	95917	X	X	
* CAT080014756	PACIFIC TELEPHONE AND TELEGRAPH CO	EUREKA & MAIDEN STREETS	BUTTE CITY	95920	X	X	
* CAT080016652	PACIFIC TELEPHONE AND TELEGRAPH CO	MAIN AND CALVIN STREETS	CAMPTONVILLE	95922	X	X	
* CAT080016504	PACIFIC TELEPHONE AND TELEGRAPH CO		CHALLENGE	95925	X	X	
* CAT080032477	CALIF STATE UNIVERSITY CHICO	FIRST & NORMAL ST	CHICO	95926	X		
* CAD093579043	CHEMTEC AGRICULTURAL CHEMICALS INC	701 ENTLER AVENUE	CHICO	95926	X		
* CAD065018814	CHICO BUTTE DISPOSAL SERVICE INC	451 E 9TH AVE	CHICO	95926		X	
* CAD009212945	DIAMOND INTE. CORP FINISHED WOOD PROD	W 16TH ST	CHICO	95926	X		
* CAD008287617	DOUGLAS OIL COMPANY OF CAL#	230 HEGEN	CHICO	95926	X		
* CAT000617084	FMC CORP AGRICULTURAL CHEMICAL GROUP	775 ENTLER AVE	CHICO	95926	X	X	
* CA3122307637	MENDOCINO NATIONAL FOREST	NIMSHEW STAGE RD	CHICO	95926		X	X[3]
* CAD051176162	MOSER DENTAL MFG CO	2560 DOMINIC DR UNIT I	CHICO	95926	X	X	
* CAT080028749	PACIFIC TELEPHONE AND TEL	518 WEST FOURTH STREET	CHICO	95926	X	X	
* CAT080016512	PACIFIC TELEPHONE AND TELEGRAPH CO	FOREST RANCH	CHICO	95926	X	X	
* CAT080026545	PACIFIC TELEPHONE AND TELEGRAPH CO	1215 MANGROVE AVENUE	CHICO	95926	X	X	

FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE 1) GEN	TRANS	TSDF
* CAT080026537	PACIFIC TELEPHONE AND TELEGRAP H CO	107 FARMAC DRIVE	CHICO	95926	X	X	
* CAT080026529	PACIFIC TELEPHONE AND TELEGRAP H CO	460 RIO LINDO AVENUE	CHICO	95926	X	X	
* CAT080016678	PACIFIC TELEPHONE AND TELEGRAP H CO	FOURTH & CHESTNUT STREETS	CHICO	95926	X	X	
* CAT080026552	PACIFIC TELEPHONE AND TELEGRAP H CO	712 MANGROVE AVENUE	CHICO	95926	X	X	
* CAT080026560	PACIFIC TELEPHONE AND TELEGRAP H CO	636 NORD AVENUE	CHICO	95926	X	X	
* CAT080026578	PACIFIC TELEPHONE AND TELEGRAP H CO	3750 MORROW LANE	CHICO	95926	X	X	
* CAT080026511	PACIFIC TELEPHONE AND TELEGRAP H CO	198 EAST 11TH STREET	CHICO	95926	X	X	
* CAT080016249	PACIFIC TELEPHONE AND TELEGRAP H CO	1/2 MILE S/O DURHAM	CHICO	95926	X	X	
* CAT080016223	PACIFIC TELEPHONE AND TELEGRAP H CO	1206 WEST EIGHTH STREET	CHICO	95926	X	X	
* CAT080016231	PACIFIC TELEPHONE AND TELEGRAP H CO	1/2 MILE N/O NORD	CHICO	95926	X	X	
* CAT080026842	PACIFIC TELEPHONE AND TELEGRAP H CO	25 MAIN STREET	CHICO	95926	X	X	
* CAT080026834	PACIFIC TELEPHONE AND TELEGRAP H CO	314 SALEM STREET	CHICO	95926	X	X	
* CAT080027592	PACIFIC TELEPHONE AND TELEGRAP H CO	COHASSET	CHICO	95926	X	X	
* CAT080027659	PACIFIC TELEPHONE AND TELEGRAP H CO	CHICO-QUINCY	FLEA MOUNTAIN-CHICO-	95926	X	X	
* CAT080026826	PACIFIC TELEPHONE AND TELEGRAP H CO	470 RIO LINDO AVENUE	CHICO	95926	X	X	
* CAT080026818	PACIFIC TELEPHONE AND TELEGRAP H CO	1095 NELSON STREET	CHICO	95926	X	X	
* CAD052371473	POLYO YP PLASTEX INTERNATIONA L INC.	1220 FORTRESS STREET	CHICO	95926	X		X 3)
* CAD001760501	REXHORD INC	626 HEGAN LANE	CHICO	95926	X		X 3)
* CAD000631390	SHELL OIL CO CHICO PLANT	230 HEGAN LANE	CHICO	95926	X	X	
* CAT000619163	SHERWIN-WILLIAMS CO	119 MAIN ST	CHICO	95926	X		
* CAT080011125	SOUTHERN PACIFIC PIPE LINES IN C	MIDWAY & HEGAN LANE	CHICO	95926	X		
* CAD000625806	TEXACO USA A DIVISION OF TEXAC O INC	HWY 99 AND MIDWAY ROAD	CHICO	95926	X	X	X 3)
* CAD000628859	TOSCO CORPORATION, CHICO TERMI NAL	MIDWAY AND HEGAN LANES	CHICO	95926	X		
* CAT000614503	CHEVRON USA INC CHICO CA TERMI NAL	HAGEN LANE AT MIDWAY ROAD	CHICO	95927	X		
* CAT000618835	OXYCHEM CHICO	931 W FIFTH STREET	CHICO	95927	X		
* CAD990739005	STEEL MILL SUPPLY CO	786 OROVILLE CHICO HY	CHICO	95927		X	
* CAD009160284	HARDY HARVESTER	MAIN & TULE RDS.	COLLEGE CITY	95931	X		
* CAT000614552	CHEVRON USA INC COLUSA BULK PL ANT	150 THIRTEENTH STREET	COLUSA	95932	X		
* CAT000611038	COLUSA BEAN GROWERS INC	WEST COUNTY AIRPORT	COLUSA	95932	X		
* CAD028030914	DELTA INDUSTRIES INC	10TH&MAIN STREETS	COLUSA	95932		X	

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FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE GEN	TRANS	TSDF
CAD095882403	OXYCHEM COLUSA	GRIMES HIGHWAY & AIRPORT	COLUSA	95932	X		
CAT080013345	PIRELLI CABLE CORPORATION	1480 WILL S GREEN AVE	COLUSA	95932	X		
CA1000625269	VALLEY NITROGEN PRODUCERS INC	BUSTER RD. & HWY 45	COLUSA	95932	X		
CAT080016702	PACIFIC TELEPHONE AND TELEGRAPH CO	PEARL STREET	DOWNIEVILLE	95936	X	X	
CAT080016694	PACIFIC TELEPHONE AND TELEGRAPH CO	CAL IDA	DOWNIEVILLE	95936	X	X	
CAT080029648	ATLANTIC RICHFIELD CO ARC	I5 AND ROAD 8	DUNNIGAN	95937	X		
CAT000614578	CHEVRON USA INC DUNNIGAN CA BULK PLANT	OLD HIGHWAY 99	DUNNIGAN	95937	X		
CAT080026780	PACIFIC TELEPHONE AND TEL	INTER YOLO COUNTY RDS 6 A	DUNNIGAN	95937	X	X	
CA1080017387	PACIFIC TELEPHONE AND TELEGRAPH CO	ROAD 09	DUNNIGAN	95937	X	X	
CAD071546659	LOUISIANA-PACIFIC CORPORATION	STONYFORD RD	ELK CREEK	95939	X		
CAT080016587	PACIFIC TELEPHONE AND TELEGRAPH CO	6 MILES S/W ELK CREEK	ELK CREEK	95939	X	X	
CA1080016579	PACIFIC TELEPHONE AND TELEGRAPH CO	W/S BIDWELL N/O ELM	ELK CREEK	95939	X	X	
CAT080016595	PACIFIC TELEPHONE AND TELEGRAPH CO	MAPLE AND COUNTY ROAD	FEATHER FALLS	95940	X	X	
CAD076112564	LOHSE, WILLIAM HILL	RT. 1, BOX 336	GLENN	95943	X		
CAD071557029	GRASS VALLEY GROUP INC.	13024 BITNEY SPRINGS ROAD	GRASS VALLEY	95945	X		X 3)
CAD009472408	GRASS VALLEY TRANSFER	123 BANK STREET	GRASS VALLEY	95945		X	
CA1080028848	PACIFIC TELEPHONE AND TEL	315 COLFAX AVENUE	GRASS VALLEY	95945	X	X	
CAT080026830	PACIFIC TELEPHONE AND TEL	WOLF CREEK MOUNTAIN	GRASS VALLEY	95945	X	X	
CAT080021441	PACIFIC TELEPHONE AND TELEGRAPH CO	118 EAST MAIN STREET	GRASS VALLEY	95945	X	X	
CAT080024433	PACIFIC TELEPHONE AND TELEGRAPH CO	10530 FREEMAN LANE	GRASS VALLEY	95945	X	X	
CAT080024425	PACIFIC TELEPHONE AND TELEGRAPH CO	149 SOUTH AUBURN STREET	GRASS VALLEY	95945	X	X	
CA1080024458	PACIFIC TELEPHONE AND TELEGRAPH CO	10098 LAKE OLYMPIA ROAD	GRASS VALLEY	95945	X	X	
CAT080027733	PACIFIC TELEPHONE AND TELEGRAPH CO	LAKE OF THE PINES	GRASS VALLEY	95945	X	X	
CAT080015126	PACIFIC TELEPHONE AND TELEGRAPH CO	PENN VALLEY HIGHWAY 20	GRASS VALLEY	95946	X	X	
CA1000617100	FMC CORP AGRICULTURAL CHEMICAL GROUP	OROVILLE-GRIDLEY HY AT BONNELL	GRIDLEY	95948	X	X	
CAD049972656	LIBBY MCNEILL & LIBBY INC	PO BOX 278 100 VIRGINIA ST	GRIDLEY	95948	X		
CA1080015009	PACIFIC TELEPHONE AND TELEGRAPH	2 3/4 MILES N/O LIVE OAK	GRIDLEY	95948	X	X	
CAT080015993	PACIFIC TELEPHONE AND TELEGRAPH	464 KENTUCKY STREET	GRIDLEY	95948	X	X	
CAT080016017	PACIFIC TELEPHONE AND TELEGRAPH CO	E/S CAPAY N/O SECOND	HAMILTON CITY	95951	X	X	
CAT080016306	PACIFIC TELEPHONE AND TELEGRAPH CO	9945 LARKIN ROAD	LIVE OAK	95953	X	X	
CAT080016314	PACIFIC TELEPHONE AND TELEGRAPH CO	2 MILES S/O PENNINGTON	LIVE OAK	95953	X	X	
CAD000626222	MOBIL OIL CORP, GRIMES LEASE	RT 1 BOX 64	MERIDIAN	95957	X		

[redacted] REGI[redacted]X RC[redacted]ATA[redacted]

12/04/1981

FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE 1) GEN	TRANS	TSDF
CAT080016405	PACIFIC TELEPHONE AND TELEGRAPH CO	SECOND & D STREETS	MERIDIAN	95957	X	X	
CAT080016785	PACIFIC TELEPHONE AND TELEGRAPH CO	305 SPRING STREET	NEVADA CITY	95959	X	X	
CAT080015134	PACIFIC TELEPHONE AND TELEGRAPH CO	MAIN STREET	NORTH SAN JUAN	95960	X	X	
CAD040175543	OLIVEHURST PUBLIC UTILITY DISTRICT	SOUTH END OF MARY AVENUE	OLIVEHURST	95961	X		
CAD082792235	OXYCHEM ORLAND	153E SOUTH RAILROAD AVE	ORLAND	95963	X		
CAT080015910	PACIFIC TELEPHONE AND TELEGRAPH CO	712 THIRD STREET	ORLAND	95963	X	X	
CAT080026586	PACIFIC TELEPHONE AND TELEGRAPH CO	826 TEHAMA STREET	ORLAND	95963	X	X	
CAT000025327	VALLEY NITROGEN PRODUCERS INC-BLYTHE	15TH & RAILROAD AVE	ORLAND	95963	X		
CAT080029762	BOMERS TRUCKING INC	2892 FOOTHILL BLVD	OROVILLE	95965		X	
CAT000618660	BUTTE COUNTY AGRICULTURAL COMMISSIONER	316 NELSON AVENUE	OROVILLE	95965		X	X 3)
CAD009112087	KOPPERS COMPANY INC	BAGGETT-MARYSVILLE ROAD	OROVILLE	95965	X	X	X 3)
CAD065021594	LOUISIANA PACIFIC CORP OROVILLE SAWMIL	HWY 70 GEORGIA PACIFIC WAY	OROVILLE	95965	X		
CAD000019714	LOUISIANA- PACIFIC CEDAR MILL	SOUTH 5TH AVE.	OROVILLE	95965	X		
CAD009105230	OMARK-RCBS INC	605 ORO DAM BLVD	OROVILLE	95965			X 3)
CAT080030232	PACIFIC TELEPHONE AND TEL	2222-2224-2226 5TH AVENUE	OROVILLE	95965	X	X	
CAT080026602	PACIFIC TELEPHONE AND TELEGRAPH CO	2195 BALDWIN STREET	OROVILLE	95965	X	X	
CAT080026610	PACIFIC TELEPHONE AND TELEGRAPH CO	3085 LOWER WYANDOTTE	OROVILLE	95965	X	X	
CAT080015928	PACIFIC TELEPHONE AND TELEGRAPH CO	16 RACHEL DRIVE	OROVILLE	95965	X	X	
CAT080015936	PACIFIC TELEPHONE AND TELEGRAPH CO	1/7 MILES N/E OROVILLE	OROVILLE	95965	X	X	
CAT080018286	PACIFIC TELEPHONE AND TELEGRAPH CO	2065 MYERS STREET	OROVILLE	95965	X	X	
CAT080027584	PACIFIC TELEPHONE AND TELEGRAPH CO	CONCOW 15 MI E/O OROVILLE	OROVILLE	95965	X	X	
CAT080015944	PACIFIC TELEPHONE AND TELEGRAPH CO	PARADISE PINES	PARADISE	95969	X	X	
CAT080018294	PACIFIC TELEPHONE AND TELEGRAPH CO	772 ELIOTT ROAD	PARADISE	95969	X	X	
CAT080026974	PACIFIC TELEPHONE AND TELEGRAPH CO	635 PEARSON	PARADISE	95969	X	X	
CAT080018310	PACIFIC TELEPHONE AND TELEGRAPH CO	25 MAIN STREET	QUINCY	95971	X	X	
CAT080026628	PACIFIC TELEPHONE AND TELEGRAPH CO	150 N MILL CREEK ROAD	QUINCY	95971	X	X	
CAT080027691	PACIFIC TELEPHONE AND TELEGRAPH CO	545 LAWRENCE STREET	QUINCY	95971	X	X	
CAT080027642	PACIFIC TELEPHONE AND TELEGRAPH CO	CHICO-QUINCY	RED HILL QUINCY	95971	X	X	
CAD073178979	QUINCY CONV. HOSP.	50 CENTRAL AVE	QUINCY	95971	X		

REGION IX RCRA DATABASE

12/04/1981

FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE 1) GEN	TRANS	TSDF
CAD009167255	BUTTE COUNTY RICE GROWERS ASSOCIATION	1193 RICHVALE HWY	RICHVALE	95974	X		
CAT080018377	PACIFIC TELEPHONE AND TELEGRAPH CO	MAIN STREET	RICHVALE	95974	X	X	
CAT080018385	PACIFIC TELEPHONE AND TELEGRAPH CO	HIGHWAY 99W	RICHVALE	95974	X	X	
CAT080018435	PACIFIC TELEPHONE AND TELEGRAPH CO	MAIN & OBRIEN STREETS	SMARTSVILLE	95977	X	X	
CAT080018443	PACIFIC TELEPHONE AND TELEGRAPH CO	MARKET BETWEEN 1ST & 2ND	STONYFORD	95979	X	X	
CAT080018450	PACIFIC TELEPHONE AND TELEGRAPH CO	2424 LOCUST ST	SUTTER CITY	95982	X	X	
CAD000625962	GLENN COUNTY DEPARTMENT OF AGRICULTURE	720 NORTH COLUSA STREET	WILLOWS	95988		X	X 3)
CAT080031842	MOBIL OIL CORP WILLOWS LEASE	T19N R3W SEC10	WILLOWS	95988	X		
CAT080018542	PACIFIC TELEPHONE AND TELEGRAPH CO	125 N BUTTE ST	WILLOWS	95988	X	X	
CAT080026479	PACIFIC TELEPHONE AND TELEGRAPH CO	247 WEST SYCAMORE	WILLOWS	95988	X	X	
CAT080026487	PACIFIC TELEPHONE AND TELEGRAPH CO	345 EAST LAUREL ST	WILLOWS	95988	X	X	
CAT000625525	WILLOWS GLENN COUNTY AIRPORT	HWY 162 & INTERSTATE 5	WILLOWS	95988			X 3)
CAD008808651	ASSOCIATED TRANSPORTATION CO INC	442 B STREET	YUBA CITY	95991		X	
CAD000625640	CHEVRON CHEMICAL COMPANY	928 GARDEN HWY	YUBA CITY	95991	X		
CAD070306188	FMC CORP AGRICULTURAL CHEMICAL GROUP	B & CRADDOCK ST	YUBA CITY	95991	X	X	
CAD047119847	H & B MACHINERY INC	1781 COLUSA HWY	YUBA CITY	95991	X		
CAD029671484	NELSON MFG CO INC	2860 COLUSA HWY	YUBA CITY	95991	X		
CAT080030257	PACIFIC TELEPHONE AND TEL	951 LIVE OAK BLVD	YUBA CITY	95991	X	X	
CAT080015894	PACIFIC TELEPHONE AND TELEGRAPH CO	DOBBINS	NORTH YUBA	95991	X	X	
CAT080026776	PACIFIC TELEPHONE AND TELEGRAPH CO	438 COLUSA WAY	YUBA CITY	95991	X	X	
CAT080018583	PACIFIC TELEPHONE AND TELEGRAPH CO	960 FRANKLIN STREET	YUBA CITY	95991	X	X	
CAT080024623	PACIFIC TELEPHONE AND TELEGRAPH CO	1301 THARP ROAD	YUBA CITY	95991	X	X	
CAT080024631	PACIFIC TELEPHONE AND TELEGRAPH CO	1227 BRIDGE STREET	YUBA CITY	95991	X	X	
CAT080026768	PACIFIC TELEPHONE AND TELEGRAPH CO	438 CENTER ST	YUBA CITY	95991	X	X	
CAT080026792	PACIFIC TELEPHONE AND TELEGRAPH CO	939 LIVE OAK BLVD	YUBA CITY	95991	X	X	
CAT080026784	PACIFIC TELEPHONE AND TELEGRAPH CO	905-925 MARKET STREET	YUBA CITY	95991	X	X	
CAT000624940	PUREGRO COMPANY UNIT 125	584 FRANKLIN AVENUE	YUBA CITY	95991	X		
CAD067810424	SHERWIN-WILLIAMS CO THE	1191 BRIDGE ST	YUBA CITY	95991	X		
CAD000094664	SIERRA EXPRESS	442 B STREET	YUBA CITY	95991		X	
CAT080011265	SOUTHERN PACIFIC PIPE LINES INC	F STREET	YUBA	95991	X		

REGION IX RCRA DATABASE

12/04/1981

FACILITY ID	FACILITY NAME	FACILITY STREET	FACILITY CITY	ZIP	ACTIVITY TYPE GEN	TRANS	TSDF
CAD000625947	SUTTER CO AGRICULTURAL COMMISSIONER	142 GARDEN HIGHWAY	YUBA CITY	95991		X	X
CAT000625541	WILDON TRUCKING INC	442 B STREET	YUBA CITY	95991		X	

Footnotes:

1/ GEN = Generate
TRANS = Transport
TSDF = On-Site Treatment, Storage or Disposal Facility

2/ Did not apply for on-site permit.

3/ Out of SACOG area. It is not known if permit was applied for.

4. Hazardous Waste Generated in the SACOG Area and Transported To Existing Disposal Facilities

This data is based on the UCD Study of Hazardous Waste Generation and Disposal Patterns, although the basic data is re-organized into a geographical area presentation that best resembles the SACOG area. This data provides the most up-to-date information on the generation and disposal patterns of hazardous wastes transported off-site for disposal.

This data, in the present form, does not differentiate between those disposing of hazardous wastes who are EPA Notifiers (over 2,204 lbs. a month) and small generators (under 2,204 lbs. a month). Small generators are not required to notify EPA and, thus, there is little information available concerning them.

It should be assumed that the data contained in this section was derived from large and small generators, but until further analysis is completed the actual breakdown between the two is unavailable. It is probably safe to assume that a large portion, if not the majority, of the wastes analyzed in this section came from large generators.

- Hazardous Waste Generation Areas (Map IV-A)

This map shows the two areas of interest to SACOG. Because Zip Codes were used to identify location of the source of hazardous waste, it was necessary to use an area larger than the SACOG area. Unfortunately, Zip Codes do not coincide with County boundaries and in some cases cut Counties in half and in others include Counties outside the SACOG area.

- Hazardous Waste Generated by Area Within California (Table IV-A)

This table provides the amount of hazardous waste generated and the percent of Statewide total for areas within California during September 1979 and May 1980.

Grouping the data by major areas of the State yields:

	Tons	Percent
Greater Los Angeles	79,509	35.1
San Diego	4,265	1.9
Ventura, Santa Barbara, San Luis Obispo	4,375	1.9
Southern California	88,149	38.9
San Francisco Bay	63,419	28.0
Sonoma	16,317	7.2
Greater Bay Area	79,736	35.2
San Joaquin Valley	40,508	17.9
Sacramento Valley	9,145	4.0

Using the two-month figures as an average, the annual statewide generation of hazardous wastes is estimated at 1.3 million tons.

HAZARDOUS WASTE GENERATION AREAS

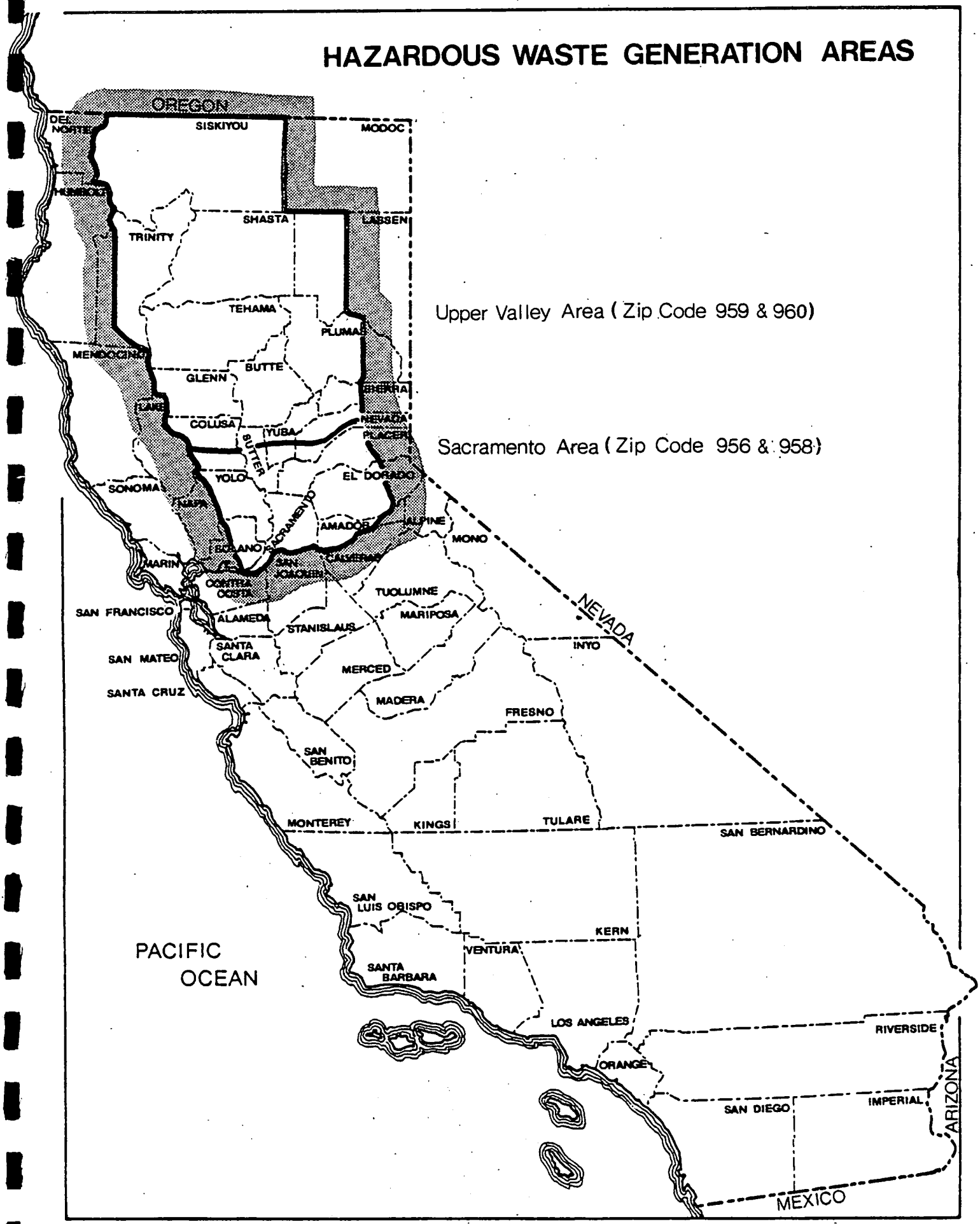


TABLE IV-A

HAZARDOUS WASTE GENERATED BY AREA WITHIN CALIFORNIA 1/
(SEPTEMBER 1979 AND MAY 1980)

AREA	TON	PERCENT
CENTRAL LOS ANGELES	5,314	2.35
UPPER COASTAL LOS ANGELES	24,716	10.91
LONG BEACH REGION, LOS ANGELES	26,119	11.53
N.E. LOS ANGELES	6,186	2.73
S.E. LOS ANGELES	4,384	1.94
NORTH LOS ANGELES	4,136	1.83
GREATER ORANGE AREA	6,707	2.96
GREATER SAN DIEGO AREA	4,265	1.88
SAN BERNARDINO/RIVERSIDE AREA	1,947	0.86
COASTAL VENTURA	2,582	1.14
COASTAL SAN LUSI OBISPO	1,793	0.79
WEST BAY AREA	6,922	3.06
UPPER EAST BAY AREA	42,164	18.62
LOWER EAST BAY AREA	6,059	2.68
GREATER SAN JOSE (SOUTH BAY AREA)	8,274	3.65
SONOMA AREA (ALONG ROUTE 101)	16,317	7.21
BAKERSFIELD AREA	25,029	11.05
GREATER FRESNO AREA	11,794	5.21
GREATER STOCKTON AREA	3,685	1.63
SACRAMENTO AREA	8,958	3.96
UPPER VALLEY	187	0.08
UNIDENTIFIED GEOGRAPHICAL REGIONS	7,369	3.25
OUT OF STATE PRODUCERS	1,326	0.59
ISOLATED MINOR AREAS	218	0.10
TWO MONTH TOTAL	226,451	100.00

1/ "Hazardous Waste Generation and Off-Site Disposal Patterns in California", University of California at Davis, College of Engineering, Chemical Engineering Department, September 1981.

- Summary of Hazardous Waste Generated by Standard Industrial Classification Code (Table IV-B)

Table IV-B provides the amount of hazardous waste generated and percent of Statewide total by Standard Industrial Classification Code (SIC) for September 1979 and May 1980.

Three industry groups--Petroleum and Coal Products (29), Oil and Gas Extraction (13), and Chemicals and Allied Products (28)--accounted for 66.46% of the hazardous wastes generated in the two-month period. Adding the next three highest generating industries--Electric, Gas, and Sanitary Services (49), Fabricated Metals (34), and Electrical and Electronic Equipment (36)--increase the amount to 80.37%.

- Hazardous Waste Disposed of in September 1979 and May 1980 by Location (Table IV-C)

Table IV-C indicates where the hazardous material generated during the two-month period was disposed of.

As indicated, Class I sites accepted 65.09% of the wastes, and Class II-1 sites accepted 34.91%.

Grouping the disposal sites in approximately the same manner as in the Table 1 analysis yields the following disposal site patterns by major area of the State:

	Tons	Percent
Southern California	91,420	40.37
Greater Bay Area	75,833	33.49
San Joaquin Valley	58,845	25.99
Sacramento Valley	-0-	-0-

- Distribution of Waste Generators by Magnitude for September 1979 and May 1980 (Table IV-D)

Table IV-D indicates that 48.2% of all the hazardous waste generated and disposed of in the two-month period came from only 20 generators. It also indicates that the average generator accumulates about 55 tons per month, and that among generators in the less than 100-tons range, the average generation is approximately 8 tons per month.

TABLE IV-B

HAZARDOUS WASTE GENERATED IN CALIFORNIA BY INDUSTRY TYPE[1/]
(SEPTEMBER 1979 AND MAY 1980)

SIC[2/] CODE	INDUSTRY	TONS	PERCENT STATE TOTAL
07	AGRICULTURAL SERVICES	625	0.28
13	OIL & GAS EXTRACTION	44,194	19.52
20	FOOD & KINDRED PRODUCTS	815	0.36
24	LUMBER & WOOD PRODUCTS	165	0.07
26	PAPER & ALLIED PRODUCTS	1,707	0.75
2631	Paperboard Mills	1,100	0.49
27	PRINTING & PUBLISHING	304	0.13
28	CHEMICALS & ALLIED PRODUCTS	42,808	18.90
2816	Inorganic Pigments	2,512	1.11
2819	Industrial Inorganic Chemicals	7,980	3.52
2821	Plastic Materials & Resins	4,861	2.15
2815	Paints & Allied Products	2,793	1.23
2869	Industrial Organic Chemicals	4,406	1.95
2879	Agricultural Chemicals	12,057	5.32
2899	Chemical Preparations	4,460	1.97
29	PETROLEUM & COAL PRODUCTS	63,507	28.04
2911	Petroleum Refining	62,232	27.48
2952	Asphalt Felts & Coatings	747	0.33
30	RUBBER & MISC. PLASTIC PRODUCTS	191	0.08
31	LEATHER TANNING & FINISHING	1,949	0.86
32	STONE, CLAY & GLASS PRODUCTS	3,625	1.60
3275	Concrete Products	325	0.14
3292	Asbestos Products	2,392	1.06
33	PRIMARY METAL INDUSTRIES	4,467	1.97
3312	Blast Furnace & Steel Mills	2,279	1.01
34	FABRICATED METAL PRODUCTS	10,711	4.73
341	Metal Cans & Shipping Containers	1,397	0.62
347	Metal Services	5,090	2.25
3432	Plumbing Fittings & Brass Goods	1,762	0.78
35	MACHINERY, EXCEPT ELECTRICAL	3,060	1.35
3573	Electronic Computing Equipment	1,578	0.70
36	ELECTRIC & ELECTRONIC EQUIPMENT	9,250	4.08
3662	Radio & TV Communication Equipment	625	0.28
3674	Semiconductors & Related Devices	1,995	0.88
3679	Electronic Components	4,847	2.14

(Continued on next page)

TABLE IV-B (Continued)

SIC[2/] CODE	INDUSTRY	TONS	PERCENT STATE TOTAL
37	TRANSPORTATION EQUIPMENT	7,932	3.50
371	Motor Vehicles & Equipment	3,205	1.42
372	Aircraft & Parts	2,797	1.24
376	Guided Missiles/Space Vehicle	1,712	0.76
38	INSTRUMENTS & RELATED PRODUCTS	1,290	0.57
382	Measuring & Control Devices	738	0.33
40	RAILROAD TRANSPORTATION	578	0.26
42	TRUCKING & SANITARY SERVICES	2,049	0.90
44	WATER TRANSPORTATION	263	0.12
45	AIR TRANSPORTATION	622	0.27
46	PIPELINES, EXCEPT NATURAL GAS	625	0.28
49	ELECTRIC, GAS & SANITARY SERVICES	11,545	5.10
493	Combination Utility Services	11,306	4.99
51	WHOLESALE TRADE-NONDURABLE GOODS	362	0.16
73	BUSINESS SERVICES	826	0.36
739	Miscellaneous Business Services	825	0.36
75	AUTO REPAIR SERVICES & GARAGES	307	0.14
96	DEPARTMENT OF FOOD AND AGRICULTURE	327	0.14
ADDITIONAL GENERATORS:			
100-1999	Other Minor SIC Groups	200	0.09
2000-3999	Other Minor SIC Groups	149	0.07
4000-9700	Other Minor SIC Groups	945	0.42
	Producers with Unidentifiable SIC Groups	4,966	2.19
	U.S. Naval Bases & Operations	3,294	1.45
	Industrial Waste Removal Services	1,594	0.70
	TWO MONTH TOTAL	226,451	100.00

1/ "Hazardous Waste Generation and Off-Site Disposal Patterns in California", University of California at Davis, College of Engineering, Chemical Engineering Department, September 1981.

2/ Standard Industrial Classification (SIC).

TABLE IV-C

HAZARDOUS WASTE DISPOSED OF
BY LOCATION[1]
(September 1979 and May 1980)

DHS# [2]	SITE LOCATION, COUNTY, AND TYPE	TON	PERCENT
00	UNIDENTIFIED LOCATION, II-1	45	0.02
03	AGOURA, LOS ANGELES, I [3]	9,711	4.29
04	HOLLISTER, SAN BENITO, II-1	50	0.02
05	CASMALIA, SANTA BARBARA, I [4]	4,014	1.77
06	BENICIA, SOLANO, I	17,826	7.87
07	MARTINEZ, CONTRA COSTA, I	23,063	10.18
08	OTAY, SAN DIEGO, I [3]	1,239	0.55
09	PALOS VERDES, LOS ANGELES, I [3]	15,382	6.79
10	SIMI VALLEY, VENTURA, I [3]	604	0.27
11	MONTEREY PK., LOS ANGELES, II-1	5,911	2.61
12	RICHMOND, CONTRA COSTA, I	4,081	1.80
13	WEST COVINA, LOS ANGELES, I	50,180	22.16
14	WILMINGTON, LOS ANGELES, II-1 [3]	315	0.14
16	KETTLEMAN HILLS, KETTLEMAN, I	21,306	9.41
17	COALINGA, FRESNO, II-1	6,546	2.89
19	CARSON, LOS ANGELES, II-1 [3]	509	0.22
20	ROUND MOUNTAIN, BAKERSFIELD, II-1	23,250	10.27
21	ROUND MOUNTAIN, BAKERSFIELD, II-1	2,149	0.95
22	SANTA CRUZ, II-1	1,440	0.64
23	MARTINEZ, CONTRA COSTA, II-1	3,486	1.54
24	MIDDLETOWN, LAKE, II-1	8,610	3.80
26	CATCH BASIN, VENTURA, II-1	848	0.37
27	COALINGA, FRESNO, II-1	2,931	1.29
28	MANTECA, SAN JOAQUIN, II-1	1,968	0.87
29	FELLOWS, KERN, II-1	695	0.31
31	COLLINSVILLE, SOLANO, II-1	9,547	4.22
32	IRWINDALE, LOS ANGELES, II-1	3,509	1.55
34	KELSEYVILLE, LAKE, II-1	6,939	3.06
35	SAN LEANDRO, ALAMEDA, II-1	251	0.11
36	HIGH GROVE, RIVERSIDE, II-1	46	0.02
	TWO MONTH TOTAL:	226,451	100.00
	CLASS I:	147,406	65.09
	CLASS II-1:	79,045	34.91

1/ "Hazardous Waste Generation and Off-Site Disposal Patterns of California", University of California at Davis, College of Engineering, Chemical Engineering Department, September 1981.

2/ State Department of Health Services Code Number.

3/ Now closed.

4/ Only site approved for PCB disposal.

TABLE IV-D

DISTRIBUTION OF WASTE GENERATORS
BY MAGNITUDE 1/
(SEPTEMBER 1979 AND MAY 1980)

RANGE OF WASTE IN TONS	NUMBER OF GENERATORS	ACTUAL TONS DISPOSED	PERCENT
10,000 +	2	34,128	15.0
5,000 - 10,000	4	29,715	13.1
2,000 - 5,000	14	45,446	20.1
1,000 - 2,000	17	23,702	10.5
100 - 1,000	207	63,346	28.0
Less Than 100	1,791	30,114	13.3
TWO MONTH TOTAL	2,035	226,451	100.0

1/ "Hazardous Waste Generation and Off-Site Disposal Patterns of California", University of California at Davis, College of Engineering, Chemical Engineering Department, September 1981.

- Hazardous Waste Generation in September 1979 and May 1980 by Waste Type (Table IV-E)

This table provides the amount of waste and the percentage of total for each of 94 waste types[1]. The table provides information for the State, the Sacramento Area, the Upper Valley Area, and the total for the Sacramento Valley.

The data indicates that on a statewide basis both areas are small hazardous waste generation areas, particularly the Upper Valley area with only 187 tons or 0.08% (8/100 of 1 percent).

The Sacramento Area, with 8,958 tons and 3.97% of the State total, overshadows the Upper Valley Area, but is still a relatively minor generating area of the State. There are only three waste types with over 1,000 tons during the two-month period in the Sacramento Area; #515 Drilling Mud, with 2,853 tons; #443 Sulfur Sludge, with 2,563 tons; and #225 Aqueous Solutions with Organic Residues less than 10%, at 1,480 tons.

Some of the wastes generated in the Sacramento Valley Area exceed the 4.05% which the area total is of the State total. Among those exceeding the overall averages are: #443 Sulfur Sludge, with 47.01%; #253 Detergents and Soap, with 14.93%; #515 Drilling Mud, with 13.04%; #511 Rinse Water and Waste Water, with 10.28%; and #225 Aqueous Solutions with Organic Residues less than 10%, with 9.48%.

In all, the Sacramento Valley had only 34 waste types reported; thus, 60 types were not generated and disposed of during the two-month period.

Based upon the 9,145 tons generated in the Sacramento Valley Area during the two-month period, it is estimated that 4,500-5,000 tons are generated each month and 54,000-60,000 tons are generated annually that are disposed of in hazardous waste facilities.

- Specific Hazardous Wastes Generated in the Sacramento Valley Area (Table IV-F)

This table provides the types and amount of wastes generated in the Sacramento and Upper Valley Areas only.

- Hazardous Waste Generated in Upper Valley Area by Waste Type and Probable Industry (Table IV-G)

This table provides an indication of industry generators for the 34 waste types generated and disposed of in September 1979 and May 1980. It also provides an indication of the probable industry generating the waste. Probable industries are based upon statewide industry generation rates for each waste type.

- Waste Categories (Table IV-H)

This table describes the 94 waste categories used in the UCD report and this section.

1/ See "Waste Categories", Table IV-H.

TABLE IV-E

HAZARDOUS WASTE GENERATION BY WASTE TYPE[1] (SEPTEMBER 1979 AND MAY 1980)

UCD#	UCD WASTE TYPE [2]	STATE TOTAL		SACRAMENTO AREA [3]		UPPER VALLEY AREA [4]		SACRAMENTO VALLEY TOTAL [5]	
		Tons	%	Tons	% State Total	Tons	% State Total	Tons	% State Total
111	ACIDIC SOLN WITH HEAVY METALS	12,383	5.47	1	0.01			1	0.01
112	ACIDIC SOLN W/OTHER METALS & NON-METALS	1,755	0.78	16	0.91			16	0.91
113	OTHER ACIDIC SOLN	4,120	1.82						
121	ALKALINE SOLN WITH HEAVY METALS	2,965	1.31			10	0.34	10	0.34
122	ALKALINE SOLN W/OTHER METAL & NON-METALS	6,427	2.84	39	0.61			39	0.61
123	OTHER ALKALINE SOLN	3,864	1.71	121	3.13			121	3.13
131	SPENT ETCHING/PLATING SOLN, ACIDIC	972	0.43	11	1.13			11	1.13
132	SPENT ETCHING/PLATING SOLN, ALKALINE	878	0.39	4	0.45			4	0.45
133	SPENT PICKLE LIQUOR	376	0.17	16	4.26			16	4.26
141	AQ SOLN WITH HEAVY METALS	4,020	1.78						
142	AQ SOLN WITH OTHER METALS	3,686	1.63	46	1.14			46	1.14
143	AQ SOLN WITH REACTIVE ANIONS *	9,965	4.40	4	0.04			4	0.04
144	OTHER AQUEOUS SOLUTIONS	766	0.34						
145	BRINE	5,982	2.64						
151	INORGANIC SOLIDS	252	0.11						
153	INORGANIC (SOLID) CHEMICALS	90	0.04	5	5.49			5	5.49
161	ASBESTOS AND WASTES	5,596	2.47						
162	ALUMINUM OR TIN DROSS	2	0.00						
165	SPENT CATALYST, INCL. FCC WASTES	2,722	1.20	68	2.50			68	2.50
167	UNIDENTIFIED INORGANIC WASTES	257	0.11						
211	HALOGENATED SOLVENT W/HEAVY METALS	75	0.03						
212	HALOGENATED SOLVENT W/OTHER METALS	12	0.01						
213	HALOGENATED SOLVENTS	1,154	0.51	14	1.21			14	1.21
214	NON-HALOGENATED SOLVENT W/HEAVY METALS	254	0.11						
215	NON-HALOGENATED SOLVENT W/OTHER METALS	206	0.09						
216	NON-HALOGENATED SOLVENTS	1,593	0.70						
217	UNSPECIFIED SOLVENTS	557	0.25						
221	ORG LIQ W/HALOGENS & METALS (ALL KINDS)	433	0.19	21	4.85			21	4.85
222	ORG LIQ W/HALOGENS ONLY	443	0.20						
223	ORG LIQ W/HEAVY METALS ONLY	227	0.10						
224	OTHER ORGANIC LIQUIDS	580	0.26	1	0.02			1	0.02
225	AQ SOLN WITH ORGANIC RESIDUES < 10%	15,511	6.89	1,480	9.48	84	0.54	1,564	10.02
227	AQ SOLN WITH ORGANIC RESIDUES > 10%	2,496	1.10	60	2.40			60	2.40
231	ORG SOLID W/HALOGENS	20	0.01						
232	ORG SOLID W/O HALOGENS	96	0.04						
241	PESTICIDES AND WASTES	11,580	5.11	502	4.33			502	4.33
242	PCB & MATERIAL CONTAINING PCB	229	0.10						
243	PHARMACEUTICALS & WASTES	6	0.00						
244	PHOTOCHEMICALS & WASTES	245	0.11						
245	OFF SPEC. OR AGED ORGANICS	13	0.01						
248	NON-HALOGENATED STILL BOTTOMS	81	0.04						
251	TANNERY WASTES	1,850	0.82						
253	DETERGENTS & SOAP	355	0.16	53	14.93			53	14.93
254	ADHESIVE & GLUE	99	0.04						
255	UNIDENTIFIED ORGANIC WASTES	30	0.01						
261	POLYMERIC RESIN WASTES	673	0.30						
262	LATEX & WASTES	323	0.14						
263	OTHER POLYMERIC MAT'L & WASTES	1,603	0.71	7	0.44			7	0.44
271	SEWAGE SLUDGE	164	0.07						
272	OTHER BIOLOGICAL WASTES	249	0.11						
281	WASTE OIL & MIXED OIL	1,257	0.56	25	1.96			25	1.96
282	OILY TANK BOTTOMS	664	0.29						
283	MIXTURES OF OIL, MUD/SEDIMENT & WATER	7,914	3.49	149	1.88	11	0.14	160	2.02
284	ACIDIC OILY SLUDGE	540	0.24						
285	ALKALINE OILY SLUDGE	1,391	0.84	113	5.97			113	5.97
286	API SEPARATOR SLUDGE	1,921	0.85						
287	OILY SLUDGE	4,050	1.79						
288	OILY SLUDGE W/HEAVY METALS	795	0.35						
289	MIXTURES OF OIL/GAS W/WATER	4,317	2.13	214	4.43	64	1.32	278	5.75
412	FILTER PRESS CAKE/SLUDGE	144	0.06						

(CONTINUED ON NEXT PAGE)

* 143: 17.1% CYANIDE ION, 16.1% SULPHIDE ION, 41.5% FLUORIDE ION, 4.4% HYPOCHLORITE ION, 19.5% BROMATE ION, 1.4% MISCELL.

TABLE IV-E (CONTINUED)

UCD#	UCD WASTE TYPE 2/	STATE TOTAL		SACRAMENTO AREA 3/		UPPER VALLEY AREA 4/		SACRAMENTO VALLEY TOTAL 5/	
		Tons	%	Tons	% State Total	Tons	% State Total	Tons	% State Total
413	SCRUBBER SLUDGE	130	0.06						
416	INK SLUDGE	192	0.08	11	5.73			11	5.73
417	ALUM & GYPSUM SLUDGE	26	0.01						
431	HEAVY METAL SLUDGE	10,752	4.75	25	0.23			25	0.23
433	OTHERS METAL SLUDGE	3,199	1.41						
441	LIME SLUDGE	3,623	1.60						
442	PHOSPHATE SLUDGE	19	0.01						
443	SULFUR SLUDGE	5,451	2.41	2,563	47.01			2,563	47.01
445	PLATING/METAL FINISHING SLUDGE	1,046	0.46						
446	DEGREASING SLUDGE	22	0.01						
447	TETRAETHYL LEAD SLUDGE	3,137	1.39						
453	PAPER PULP/SLUDGE	670	0.30						
454	PAINT SLUDGE	6,135	2.71	30	0.49			30	0.49
455	DYE SLUDGE	9	0.00						
456	OTHER WASTE TREATMENT SLUDGE	464	0.21						
457	SLUDGES WITH ORGANIC RESIDUES	1,268	0.56	71	5.60			71	5.60
509	GAS CYLINDERS OR CONTAINERS	3	0.00						
510	FLUE GAS SCRUBBER LIQUID	13,079	5.78						
511	RINSE WATER & WASTE WATER	4,002	1.77	412	10.28			412	10.28
512	SPILL CLEAN UP	61	0.30						
513	LABORATORY WASTE CHEMICALS	446	0.20	19	4.24			19	4.24
514	CONTAMINATED SOIL & SAND	3,659	1.62						
515	DRILLING MUD	21,797	9.63	2,843	13.04			2,843	13.04
518	DUST COLLECTOR WASTE	29	0.01						
519	FLY ASH, RETORT ASH	439	0.19						
521	SPENT CARTRIDGE FILTERS	10	0.00						
523	TANK BOTTOM SEDIMENTS	9,115	4.02			18	0.20	18	0.20
524	CHEMICAL TOILET WASTE	160	0.07						
525	METAL DUST & MACHINING WASTE	156	0.07						
526	CANNERY WASTE	122	0.05						
527	MUD/SEDIMENT & WATER	3,315	1.46	14	0.42			14	0.42
531	CONTAMINATED RAGS, PELLETS	211	0.09						
532	CONTAMINATED EQUIPMENT, CONTAINERS	778	0.34						
535	TOTALLY UNSPECIFIED WASTES	499	0.22						
	TOTALS----------	226,451	100.00	8,958	3.97	187	0.08	9,145	4.05

TWO-MONTH TOTALS:

	Tons	% of State Total
Sacramento Area	8,958	3.97
Upper Valley Area	187	0.08
TOTAL	9,145	4.05

Average Yearly: 9,145 x 6 = 54,870 tons
Average Monthly: 9,145 ÷ 6 = 4,573 tons

1/ "Hazardous Waste Generation and Off-Site Disposal Patterns in California", University of California at Davis, College of Engineering, Chemical Engineering Department, September 1981.

2/ A scheme of 94 categories used by UCD to classify wastes and more clearly reflect the chemical composition and process source of wastes. See page S-3 of UCD report for explanation.

3/ Geographic area around Sacramento, made up of Postal Zip Code Areas 956 and 958. See Map IV-A.

4/ Geographic area in Northern Sacramento Valley, made up of Postal Zip Code Areas 959 and 960. See Map IV-A.

5/ Sum of Sacramento Region and Upper Valley Region.

TABLE IV-F

SPECIFIC HAZARDOUS WASTES GENERATED
IN THE SACRAMENTO VALLEY AREA (SEPTEMBER 1979 AND MAY 1980)

Sacramento Area:

UCD#	UCD WASTE TYPE	TON	PERCENT
111	ACIDIC SOLN WITH HEAVY METALS	1	0.01
112	ACIDIC SOLN W/OTHER METALS & NON-METALS	16	0.18
122	ALKALINE SOLN W/OTHER METAL & NON-METALS	39	0.44
123	OTHER ALKALINE SOLN	121	1.35
131	SPENT ETCHING/PLATING SOLN, ACIDIC	11	0.13
132	SPENT ETCHING/PLATING SOLN, ALKALINE	4	0.04
133	SPENT PICKLE LIQUOR	16	0.18
142	AQ SOLN WITH OTHER METALS	46	0.51
143	AQ SOLN WITH REACTIVE ANIONS	4	0.04
153	INORGANIC (SOLID) CHEMICALS	5	0.06
165	SPENT CATALYST	68	0.76
213	HALOGENATED SOLVENTS	14	0.16
221	ORG LIQ W/HALOGENS & METALS (ALL KINDS)	21	0.23
224	OTHER ORGANIC LIQUIDS	1	0.01
225	AQ SOLN WITH ORGANIC RESIDUES < 10%	1,480	16.52
227	AQ SOLN WITH ORGANIC RESIDUES > 10%	60	0.67
241	PESTICIDES AND WASTES	502	5.60
253	DETERGENTS & SOAP	53	0.59
263	OTHER POLYMERIC MAT'L & WASTES	7	0.08
281	WASTE OIL & MIXED OIL	25	0.28
283	MIXTURES OF OIL, MUD/SEDIMENT & WATER	149	1.66
285	ALKALINE OILY SLUDGE	113	1.26
289	MIXTURES OF OIL/GAS W/WATER	214	2.39
416	INK SLUDGE	11	0.12
431	HEAVY METAL SLUDGE	25	0.28
443	SULFUR SLUDGE	2,563	28.61
454	PAINT SLUDGE	30	0.33
457	SLUDGES WITH ORGANIC RESIDUES	71	0.79
511	RINSE WATER & WASTE WATER	412	4.60
513	LABORATORY WASTE CHEMICALS	19	0.21
515	DRILLING MUD	2,843	31.74
527	MUD/SEDIMENT & WATER	14	0.16
	TWO MONTH TOTAL	8,958	100.00

Upper Valley:

UCD#	UCD WASTE TYPE	TON	PERCENT
121	ALKALINE SOLN WITH HEAVY METALS	10	5.35
225	AQ SOLN WITH ORGANIC RESIDUES 10%	84	44.92
283	MIXTURES OF OIL, MUD/SEDIMENT & WATER	11	5.88
289	MIXTURES OF OIL/GAS W/WATER	64	34.22
523	TANK BOTTOM SEDIMENTS	18	9.63
	TWO MONTH TOTAL	187	100.00

1/ "Hazardous Waste Generation and Off-Site Disposal Patterna of California", University of California at Davis, College of Engineering, Chemical Engineering Department, September 1981.

TABLE IV-G

HAZARDOUS WASTE GENERATED IN THE
SACRAMENTO VALLEY AREA BY WASTE TYPE
AND PROBABLE INDUSTRY[1/]

HAZARDOUS WASTE AND INDUSTRY	SACRAMENTO VALLEY	
	Tons	% Of Area Total
#515 DRILLING MUD Oil and Gas Extraction (13) Petroleum and Coal Products (29)	2,843	31.09
#443 SULFUR SLUDGE Combination Utility Sludges (493) Petroleum Refining (2911)	2,563	28.03
#225 AQUEOUS SOLUTION W/ORGANIC RESIDUES<10% Chemical and Allied Products (28) Combination Utility Services (493) Transportation Equipment (37) Petroleum Refining (2911) Electronic Computing Equipment (3573)	1,564	17.10
#241 PESTICIDES AND WASTES Agricultural Chemicals (2879)	502	5.49
#511 RINSE WATER & WASTE WATER Oil and Gas Extraction (13) Petroleum Refining (2911) Trucking and Sanitary Services (42)	412	4.51
#289 MIXTURE OF OIL/GAS WITH WATER Petroleum Refining (2911) Chemicals and Allied Products (28) Oil and Gas Extraction (13) Fabricated Metal Products (34) Pipe Lines, Except Natural Gas Combination Utility Services (493) Railroad Transportation (44)	278	3.04
#283 MIXTURES OF OIL, MUD/SEDIMENT & WATER Petroleum Refining (2911) Oil and Gas Extraction (13) Fabricated Metal Products (34) Combination Utility Services (493) Chemicals and Allied Products (28)	160	1.75
#123 OTHER ALKALINE SOLUTIONS Petroleum Refining (2911) Chemicals and Allied Products (28) Fabricated Metals Products (34) Measuring and Controlling Devices (382)	121	1.32

(Continued on next page)

TABLE IV-G (Continued)

HAZARDOUS WASTE AND INDUSTRY	SACRAMENTO VALLEY	
	Tons	% Of Area Total
#285 ALKALINE OILY SLUDGE Machinery, Except Electrical (35) Petroleum Refining (2911) Trucking and Sanitary Services Chemical Preparations Railroad Transportation	113	1.24
#457 SLUDGES WITH ORGANIC RESIDUES Petroleum Refining Chemicals and Allied Products Transportation Equipment	71	0.78
#165 SPENT CATALYST Petroleum Refining (2911) Chemicals and Allied Products (28)	68	0.74
#227 AQUEOUS SOLUTION W/ORGANIC RESIDUES>10% Petroleum Refining (2911) Chemicals and Allied Products (28)	60	0.66
#253 DETERGENTS AND SOAP Chemicals and Allied Products (28)	53	0.58
#142 AQUEOUS SOLUTION WITH OTHER METALS Oil and Gas Extraction (13) Chemicals and Allied Products (28) Petroleum Refining (2911)	46	0.50
#122 ALKALINE SOLUTION W/OTHER METALS & NON- METALS Petroleum Refining (4911) Aircraft and Parts (372) Chemicals and Allied Products (28) Fabricated Metal Products (34)	39	0.43
#454 PAINT SLUDGE Paints and Allied Products (2851) Motor Vehicles and Equipment (371) Electric and Electronic Equipment (36) Petroleum Refining (4911) Fabricated Metals Products (34)	30	0.33
#281 WASTE OIL AND MIXED OIL Primary Metal Industries Petroleum Refining (2911) Fabricated Metals Products (34) Oil and Gas Extraction (13)	25	0.27

(Continued on next page)

TABLE IV-G (Continued)

HAZARDOUS WASTE AND INDUSTRY	SACRAMENTO VALLEY Tons	SACRAMENTO VALLEY % Of Area Total
#431 HEAVY METAL SLUDGE Petroleum Refining (2911) Industrial Inorganic Chemicals (2869) Fabricated Metal Products Transportation Equipment	25	0.25
#221 ORGANIC LIQUID WITH HALOGENS & METALS Chemical Preparations (2899) Industrial Organic Chemicals (2869) Plastic Materials & Resins Air Transportation (45)	21	0.23
#513 LABORATORY WASTE CHEMICALS Business Services (73) Chemicals and Allied Products (28) Fabricated Metals (34)	19	0.21
#112 ACIDIC SOLUTION W/OTHER METALS AND NON-METALS Fabricated Metal Products (34) Chemicals and Allied Products (28) Electronic Components (3679) Petroleum Refining (2911) Electronic Computing Equipment (3573)	16	0.17
#523 TANK BOTTOM SEDIMENTS Oil and Gas Extraction (13) Petroleum Refining (2911)	18	0.20
#133 SPENT PICKLE LIQUOR Fabricated Metal Products (34) Industrial Inorganic Chemicals Primary Metal Industries Radio-TV Communication Equipment	16	0.17
#213 HALOGENATED SOLVENTS Chemicals and Allied Products (28) Electric and Electronic Equipment (36) Electronic Computing Equipment (3573)	14	0.15
#527 MUD/SEDIMENT AND WATER Oil and Gas Extraction (13) Chemicals and Allied Products (28) Petroleum Refining (2911) Trucking and Sanitary Services (42)	14	0.15
#131 SPENT ETCHING/PLATING SOLUTION, ACIDIC Fabricated Metal Products (34) Electronic Components (3679) Transportation Equipment	11	0.12

(Continued on next page)

TABLE IV-G (Continued)

HAZARDOUS WASTE AND INDUSTRY	SACRAMENTO VALLEY	
	Tons	% Of Area Total
#416 INK SLUDGE Chemicals and Allied Products (28) Paper and Allied Products (26) Printing and Publishing (32)	11	0.12
#121 ALKALINE SOLUTION W/HEAVY METALS Fabricated Metal Products (34) Transportation Equipment (37) Petroleum and Coal Products (29) Electric and Electronic Equipment (36)	10	0.11
#263 OTHER POLYMERIC MATERIAL & WASTES Chemicals and Allied Products (28)	7	0.08
#153 INORGANIC CHEMICALS (SOLID) U.S. Navy Installations Electric and Electronic Equipment (36)	5	0.05
#132 SPENT ETCHING/PLATING SOLUTION, ALKALINE Chemicals and Allied Products (28) Fabricated Metal Products (34) Electric and Electronic Equipment (36)	4	0.04
#143 AQUEOUS SOLUTION W/REACTIVE ANIONS Chemicals and Allied Products (28) Petroleum Refining (2911) Semiconductors and Related Devices (3674) Combination Utility Services (493) Paperboard Mills (2631)	4	0.04
#111 ACIDIC SOLUTION W/HEAVY METALS Chemicals and Allied Products (28) Electronic Components (3679) Combination Utility Services (493) Fabricated Metal Products (34) Primary Metal Industries (33)	1	0.01
#224 OTHER ORGANIC LIQUIDS Petroleum Refining (2911) Chemicals and Allied Products (28)	1	0.01

1/ "Hazardous Waste Generation and Off-Site Disposal Patterns in California", University of California at Davis, College of Engineering, Chemical Engineering Department, September 1981.

TABLE IV-II

WASTE CATEGORIES [1]

I. INORGANICS

ACIDIC SOLUTIONS (usually contain hydrochloric acid, sulfuric acid, or nitric acid) T, C [2]

#111 ...with heavy metals (antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, indium, lead, manganese, mercury, molybdenum, nickel, selenium, silver, tin, vanadium, or zinc) T,C,F

#112 ...with other metals and non-metals (typically contains an alkalai metal; sodium or potassium) C,P,F

#113 other acidic solutions (acidic solutions not containing metals or non-metals, or acidic solutions with no component information provided)

ALKALINE SOLUTIONS (usually contain sodium hydroxide, potassium hydroxide, or ammonia) T,C

#121 ...with heavy metals (see #111 above) T,C,F

#122 ...with other metals and non-metals (see #112 above) C,P,F

#123 other alkaline solutions (alkaline solutions not containing metals or non-metals, or alkaline solutions with no component information provided) T,C

METAL FINISHING SOLUTIONS (from process identification, such as: metal plating or pickling bath) T,C,I

#131 ...acidic (from component listing) T,C,I

#132 ...alkaline (from component listing) T,C,I

#133 spent pickle liquor (from process identification) C,I

OTHER AQUEOUS SOLUTIONS (SALT) (frequently acidic or basic solutions which are neutralized by generator, yielding a salt solution)

#141 ...with heavy metals (see #111 above) T,F,C

#142 ...with other metals (see #112 above) C,P,F

#143 solution containing reactive anions (includes cyanide, sulfide, fluoride, hypochlorite, or bromate) T,C,F

#144 other aqueous solutions (aqueous solutions other than #141, #142, #143 or #145)

#145 brine

INORGANIC SOLIDS

#151 inorganic solids (activated carbon, cement, etc.)

#152 inorganic chemicals (miscellaneous salts, etc.)

OTHER INORGANIC WASTES

#161 asbestos containing wastes (from component information) T

#162 aluminum or tin wastes (from component information) T,F,C

#163 magnesium dust or solids (from component information) T,F

#164 off-specialization or aged inorganics (from component information)

#165 spent catalyst (usually silia-alumina or zeolite, containing trace metals and carbonaceous deposits)

#167 unidentified inorganic wastes

II. ORGANICS

HALOGENATED SOLVENTS (contain chlorine, trichloroethylene, bromine, or fluorine) T,C,F

#211 ...with heavy metals (see #111) T,C,F

#212 ...with other metals (see #112) C,P,F

#213 other halogenated solvents, including mixed (trichloroethylene, chloroform, carbon tetrachloride) T,F

NON-HALOGENATED SOLVENTS (includes oxygenates, such as: acetone, methylethylketon) T,F

#214 ...with heavy metals (see #111) T,C,F

#215 ...with other metals or non-metals (see #112) C,P,F

#216 other non-halogenated solvents, including mixed (solvents identified, and containing no metals)

#217 unspecified solvents (solvents with no component information)

TABLE IV-H (Continued)

OTHER ORGANIC LIQUIDS (not included in EPA solvent listing)

#221 ...with halogens and metals T,C,F

#222 ...with halogens only (chlorine, bromine, fluorine) T,C,F

#223 ...with heavy metal only T,C,F

#224 other organic liquids (not in #221, #222, or #223)

ORGANIC RESIDUES (frequently include such contaminants as: chloroform, acetone, trichloroethylene. These solutions commonly occur from cleaning and degreasing operations.) T,F

#225 aqueous solution with organic residues < 10% (from composition information)

#226 ...with organic residues > 10% (from composition information)

ORGANIC SOLIDS

#231 ...with halogens (see #222) T,C,F

#232 ...without halogens or heavy metals

#233 ...with heavy metals (see #111) T,C,F

OTHER ORGANIC WASTES

#241 pesticides and wastes (pesticide production, waste and rinse water containing pesticides, and pesticide containers not clearly specified as empty) T,I

#242 polychlorinated biphenyls (PCBs and material containing PCB: transformer fluids, or contaminated materials such as soil) T,I

#243 pharmaceuticals and wastes (from process identification)

#244 photochemicals and wastes (virtually all from photoprocessing laboratories) T,I

#245 off-specifications or aged organics (miscellaneous)

#247 still bottoms (distillation residues with halogens; see halogenated solvents) T,C,F

#248 still bottoms (distillation residues without halogens)

#251 tannery wastes (many components, including aqueous chromate solutions and organic materials such as fat and hide) T,I,S

OTHER ORGANIC WASTES (Continued)

#253 detergent and soap (liquid, aqueous waste solutions, and organic solids from production or cleaning operations)

#254 adhesives or glue (from composition information)

#255 unspecified organic wastes (organics not listed in above categories)

POLYMERIC MATERIAL AND WASTES

#261 polymeric resin (phenolic, epoxy, polyester, urethane, from component data)

#262 latex and wastes (from composition data)

#263 other polymeric wastes (crushed cases, discarded material from polymer reactors)

BIOLOGICAL WASTES

#271 sewage sludge

#272 other biological wastes (animal fat, molasses waste, dough)

OILY WASTES T,F

#281 waste oil and mixed oil

#282 oil waste mixed with tank bottoms

#283 oil waste with mud, sediment, and water

#284 oil waste (acidic)

#285 oil waste (alkaline)

#286 solid oil waste (oil/water separation sludge)

#287 oil waste sludge

#288 unspecified oil waste with heavy metals

#289 oil waste mixed with gas or water

TABLE IV-H (Continued)

III. SLUDGES (other than those specified elsewhere)

INERT SLUDGES

#412 filter cake (contaminated filter gas material, diatomaceous earth)

#413 gas scrubber sludge (from gas cleaning operations)

#415 graphite sludge

#416 ink sludge

#417 alum and gypsum sludges (mineral)

#419 descaling sludge

METAL SLUDGE

#431 heavy metal sludge (see #111) T,C,F

#433 other metal sludges (contain salts of iron, aluminum, or alkali metals)

OTHER SLUDGES

#441 lime sludge C,I

#442 phosphate sludge C,I

#443 sulfur sludge (includes sludge with high content or non-heavy metal sulfides) C,I

#445 plating or metal finishing sludge (from identifiable process, metal content unspecified)

#446 degreasing sludge

#447 tetraethyl lead sludge T

#453 paper sludge/pulp (paper and cardboard manufacture source)

#454 paint sludge (many possible components, including heavy metal: chromium and organic solvents) T

#456 other waste treatment sludge (sludges not otherwise identified due to lack of composition data)

#457 sludges with organic residues (includes some halogenated components)

MISCELLANEOUS

#509 gas cylinders or containers

#510 flue gas scrubber liquid

#511 rinse water and waste water (contains small units of oil, solvent, metals and/or mud; also bilge water)

#512 spill clean up (includes miscellaneous organics, liquid fuels)

#513 laboratory waste chemicals (diverse)

#514 contaminated soil and sand

#515 drilling mud

#518 dust collector wastes

#519 fly ash and retort ash (combustion-generated particulates: mineral matter plus some carbon) T,C,I

#521 spent cartridge filters (gas/liquid cleaning)

#522 solder flux and wave oil

#523 tank bottom sediments (composition typically ill-defined)

#524 chemical toilet wastes

#525 metal dust and machining wastes (primarily ferrous and aluminum based alloys)

#526 cannery wastes

#527 mud/sediment and water

#531 contaminated rags/pellets

#532 contaminated equipment, containers (including empty pesticide containers)

#533 explosives

#534 radioactive wastes

#535 totally unspecified wastes

1/ "Hazardous Waste Generation and Off-Site Disposal Patterns in California", University of California at Davis, College of Engineering, Chemical Engineering Department, September 1981.

2/ T=Toxic, C=Corrosive, I=Irritant, F=Flammable, P=Pressure Generating.

5. EPA-RCRA Permit Applications for On-Site Hazardous Waste Storage, Treatment, or Disposal Facility

This section provides specific information concerning companies and organizations applying for on-site storage, treatment, or disposal facilities permits. This information was obtained by the Environmental Protection Agency (EPA) from companies and organizations requesting on-site permits from EPA under the Resource Conservation and Recovery Act (RCRA).

The data provides the name of the requesting agency, the EPA waste type, the process to be used, the method, and the estimated annual amount.

The process means either storage, treatment, or disposal on-site. Storage usually means the requestor intends to temporarily store the material on-site after which the waste will be treated, disposed of, or stored elsewhere. Storage can be in barrels or drums, a tank, surface impoundment, or waste pile.

Treatment means any method, technique, or process designed to change the character or composition of the waste so as to neutralize it, or recover it for reuse, or make it less hazardous to transport. Disposal facility means the waste will be permanently disposed of on-site.

It appears that most requestors in the SACOG area intend to store their hazardous waste on-site for future disposal at an off-site location.

It should be noted that in California, the Department of Health Services (DHS), not EPA, issues operating permits for on-site storage, treatment, or disposal facilities. DHS has recently issued 635 interim hazardous waste facility permits and is presently processing 235 more. The DHS interim permits were based on the information on the EPA-RCRA applications, which EPA supplied to the State, with few on-site inspections.

The Department of Health Services has agreed to supply the list of on-site treatment, storage, or disposal facility permits issued in the SACOG area, but has been unable to do so to date. As soon as the list is received, it will be distributed to member jurisdictions.

EPA - RCRA PERMIT APPLICATIONS FOR ON-SITE HAZARDOUS WASTE STORAGE, TREATMENT, OR DISPOSAL FACILITY[1/]

- SACRAMENTO COUNTY (as of 8/5/81)

		Process	Method	Estimated Annual Amount (in lbs.)
Campbell Soup Company - Sacramento				
D-001[2/]	Solid Waste Exhibiting Characteristics of Ignitability	Storage	Barrels, Drums	172,200
Cordova Chemical Company - Rancho Cordova				
P-054	Ethyleneimine (H)[3/]	Storage & Treat	Surface Impound-ment & Tank	108,290
F-002	Spent Halogenated Solvents: tetra-chloroethylene, metaylene chloride, trichloroethylene, 1,1,1-trichloro-ethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichloro-benzene, trichlorofluoromethane, and the still bottoms from recovery of these solvents (T)	Storage	Barrels, Drums & Tank	1,258,269
			TOTAL	1,359,559
Mather Air Force Base - Rancho Cordova				
U-239	Xylene (T)	Storage	Barrels, Drums	124
U-220	Toluene (T)	"	"	1,950
U-161	Methol isobutyl ketone (T)	"	"	180
U-159	Methol ethyl ketone (T)	"	"	165
			TOTAL	2,419
Oxychem - Courtland				
P-071	Methyl Parathion (H)	Storage	Tank	10,560
Proctor and Gamble Mfg. Co. - Sacramento				
D-001	Solid waste that exhibits character-istics of ignitability	Storage	Barrels, Drums	227,322
D-002	Solid waste that exhibits the characteristics of corrosivity	"	"	5,000
			TOTAL	232,322

SACRAMENTO COUNTY (Continued)

		Process	Method	Estimated Annual Amount (in lbs.)
Sacramento Army Depot - Sacramento				
F-007	Spent plating bath solutions from electroplating operations (R,T)	Storage	Barrels, Drums & Tank	45,800
F-006	Wastewater treatment sludges from electroplating operations (T)	Storage	Tank	40,000
F-001	Spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and the chlorinated fluorocarbons and the sludges from the recovery of these solvents in degreasing operations (T)	Storage	Barrels, Drums	4,250
U-239	Xylene (T)	Storage	Barrels, Drums & Tank	200
U-154	Methanol (T)	"	"	900
K-062	Spent pickle liquor from steel finishing operations (C,T)	"	"	156,900
			TOTAL	248,050
Safety Kleen Corporation - Rancho Cordova				
F-002	Spent halogenated solvents: tetrachloroethylene, methol chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, O-dichlorobenzene, trichlorofluoromethane, and the still bottoms from the recovery of these solvents (T)	Storage	Barrels, Drums	100,000
Signetics Corporation - Sacramento				
U-239	Xylene (T)	Storage	Barrels, Drums	500
U-236	Trypan blue (T)	"	"	500
D-002	Solid waste exhibiting characteristics of corrosivity	Treatment	Thermal, Physical, Chemical or Biological	181,730
D-007	Solid waste exhibiting extractive procedure (EP) toxicity containing chromium	Storage	Barrels, Drums	50,000

SACRAMENTO COUNTY (Continued)

		Process	Method	Estimated Annual Amount (in lbs.)
Signetics Corporation (Continued)				
F-001	Spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and the chlorinated fluorocarbons and the sludges from the recovery of these solvents in degreasing operations (T)	Storage	Barrels, Drums	1,000
F-002	Spent halogenated solvents: tetrachloroethylene, methol chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, O-dichlorobenzene, trichlorofluoromethane, and the still bottoms from the recovery of these solvents (T)	Storage	Barrels, Drums	1,000
F-003	Spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, n-butyl alcohol, cyclohexanone, and the still bottoms from recovery of these solvents (I)	Storage	Barrels, Drums	1,000
F-005	Spent non-halogenated solvents: methanol, toluene, methol ethyl ketone, methyl isobutyl ketone, carbon disulfide, isobutanol, pyridine, and the still bottoms from the recovery of these solvents (I,T)	Storage	Barrels, Drums	500
U-134	Hydrofluoric acid (C,T)	"	"	500
			TOTAL	236,730
Texaco USA, Division of Texaco, Inc. - Sacramento				
D-008	Solid waste exhibiting extractive procedure (EP) toxicity containing lead and characteristics of ignitability	Storage	Barrels, Drums & Tank	40,000

SACRAMENTO COUNTY (Continued)

McCLELLAN AIR FORCE BASE

		Process	Method	Estimated Annual Amount (in lbs.)
D-001	Solid waste exhibiting characteristics of ignitability	Storage, Treat	Tank, Burn	1,386,780
D-002	Solid waste exhibiting characteristics of corrosivity (C)	Storage	Barrels, Drums	75
D-007	Solid waste exhibiting extractive procedure (EP) toxicity containing chromium	Treat, Disposal	Pond, Tank, Landfill	2,400,000
F-001	Spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene, chloride, 1,1,1-trichloroethane, carbon tetrachloride, and the chlorinated fluorocarbons and the sludges from the recovery of these solvents in degreasing operations (T)	Storage	Barrels, Drums	114,698
F-002	Spent halogenated solvents: tetrachloroethylene, methol chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, O-dichlorobenzene, trichlorofluoromethane, and the still bottoms from the recovery of these solvents (T)	Storage	Barrels, Drums	7,130
F-003	Spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, n-butyl alcohol, cyclohexanone, and the still bottoms from recovery of these solvents (I)	Storage	Barrels, Drums	840
F-006	Wastewater Sludges from Electroplating Operations (T)	Storage, Treat	Tank	350,460
F-007	Spent Plating Bath Solutions from Electroplating Operations (R,T)	"	"	216,960
F-008	Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating bath sludges) (R,T)	"	"	98,280
F-009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process (R,T)	"	"	213,440
P-098	Potassium cyanide (H)	Storage	Barrels, Drums	1

SACRAMENTO COUNTY (Continued)

McCLELLAN AIR FORCE BASE (Continued)

		Process	Method	Estimated Annual Amount (in lbs.)
U-002	Acetone (I)	Storage	Barrels, Drums	57
U-013	Asbestos (T)	Storage, Disposal	Pond, Tank	2,000
U-031	n-Butyl Alcohol (I)	Storage	Barrels, Drums	4
U-056	Cyclohexane (I)	Storage	"	2
U-057	Cyclohexanone (I)	"	"	14
U-151	Mercury (T)	"	"	300
U-160	Methyl ethyl ketone peroxide (R)	"	"	55
U-169	Nitrobenzene (I,T)	"	"	2
U-210	Tetrachloroethene/tetrachloro-ethylene (T)	"	"	39
U-220	Toluene (T)	"	"	7
U-223	Toluene Diisocyanate (T)	"	"	35
U-228	Trichloroethene/trichloroethylene (T)	"	"	35
U-239	Xylene (T)	"	"	468
			TOTAL:	4,791,682

SACRAMENTO COUNTY TOTAL: 7,021,322 (3,511 tons)

EPA - RCRA PERMIT APPLICATIONS FOR ON-SITE HAZARDOUS WASTE STORAGE, TREATMENT, OR DISPOSAL FACILITY[1/]

- YOLO COUNTY (as of 8/13/81)

		Process	Method	Estimated Annual Amount (in lbs.)
Electro-Coatings - West Sacramento				
F-006[2/]	Wastewater Sludges from Electroplating Operations (T)[3/]	Storage	Tank	420,000
F-007	Spent Plating Bath Solutions from Electroplating Operations (R,T)	Storage	Tank	8,500
F-009	Spent Stripping and Cleaning Bath Solutions from Electroplating Operations where Cyanides are Used in the Process (R,T)	Storage	Tank	4,200
			TOTAL:	432,700
Karolton Envelope Division of Kimberly Clark - West Sacramento				
F-002	Spent Halogenated Solvents: tetrachloroethylene, methene chloride, trichloroethylene, 1,1,1-trichloroethylane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethene, O-dichlorobenzene or trichlorofluoromethane, and the still bottoms from the recovery of these solvents (T)	Storage	Barrels, Drums	12,000
F-003	Spent Non-Halogenated Solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone or methanol, and the still bottoms from the recovery of these solvents (T)	Storage	Barrels, Drums	1,000
			TOTAL:	13,000
Mobil Chemical Company - Plastics - Woodland				
D-001	Solid Waste that Exhibits the Characteristics of Ignitability	Storage	Barrels, Drums	15,000

YOLO COUNTY (Continued)

		Process	Method	Estimated Annual Amount (in lbs.)
Union Chemicals Division - West Sacramento				
D-002	Solid Waste that Exhibits the Characteristics of Corrosivity (C)	Storage	Tank	400
Van Waters & Rogers Division of Univar - West Sacramento				
U-123	Formic Acid (C,T)	Storage	Barrels, Drums	100
U-002	Acetone (I)	"	"	"
U-031	n-Butyl Alcohol (I)	"	"	"
U-043	Chloroethene (T)	"	"	300
U-080	Dichloromethane/dichloromethylbenzene (T)	"	"	100
U-112	Ethyl Acetate (I)	"	"	"
U-117	Ethyl Ether (I,T)	"	"	"
U-122	Formaldehyde (T)	"	"	"
U-239	Xylene (T)	"	"	"
U-154	Methanol (T)	"	"	"
U-159	Methyl Ethyl Ketone (MEK) (I,T)	"	"	"
U-161	Methyl Isobutyl Ketone (T)	"	"	"
U-210	Tetrachloroethene/tetrachloroethylene (T)	"	"	400
U-220	Toluene (T)	"	"	100
U-226	1,1,1-Trichloroethane (T)	"	"	"
U-228	Trichloroethene/trichloroethylene (T)	"	"	"
			TOTAL:	2,100
Yolo County - Department of Agriculture - Woodland				
U-232	2,4,5-Trichlorophenoxyacetic Acid (T)	Storage	Waste Pile	5
U-224	Toxaphene (T)	"	"	5
U-092	Dimethylamine (I)	"	"	10
U-082	2,6-Dichlorophenol (T)	"	"	10
P-001	3-(alpha-acetonylbenzyl)-4-hydroxycoumarin and salts (H)	"	"	10
P-006	Aluminum Phosphate (R)	"	"	10
P-020	2-Sec-Butyl-4,6-dinitropenol (H)	"	"	10
P-037	Dieldrin (H)	"	"	5
P-044	Dimethoate (H)	"	"	10
P-047	4,6-dinitro-O-cresol and salts (H)	"	"	10
P-048	2,4-dinitrophenol (H)	"	"	10
P-050	Endosulfan (H)	"	"	10
P-066	Methomyl (H)	"	"	10
P-070	2-Methyl-2-(methylthio) propionaldehyde-O-(methylcarbonyl)oxime (H)	"	"	5
P-071	Methyl Paration (H)	"	"	10
P-089	Parathion (H)	"	"	10
P-094	Phorate (H)	"	"	5
P-108	Strychnine and salts (H)	"	"	5
P-122	Zinc Phosphate (R,H)	"	"	5
U-011	Amitrol (T)	"	"	5
U-036	Chlordane (T)	"	"	5
U-066	1,2-Dibromo-3-chloropropane (T)	"	"	10
U-083	1,2-Dichloropropane (T)	"	"	10
			TOTAL:	185
	YOLO COUNTY TOTAL:			463,385 (231 tons)

EPA - RCRA PERMIT APPLICATIONS FOR ON-SITE HAZARDOUS WASTE STORAGE, TREATMENT OR DISPOSAL FACILITY[1]

- PLACER COUNTY (as of 12/1/81)

		Process	Method	Estimated Annual Amount (in lbs.)
Formica Corporation - Rocklin				
F-003[2]	Spent non-halogenated solvents: xylene, acetone, ethyl acetone, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, methanol, and the still bottoms from the recovery of these solvents. (T)[3]	Storage	Barrels/ Drums	59,104
Hewlett-Packard - Roseville				
D-001	Solid waste exhibiting characteristics of ignitability.	Storage	Barrels, Drums	9,092
		PLACER COUNTY TOTAL:		68,196 (34 tons)

- SUTTER COUNTY (as of 8/13/81)

		Process	Method	Estimated Annual Amount (in lbs.)
Sutter County Agricultural Commissioner - Yuba City				
U-232[2]	2,4,5-Trichlorophenoxyacetic acid (T)[3]	Storage	Barrels, Drums	90
U-036	Chlordane (T)	"	"	90
U-224	Toxaphene (T)	"	"	90
P-020	2-Sec-Butyl-4,6-Dinitrophenol (H)	"	"	90
P-037	Dieldrin (H)	"	"	90
P-039	O-O-Diethyl-s-(2-(ethylithio)ethyl)ester of phosphorothioic acid (H)	"	"	90
P-044	Dimethoate (H)	"	"	90
P-050	Endosulfan (H)	"	"	90
P-066	Methomyl (H)	"	"	90
P-071	Methyl Parathion (H)	"	"	90
P-089	Parathion (H)	"	"	90
P-122	Zinc Phosphate (R,H)	"	"	10
U-061	DDT (T)	"	"	90
U-066	1,2-Dibromo-3-chloropropane (T)	"	"	90
		SUTTER COUNTY TOTAL:		1,180

- YUBA COUNTY

		Process	Method	Estimated Annual Amount (in lbs.)
BEALE AIR FORCE BASE				
F-001 F-002 F-005	Spent halogenated and non-halogenated solvents used in degreasing operations (T)	Storage	Barrels, Drums	4,740 7,200,000
P-030	Photographic wastes containing cyanides (H)	Storage	Tank, Drums, Barrels	7,200,000
--	Waste Fuels	Storage	"	39,120
--	Waste Oil (non-PCB)	Storage	"	6,960
		YUBA COUNTY TOTAL:		7,250,820

Footnotes

1/ EPA-RCRA Region IX, Part A, Database (8/13/81). Firms which have requested exclusion because of confidentiality are not included.

2/ EPA Hazardous Waste Identifier Number:
F = Hazardous waste from non-specific sources;
D = Solids that exhibit characteristics of hazardous materials;
U = Commercial chemical products or manufacturing chemical intermediates that are subject to small quantity exclusion;
P = Commercial chemical products or manufacturing chemical intermediates identified as acute hazardous wastes and subject to small quantity exclusion.

3/ T = Toxic; R = Reactive; I = Irritant; C = Corrosive; H = Acute hazardous waste.

6. Illegal Dumping

The illegal or indiscriminate disposal of hazardous wastes is the area with the least factual information. For obvious reasons, illegal disposers of hazardous wastes fail to notify EPA or the State, do not keep records of their activities, and do not contract with licensed hazardous waste haulers. The problem really has many parts, however, and to properly understand the issues the parts should be considered separately.

The first part is the problem of small to medium sized companies or commercial operations that either willfully, through ignorance, or because of high costs dispose of their hazardous wastes illegally. There is some feeling that most of this type of disposal is done with at least some idea on the part of the disposer that it is not exactly legal.

This type of disposal usually means the hazardous materials will be put into the trash or dumped into the sewer. If it goes into the trash and is not discovered, it more than likely will end up in a solid waste landfill not meeting Class I or Class II-1 hazardous waste standards. The dangers are obvious: dispersal into the surrounding areas, into the water system, or reaction with other materials resulting in explosion or toxic fumes.

A large share of this type of disposal results in hazardous materials being dumped into the sewer system. This happens because it is easy to do, is often thought of as the only place to dump discarded materials, and can be done without being observed. Of course, if it is put in the drain to avoid being caught, there is no doubt about intent.

Another type of illegal dumping is done by the direct placement of hazardous materials into solid waste landfills not meeting Class I or II-1 requirements or by simply dropping it off at isolated or uncontrolled sites. Although there is no hard statistical data, those engaged in controlling or responding to illegal dumping feel that this type of disposal is not growing, primarily because of an increased public awareness.

The second part to the illegal disposal problem is disposal by homeowners. Homeowners often have small amounts of hazardous or toxic materials they want to dispose of and usually put it in the trash or dump it down the drain. If they attempt to dispose of it legally, they face high disposal costs and usually resort to illegal means. They undoubtedly have no intent to harm others and the feeling is that it is such a small amount that it won't hurt anyone.

The most difficult aspect in controlling illegal dumping is that there are obviously no figures, statistics, or listings to rely on. The only thing that can be developed are patterns of illegal dumping based upon responses to actual incidents.

Based upon the experiences of those responding to incidents of illegal dumping, the most serious incidents involve small owner-operated

businesses or small firms. The firms are in the same general industrial classifications as large generators; however, metal plating, automotive repair, paint shops, printing shops, cleaning and dyeing shops, photographic processing plants, medical laboratories, veterinary hospitals, dental laboratories, machine shops, small gold mining operations, battery shops and plastic manufacturing or forming are all potential generators.

The most effective way of controlling illegal disposal of hazardous wastes, according to those now involved in this activity, is to institute local reporting programs and on-site inspections of small and medium sized firms with a potential for hazardous waste generation. It has been estimated that this type of program would uncover problems in the storage, handling, or disposal of hazardous wastes in 90 percent of inspections.

The net result of this information on illegal disposal is still less than adequate. It simply indicates that the most probable disposal methods are trash collection; existing solid waste landfills; the sewers; and, to a lesser degree, the sides of roads and open fields. It also indicates that control of illegal dumping requires local programs to educate the public, inform businesses of their responsibilities, and inspect potential problem areas.

7. Abandoned Dump Sites

Information on abandoned dump sites is presently being gathered by the Department of Health Services (DHS). They expect to release reports on Sacramento County in early January 1982 and on Placer and Yolo Counties in early Spring 1982. They do not expect to survey Sutter and Yuba Counties.

The reports should contain information on site location and some indication of materials contained in the abandoned site.

The reports will be distributed to County Health Officers. Anyone interested in obtaining a copy may contact Jan Meyer, DHS, (916) 323-6042.

Until the DHS surveys are available, it is impossible to provide accurate information on the number of abandoned sites, their location, the amount of hazardous materials located there, the specific waste types, or the costs of cleanup.

8. Wastewater Disposal from Agricultural Chemical Operations

The Central Valley Regional Water Quality Control Board recently conducted an inventory of wastewater disposal methods used by agricultural chemical operations, including: aerial and ground applicators, formulators, manufacturers, and retail distribution centers.[1/]

Their interest in disposal methods stems from their concern that surface and ground water may be degraded by wastewater containing pesticides. This degradation occurs when pesticide rinse water is allowed to concentrate on the ground or is allowed to run into drainage systems.

In the SACOG area, the inventory indicated wastewater from agricultural chemical operations are being disposed of in the following ways:

- unlined drainage ditches
- lined drainage ditches
- yard rinse and runoff
- field rinse
- lined ponds
- unlined ponds
- unlined sump

There is no estimate of the amount of agricultural wastewater disposed of by these methods.

9. Nuclear Waste

Two types of nuclear waste is generated--low level and high level. Low level waste from research and hospitals is disposed of in Washington and Nevada. High level waste, normally spent fuel core elements from power generation, is stored on site in spent fuel pools.

University of California - Davis Campus and UCD Medical Center (7/80 - 6/81)

Type	Drums	Gallons	Note
Low Level - Dry	151	8,305	Compacted.
Low Level - Solidified liquid	115	3,405	Only 30 gal. in each drum.
Low Level - Absorbed liquid	4	60	Only 15 gal. in each drum.
Low Level - Testing vials	73	4,015	
Low Level - Biological	30	900	Only 30 gal. in each drum.
	373	16,685	

(All waste disposed of at Hanford, Washington.)

1/ Central Valley Regional Water Quality Control Board, February 27, 1981.

Sacramento Municipal Utility District (SMUD) - Rancho Seco (Annual)

Type		
Low Level - Solid	200 Drums	11,000 Gallons

(All waste shipped to Beatty, Nevada.)

High Level - Spent core elements: 196 stored on-site in spent fuel pool.
- Generate about 60 spent core elements per year.
- 177 fuel elements now in core.

(All high level waste stored at Rancho Seco.)

Sutter Hospitals - Nuclear Medicine

Low Level - 70-100 cubic feet per year (estimated).

(Disposed of in Washington and Nevada.)

Other Small Generators

Data for very small generators was unavailable.

B. ALTERNATIVES TO LANDFILL DISPOSAL OF HAZARDOUS WASTES GENERATED IN THE SACOG REGION

1. Background

Although the Sacramento Valley portion of the State is a relatively small generator of hazardous materials, the largest percentage is disposed of in landfill sites and ponds. It is therefore important that efforts to reduce disposal of hazardous wastes in landfill sites be increased.

There are obvious problems with landfill disposal and ponding of hazardous wastes. Many of these wastes will remain hazardous or toxic forever and will always pose a potential danger. Hazardous and toxic wastes disposed of in landfills will always have the potential of escaping into the air, water, or contaminating surrounding soils.

Because of these very serious potential dangers, there has been a trend toward minimizing landfill and promoting other methods of disposal. This trend has also been supported by the increasing interest the public has taken in the disposal of hazardous and toxic wastes and the intense opposition that proposed new hazardous waste disposal sites face--the "not in my back yard" syndrome.

In response to the need for alternatives to land disposal, the Governor's Office of Appropriate Technology has recently prepared a study entitled "Alternatives to the Land Disposal of Hazardous Wastes: An Assessment for California". In addition, the University of California at Davis report, "Hazardous Waste Generation and Off-Site Disposal Patterns in California," contains a description of alternative disposal methods and an estimate of process costs. Each of these are excellent sources of additional information concerning specific alternative technologies.

Choosing alternatives to land disposal of hazardous wastes is not only a complex technical issue, but one of cost. At present, the cost of alternatives is usually higher than land disposal. This cost difference obviously results in most hazardous waste generators relying on land disposal.

2. Specific Alternatives

The State Office of Appropriate Technology has developed a hierarchy of alternatives to landfill, which is:[1/]

- Waste Reduction - the modification of industrial processes so that fewer hazardous wastes are produced.

- Waste Recycling - the recovery of usable resources from the waste stream and their re-use in industrial processes.

1/ "Alternatives to Direct Land Disposal of Hazardous Wastes," OAT, Governor's Office of Planning and Research, September 1981.

TABLE IV-I

ESTIMATED DISPOSAL COSTS [1/]

METHOD	RANGE OF COSTS
Land Disposal[2/]	$35/ton
Neutralization/Precipitation (including: screening, sedimentation, and flotation)	$30-150/ton
Solvent Recycling (including: distillation, steam stripping and extraction)	$20-100/ton[3/]
Incineration	$250-500/ton
Cement Kiln Co-Combustion	$50-70/ton
Aqueous Organic Treatment (includes: sedimentation, filtration, steam stripping, carbon absorption, and biological treatment)	$30-60/ton
Chemical Stabilization/Solidification	$100-120/ton
Oil Water Separation (includes: sedimentation, emulsion breaking biological treatment)	$25-125/ton
Chemical Oxidation/Reduction (includes: neutralization, precipitation, solid/liquid separation)	$50-175/ton
Evaporation Ponds	$20-30/ton

NOTE: All costs include costs for disposal in Class I landfills of the residue remaining after the waste has been processed.

1/ "Hazardous Waste Generation and Off-Site Disposal Patterns in California," University of California at Davis, College of Engineering, Chemical Engineering Department, September 1981 (p. II-C-2).

2/ "Alternatives to Direct Land Disposal of Hazardous Wastes," OAT, Governor's Office of Planning and Research, September 1981.

3/ Includes credit for recovered solvent.

- Physical, Chemical or Biological Treatment - the treatment of hazardous wastes that render them harmless, reduce their hazard, or reduce the volume requiring disposal.

- High Temperature Incineration - the burning of materials that cannot be recycled or treated.

- Solidification or Stabilization - the chemical fixation or encapsulation to solidify wastes and make them less mobile.

The UCD Study analyzes twenty (20) alternatives to landfill that had cost data available, were appropriate for treating or disposing of hazardous wastes in a manner consistent with the requirements of the Resource Conservation and Recovery Act (RCRA), and could be used to treat hazardous waste types generated in California. The UCD alternatives are:

- Precipitation/Flocculation/Sedimentation is a physical treatment method used to treat solutions containing suspended solids, heavy metals, and with modification, some types of pesticides (i.e., DDT). This treatment allows reaction, coalescence, and settling of various aqueous wastes. Precipitation transforms a soluble substance into an insoluble colloidal suspension. To aid in particulate removal, flocculating chemicals may be added to produce larger particles or flocs which can be more easily separated from the remaining liquid. Sedimentation is effected in a basin or pond, but can also be accomplished by centrifugation.

  A sludge is produced at approximately 10 percent of the influent flowrate. This sludge may be treated to recover materials of sufficient value or may be landfilled. Thus, this technique does not eliminate the need for ultimate solid disposal techniques, but does reduce the volume or hazard of the waste stream of interest, particularly the liquid phase.

- Multmedia Filtration is a physical method used primarily to separate particulate materials from a liquid waste stream. Typical particulates are biological flocs during secondary waste treatment, and inorganic flocs following coagulation of flocculated metal and non-metal containing particles. Filtration is generally viewed as a single independent unit for removing solids. Filters must be backwashed periodically to retain their efficiency; the resulting filter cake solids are recovered or sent to landfill.

- Evaporation is a physical treatment used to separate non-volatile components from the volatile components of a solution. Typically, salt solutions are concentrated to precipitate salt crystals using multiple effect evaporators. Inorganic wastes amenable to treatment by evaporation include solutions containing heavy metals, halides or certain acids, and sulfur sludge. Organic wastes which

can be treated include alipathic hydrocarbons, amines, oxygenated hydrocarbons, phosphorus-containing hydrocarbons, metallo-organic compounds, and solvents. As much as 10 to 20 percent of the influent waste stream may appear as residual solids which must be disposed of.

- Distillation is a physical method used to separate solvents, oil, and organic/water mixtures. Distillation separates the components of a mixture by vaporizing the more volatile constituents of the liquid and recondensing them. Still bottoms produced from distillation are incinerated if combustible or landfilled if they do not have reclamation value.

- Air Flotation is a physical method that utilizes the liquid-to-gas phase change accompanying gas decompression to generate microscopic bubbles. These bubbles adhere to small solid particles and cause them to float to the surface for removal by a sludge-handling system. The sludge is then dewatered, and disposed of or treated for recovery.

- Oil/Water Separation is a physical treatment used for separating soluble organic liquids which are less dense than water from the aqueous phase. Typical applications of this method include removing degreasing solvents and oil from metal plating and finishing wastes and oily wastewater from organic chemical manufacture. An oily sludge is produced which must be disposed of or recovered.

- Reverse Osmosis is a physical treatment used for separating plating salts, reclaiming rinse-waters, and for removal of certain pesticides and organic compounds from their respective waste streams. Reverse osmosis removes the main solvent and leaves behind a more concentrated solution of the dissolved materials. The main components are selectively permeable membranes which pass small solvent molecules but reject larger dissolved molecules. The concentrated product solution must be further concentrated, or disposed of in a landfill.

- Ultrafiltration is a physical method applied primarily to aqueous mixtures and is used for protein recovery from cheese whey, for treating machining oil emulsions, and for removal of polyvinyl alcohol wastes from textile sizing. Large-scale applications are presently not practical.

  Ultrafiltration operates on the same principle as reverse osmosis, except that the selectively permeable membrane retains only very large molecules and passes smaller molecules including solvents and solutes (dissolved). A more concentrated solution results and must be disposed of or recovered for reuse.

- Chemical Oxidation/Reduction is a chemical treatment used in the plating industry for oxidizing cyanide (CN) and for reducing chromium (VI) to a lower oxidation state. Oxidation/reduction can be used for reducing certain heavy metals such as mercury, lead, and silver, and is especially attractive for its potential for material recovery. The by-products of oxidation/reduction are process dependent; however, some waste materials are generated which must be disposed of by landfill.

- Hydrolysis is a chemical method that employs acids or bases to decompose substances, such as organophosphates or carbamates, chemically. Hydrolysis can also be used for neutralizing acids or bases. As with other treatment schemes, a residue will ultimately result, requiring reclamation or landfill.

- Aerated Lagoon is a biological treatment process used to degrade organic compounds which are not biocidal or resistant to such degradation. Wastes are well mixed and aerated to allow for conversion to biomass. Some chemical nutrients must be added to maintain growth of the biomass. A biological sludge is produced which must be disposed of by landfarming, landfill or incineration.

- Trickling Filter is a biological treatment method used for bio-oxidation of dilute organic wastes which are not biocidal or resistant to degradation. The filter can be crushed rocks, manufactured filter elements, or other materials which allow air and liquid to flow through them. A biological sludge is produced which must be further treated or landfilled.

- Waste Stabilization Pond is a biological treatment method for biodegrading dilute organic waste streams. The treatment process involves a pond and sedimentation basin. Unlike the other biological treatment methods, no chemicals are added to promote growth of microbes. As with other biological treatment methods, a sludge is produced which must be disposed.

- Anaerobic Digestion is a biological method of sludge volume reduction applicable to the effluent sludge streams of aerated lagoons, trickling filters, and activated sludge treatment processes. Sludge production rates are variable, but a conservative estimate is 10 percent of the influent flowrate, which must be disposed.

- Carbon Adsorption is a physical treatment method which can be applied to a wide variety of dilute organic and inorganic solutions. The method can be applied to aqueous and non-aqueous waste and process streams, and is used in the Lake Tahoe sewage treatment plant to purify effluents. Chromium and cyanide can be removed using activated carbon. Certain types of wastes cannot be treated by this method due to physical constraints, such a polarity and molecular diameter.

The treatment train consists of several filters, 3 adsorption columns, and a carbon regeneration unit (usually a furnace). About 10 percent of the activated carbon bed must be completely replaced. Energy requirements increase significantly above a 4000 gpm flowrate. Spent carbon must be landfilled or incinerated.

- Activated Sludge is a biological treatment process used to biodegrade organic wastes aerobically. Activated sludge processes are used for secondary and complete aerobic treatment without primary sedimentation. The excess sludge produced must be further treated and disposed of in a landfill or incinerated.

- Rotary Kiln incineration is a versatile disposal method used to destroy many combustible solid, liquid, and gaseous wastes. The solid byproduct of incineration must be landfilled.

- Landfill Disposal (burial) can be used for waste material not excluded because of potential air or groundwater contamination.

- Chemical Fixation is a chemical treatment used for metal wastes from the electroplating and metal finishing industries, oily wastes and other organic wastes. Pesticides and non-water based solvents cannot be treated. Chemical fixation is a process that forms a chemically and mechanically stable solid. Land disposal is required for all wastes treated this way.

- Encapsulation is a physical treatment used for wastes that have been sufficiently dewatered. Materials such as electroplating sludges, heavy metal sludges, brine sludge, and calcium fluoride sludge can be encapsulated. All encapsulated materials go to landfill.

- Evaporation Ponds are physical treatments useful for concentrating or dewatering of inorganic salts, and non-volatile aqueous/organic mixtures. Evaporation ponds are essentially holes dug into the ground and are often used in dry or arid regions such as those which characterize most of California. Concentrated wastes from evaporation ponds must be treated or disposed of directly in landfill.

3. Alternatives Feasible For Use in the Sacramento Valley

Table IV-J, Feasible Treatment and Disposal Techniques for Waste Types Generated in the Sacramento Valley Area, provides an indication of possible treatment or disposal methods which could be used to reduce hazardous waste land disposal. Utilization of any of these treatment methods could reduce the level of hazard and reduce the volume of residue remaining.

TABLE IV-J

FEASIBLE TREATMENT AND DISPOSAL TECHNIQUES

FOR WASTE TYPES GENERATED IN SACRAMENTO VALLEY AREA[1/]

	WASTE TYPES GENERATED IN THE SACRAMENTO VALLEY	PRECIPITATION, FLOCCULATION, SEDIMENTATION	MULTIMEDIA FILTRATION	EVAPORATION	DISTILLATION	AIR FLOTATION	OIL/WATER SEPARATION	REVERSE OSMOSIS	ULTRAFILTRATION	CHEMICAL REDUCTION/ OXIDATION	HYDROLYSIS	AERATED LAGOON	TRICKLING FILTER	WASTE STABILIZATION POND	ANAEROBIC DIGESTION	CARBON ADSORBTION	ACTIVATED SLUDGE	INCINERATION	LANDFILL DISPOSAL	CHEMICAL FIXATION	ENCAPSULATION	EVAPORATION POND
111	Acidic soln with heavy metals	X		X				X		X						X					X	X
112	Acidic soln w/other metals & non-metals	X		X				X		X						X					X	X
121	Alkaline soln with heavy metals	X		X				X		X						X					X	X
122	Alkaline soln w/other metal & non-metals	X		X				X		X						X					X	X
123	Other alkaline soln	X		X				X		X						X					X	X
131	Spent etching/plating soln, acidic	X		X				X		X						X					X	X
132	Spent etching/plating soln, alkaline	X		X				X		X						X					X	X
133	Spent pickle liquor	X		X				X		X						X					X	X
142	Aq soln with other metals	X		X				X		X						X					X	X
143	Aq soln with reactive anions	X								X											X	
153	Inorganis (solid) chemicals																		X			
165	Spent catalyst																		X			
213	Halogenated solvents			X	X													X				
221	Org liq w/halogens & metals (All kinds)			X	X													X				
224	Other organic liquids			X	X	X										X		X				
225	Aq soln with organic residues 10%			X	X	X										X		X				
227	Aq soln with organic residues 10%			X	X	X										X		X				
241	Pesticides and wastes	X		X							X					X		X	X		X	
253	Detergents & soap			X								X	X	X	X							X
263	Other polymeric mat'l & wastes																	X	X		X	
281	Waste oil & mixed oil				X													X	X		X	
283	Mixtures of oil, mud/sediment & water		X				X											X	X			
285	Alkaline oily sludge		X																X		X	
289	Mixtures of oil/gas w/water			X		X	X								X	X	X	X	X		X	
416	Ink sludge			X	X											X		X	X		X	
431	Heavy metal sludge	X	X	X						X									X		X	X
443	Sulfur sludge			X															X		X	
454	Paint sludge		X	X															X		X	
457	Sludges with organic residues			X														X	X		X	
511	Rinse water & waste water	X		X				X	X	X						X			X			X
513	Laboratory waste chemicals																	X	X		X	
515	Drilling mud																		X			
523	Tank bottom sediments		X	X														X	X		X	
527	Mud/sediment & water		X	X															X			

1/ "Hazardous Waste Generation and Off-Site Disposal Patterna of California", University of California at Davis, College of Engineering, Chemical Engineering Department, September 1981.

While it is clear that there is a potential to reduce the hazards and the volume of waste materials, it is not clear how to accomplish it. On the one hand, there are those who advocate enactment of State laws and regulations to require use of alternative methods and an allocation of the cost to the product; while on the other, there are strong arguments for incentives and voluntary actions by industry. Where this debate is headed is unclear; however, the Governor has indicated he favors a reduction in land disposal and has by Executive Order banned six categories of highly toxic and persistent wastes from land disposal, beginning on January 1, 1983.

The wastes banned are: PCB's, pesticides, toxic metals, cyanides, halogenated organics, and non-halogenated organics. According to the Governor, these hazardous wastes account for 40 percent of all wastes now deposited in Class I and Class II-1 landfills.

The Governor's Executive Order also commits the State Department of Health Services to:

- Exercise its authority to prohibit land disposal of highly toxic wastes.
- Encourage construction of new advanced waste treatment facilities.
- Increase monitoring and enforcement inspections.
- Establish special fees on land disposal.
- Streamline State permit process to encourage the construction of advanced treatment facilities.

The most important aspect of alternative technologies, however, is cost. At present, the cost of treating or destroying hazardous wastes is usually more costly than simple land disposal. According to the State Office of Appropriate Technology, this is especially true in California where there is an abundance of landfill capacity. They estimate it costs $17 million per year now for land disposal and would cost an additional $33 million per year to treat California's high priority wastes.

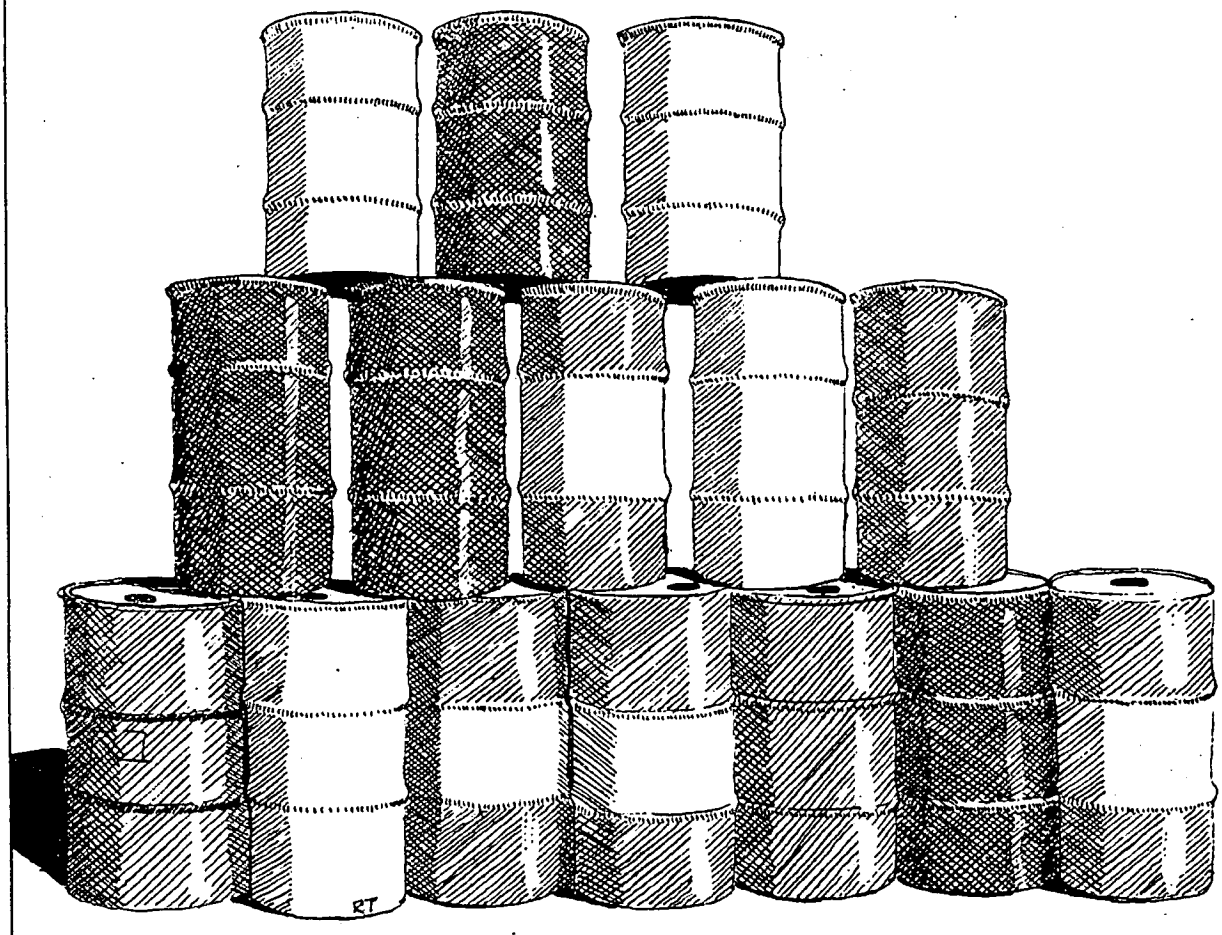
If costs for landfill disposal of hazardous wastes rise, however, the use of alternative technologies may be more acceptable. There is some indication from landfill site operators that costs will continue to rise, particularly as capacity is used up; however, it appears unlikely that these cost increases alone will cause a significant shift to alternative technologies. If disposal costs alone are not sufficient to cause a shift, it is obvious that other methods will be required.

The two most suggested methods to force a shift to alternative technologies are a ban on land disposal and special fees imposed by the State for land disposal. Each suggestion has problems. A ban on land disposal without operational alternative treatment facilities with sufficient capacity would probably result in an increase in illegal disposal or on-site storage. An increase in fees could also result in an increase in illegal disposal.

Whatever strategy is selected by the State to stimulate the transition from land disposal to other methods has particular importance to local government. While the decision on method appears to be a State decision, the impact most likely will fall on local government. Increased illegal dumping, either on the land or in the sewer system, means that local government will be required to respond. For that reason, local government should pay particular attention to decisions the State makes concerning the use of land disposal for hazardous wastes.

V.

Local Hazardous Waste Policies, Programs, And Activities



A. BACKGROUND

Most local jurisdictions in the SACOG region have had some involvement in the issue of management of hazardous materials and wastes. Because of a lack of specific data and some perceived gaps in the regulatory structure; however, most have found it difficult to establish complete management programs.

California planning and zoning law requires each city and county to guide future growth and change in accordance with a framework of officially adopted goals and policies directed to land use, circulation, housing, environmental quality, conservation of resources, safety, and other relevant physical, social and economic factors. The general plan guidelines do not at this time, however, specifically address issues of hazardous material use, production, transport, storage or disposal.

Each county is required to have a solid waste management plan and there have been attempts to require a hazardous waste management plan as part of that plan. To date, however, there is no specific requirement that mandates a county to prepare a hazardous waste element. There are two reasons that a mandate has not been instituted. First, the State has been concerned about SB 90 reimbursement requirements; and, second, the State has not agreed whether the hazardous waste element should be a part of another plan or should be a separate plan.

For those counties that decide to prepare a hazardous waste element, the State has recently released regulations requiring the review and approval of the element. The State Department of Health Services (DHS) has been given the responsibility for hazardous waste element review and approval, and their guidelines suggest that the hazardous waste element be prepared as a separate element of the overall county solid waste management plan rather than incorporating hazardous waste management considerations within a number of solid waste elements.

The Department of Health Services also indicates that the hazardous waste element will be used to judge if a hazardous waste facility applying for a permit is "consistent" with the hazardous waste element. They go on to add that since specifics on local facility needs may be hard to determine, the determination of consistency will be based on the consistency of the facility with State policy and the principles and objectives of the county hazardous waste element, along with the facility's ability to meet needs and problems as expressed in the element. There is no indication of how consistency will be determined in counties without elements.

1/ Guidelines, Hazardous Waste Element, Department of Health Services, April 1979.

The DHS guidelines for hazardous waste element suggest the following be included:[1/]

1. Element should support State objectives in hazardous waste management.
2. Description of hazardous waste activities in county.
3. Types and amounts of hazardous waste.
4. Transportation of hazardous waste.
5. Storage, treatment, and disposal facilities.
6. Resource recovery activities.
7. Hazardous Waste Control Program.
8. Needs and problems.
9. Future activities.

B. LOCAL EXPERIENCE

Although there may be confusion over the requirement for a county hazardous waste element and how it should be prepared, individual jurisdictions have taken steps to better manage hazardous wastes in their area.

1. Placer County (Member Cities - Roseville, Rocklin, Lincoln)

The Placer County Solid Waste Management Plan (May 1976) does not contain any policies specific to management of hazardous wastes, but does indicate that some materials may have been deposited in a Class II facility near Auburn. The County does have a Solid Waste Advisory Committee which addresses the issue of hazardous wastes when it comes up.

The Cities of Roseville, Rocklin and Lincoln have expressed concern over the transportation of materials through the area by rail and truck and are now beginning to study the use of hazardous materials in "high technology" industries which have already located or shown interest in locating in the South Placer area.

Placer and Nevada Counties are currently preparing a Bi-County Emergency Response Plan which will identify contingency operations and will specifically detail procedures for handling toxic materials. Local fire department officials have expressed the desire for more effort in determining the location and identity of hazardous materials in their area.

The planning and permitting activities of the county contain procedures which identify uses which might generate hazardous waste; however, this process is applied only to new uses locating in new structures.

1/ See Appendix for more information.

The Placer County Department of Environmental Health conducts inspections of all landfill sites for conformance to state guidelines. Although there is little or no coordination between the department and local fire department inspections, Environmental Health does some monitoring of industries known to use or store certain hazardous materials.

2. Sacramento County (Cities of Folsom, Galt, Isleton, Sacramento)

A variety of plans and procedures are in place or under development within Sacramento County. The City of Sacramento and the County are currently in the process of General Plan revisions and the City of Sacramento Public Services Element will contain reference to hazardous materials in the section detailing the handling of solid waste. The County has established a Hazardous Materials Committee and one of their tasks will be to review a Hazardous Waste Management Element being prepared by County staff. It is anticipated that the Sacramento County Hazardous Waste Management Element will be amended into the County Solid Waste Element in 1982. The Draft Plan contains recommendations for continuing study, coordination and response to hazardous materials spills. The County does have an Emergency Operations Plan (1975) and the Sacramento Regional County Sanitation District implements Sewer Use Regulations (1980) which include permitting of commercial or industrial uses discharging regulated substances.

Both the City and County Planning Departments employ detailed environmental review procedures which may identify new uses involving hazardous materials; however, this process often relies on accurate description of the project by the permit applicant and follow-up during plan review and inspection. Gaps occur in the permitting process where environmental reviews are not required.

The Sacramento County Health Department, Division of Environmental Health, conducts the state mandated inspections of landfill sites and also responds to complaints of illegal dumping, with the primary purpose of attempting to locate the responsible party. The division's review of new businesses and industries is confined to sanitation standards in food preparation and service.

3. Sutter County (Cities of Live Oak and Yuba City)

The Bi-County Solid Waste Plan and Program (1976) is the major planning tool adopted by Sutter County for the management of hazardous materials in a non-emergency capacity. Recommendations formulated at that time were limited to further study, data collection and the adoption of ordinances for the proper handling of pesticide containers.

Permit procedures in the County do not require an environmental review or disclosure on standard building permits; the health department is notified only if an applicant will be doing their own sewage disposal, and fire/emergency response departments are notified only on very large projects.

The Sutter-Yuba Health Department, Environmental Health Section, coordinates with the County Office of Emergency Services in responding to spills and complaints of illegal dumping. In addition, the department endeavors to conduct observation and monitoring of suspected illegal dumping. They also routinely inspect landfills, but staff noted that they currently lack sophisticated equipment for proper monitoring of hazardous materials. As noted earlier, the department does review large development applications which require special waste discharge permits.

4. Yolo County (Cities of Davis, Winters, Woodland)

Among local agencies in the SACOG region, Yolo County is the pacesetter in hazardous materials management policy and procedure development. In response to public concern, the Board of Supervisors of Yolo County assembled a Hazardous Materials Task Force to prepare a coordinated, cohesive County policy for the control of and response to hazardous materials situations. A draft report has been prepared by the Yolo County Department of Environmental Health and is unique in several respects: 1) it contains a comprehensive report of all State statutes and regulations dealing with toxic and hazardous materials; 2) it contains an enforcement component which is designed to prevent emergency situations such as spills, rather than simply addressing an emergency situation once it has occurred; and 3) it proposes a methodology for maintaining an up-to-date inventory of all hazardous substances in the County. In addition, the plan contains a Spill Response Plan which categorized types of spills, and a training component designed to assure that appropriate response capabilities are available within the County.

The County, upon adoption of the Hazardous Materials Management Plan, will also adopt an ordinance to create an ongoing Hazardous Materials Management Advisory Committee composed of fire, police Highway Patrol, and citizens to act as an advisory body to the Board of Supervisors.

5. Yuba County (Cities of Marysville and Wheatland)

As with Sutter County, the Bi-County Solid Waste Plan and Program (1976) is the major planning tool adopted by Yuba County for the management of hazardous materials in a non-emergency capacity. The plan contains no policies with regard to management of hazardous materials, but does provide for the adoption of ordinances for proper handling of pesticide containers.

Permit procedures through the planning department do not require an environmental disclosure on standard building permits.

The Yuba County Office of Emergency Services (OES), in conjunction with the County Agricultural Department, has formulated the "Yuba County Plan of Operation for the Protection of the Public and Environment in the Event of Accidents Involving Agricultural or Industrial Chemicals," June 1981. Yuba County OES also has a mutual aid agreement with the Sutter County Emergency Response Team, although to date the few spills that have occurred have not required the special equipment and services provided by the team.

C. OTHER GROUPS

Several other groups and organizations are involved in the issue of hazardous materials in the SACOG area. Many of these groups are actively working toward solutions and work closely with elected officials, established committees, and staff.

1. Golden Empire Health Systems Agency is the lead health planning agency for the region. The agency operates under a joint powers agreement among the Boards of Supervisors of El Dorado, Nevada, Placer, Sacramento, Sierra, Sutter, Yolo and Yuba Counties. Golden Empire's policies are guided by volunteer bodies, boards and committees, representing both providers and consumers of health care. A 30-member Governing Body has final approval authority over all policy decisions and recommendations of the Agency.

   Golden Empire Health Services has established an Environmental Health Task Force to study and discuss the issue of hazardous materials in the area. The task force has three major responsibilities: 1) selecting and guiding the implementation of a specific, time-limited project which will address an environmental health problem in the region; 2) developing a toxic substance legislative platform; and 3) designing an environmental health educational activity.

2. The Sacramento Lung Association has formed an Air Conservation Committee which focuses its attention on toxic substances that may cause lung damage when entering the human body by inhalation, ingestion, or skin absorption. Specifically, the Lung Association's efforts include: 1) the encouragement of research leading to the identification and control of toxic substances; 2) public education and the development of public support for control efforts; and 3) support for the enactment and enforcement of new laws and policies where needed.

3. University of California, Davis: University Extension now has a Toxic and Hazardous Substance Program which will be presenting continuing education programs for citizens, local officials and industry representatives. The program has an Advisory Board which is responsible for recommending curriculum topics and content most useful to those who might be enrolling in this type of continuing education program or attending workshops. Program

coordinator, Yvonne Hunter (752-6329) is also coordinating with University Extension of the Irvine Campus to offer similar courses in Southern California.

4. University of California, Davis Cooperative Extension conducts a dual program in the area of hazardous materials. In addition to ongoing research, currently in disposal of spent pesticides, the Cooperative Extension provides expertise and advice to individuals and local jurisdictions in the handling of specific situations involving pesticides.

5. Yolo Committee on Toxic Substances (YOCOTS) was formed in 1980 as a local citizen based group and continues to monitor local government progress regarding hazardous materials. YOCOTS was instrumental in the formulation of the Yolo County Toxic Management Program.

6. Toxics Responsibility Advisory Committee (TRAC) is a Sacramento based citizen committee involved in providing awareness on the issues of hazardous materials management and supporting legislation to further refine authority and responsibility of the management process.

7. League of Women Voters, with chapters located throughout the region, has developed a national position on the issue of hazardous materials and continues to update local information and support their position when local issues arise.

As stated earlier, awareness of the issues surrounding hazardous materials has very recently been occurring: Numerous other groups and organizations in the region are no doubt undertaking some level of involvement. The groups discussed above have been and continue to be actively working toward solutions to problems in this area. These organizations invite citizen participation and generally endeavor to coordinate and cooperate with local government agencies and each other.

D. CONCLUSIONS

It is clear that local jurisdictions have attempted to develop local capabilities to manage hazardous wates; however, they have been hampered by a lack of information. Although the State Department of Health Services has the responsibility to gather a great deal of data concerning hazardous wastes in local jurisdictions, they have been unable to share that data with local jurisdictions. They have also not provided hazardous waste facility permit information to local jurisdictions. Local jurisdictions could use this information as a base on which to develop sound hazardous waste management programs, if it was available.

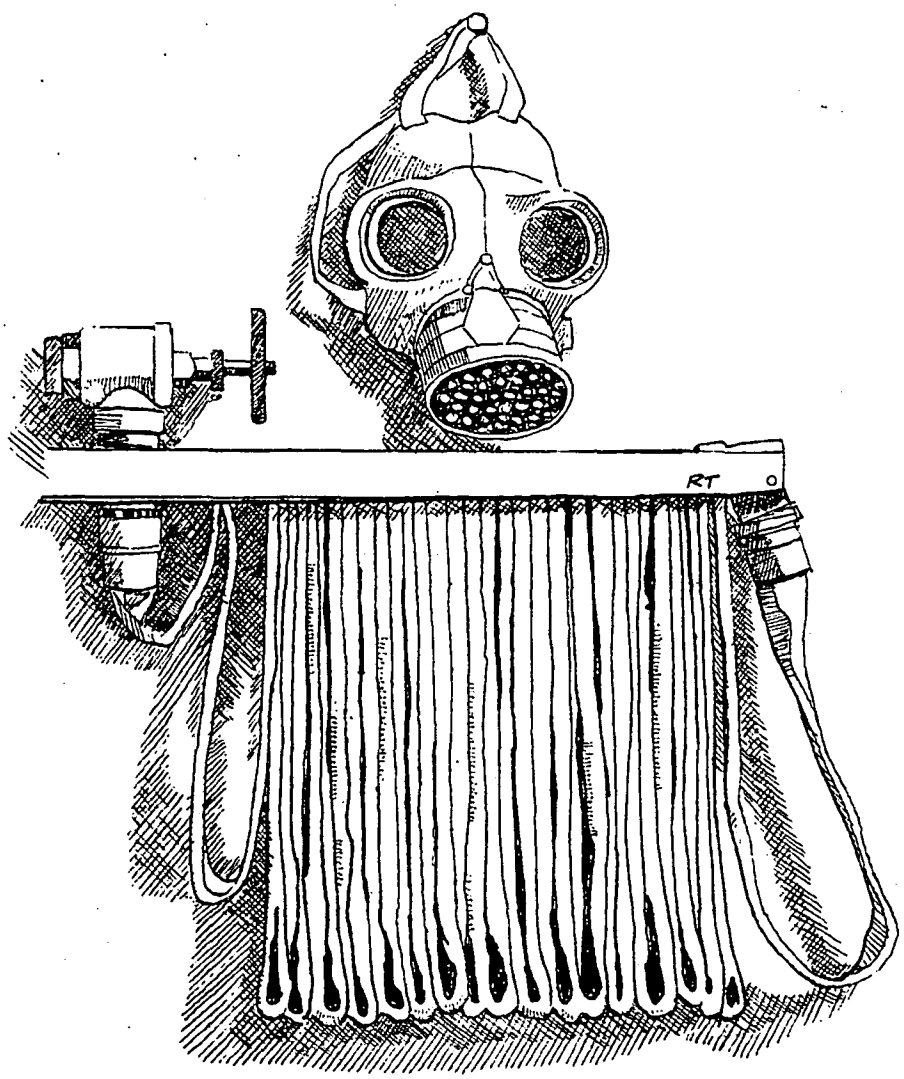
Compounding the lack of specific data from the Department of Health Services is the lack of regulations, confusion over authority, and lack of financial support for county hazardous waste elements. Also, a broader question of whether toxic substance and hazardous waste management deserve to be treated in a separate general plan element remains unanswered. Presently divided among specific plans such as emergency response and solid waste management, it is difficult to understand the complete management system. Leadership at the State level in providing sound direction and firm support for hazardous waste elements would assist local jurisdictions.

Specific areas of concern expressed by local planning staff involve: 1) the location of industrial or business uses, which may use hazardous materials or produce hazardous wastes in existing structures without notification to fire and health officials; 2) the construction of new industrial parks without clear identification of the ultimate uses of industrial space and the routing of building permits to the fire department and health department; and 3) the general lack of awareness of the hazardous properties of materials used or waste produced.

Two areas of concern deserve special attention: continued local activity and coordination. Most local jurisdictions have indicated a strong desire to continue to improve the management of hazardous wastes in their area; however, most have also suggested that while the problem affects local cities and counties, there is a need for regional coordination of activities.

VI.

Local Response To Hazardous Material Involvement In Spills And Fires



A. BACKGROUND

The use of hazardous and toxic materials in manufacturing and the associated generation of hazardous wastes has increased the potential for accidents. Incidents involving hazardous materials and waste differ from other emergency situations because of their diversity. Fires, explosions, highway spills, truck loading accidents, leaks, and illegal dumping can all pose significant danger to the surrounding population. These incidents can occur during transportation or at a fixed location, and each incident has different circumstances and response requirements.

In most cases, accidents have been contained before major problems occurred; however, many feel this is partly due to good luck. Even with good luck, some incidents were not handled properly. One example is the case of a spill that was washed into the storm drains prior to determining the hazardous substance was water soluble. The cleanup that could have been done easily for $1,500 ended up costing $26,000.[1/]

The need for quick, coordinated response to incidents and emergency situations involving hazardous materials and waste is essential. Rapid identification, spill containment, and cleanup are the keys to controlling emergencies. Unfortunately, this does not always happen.

In June, 1979, an explosion at a chemical company in Southern California caused a cloud containing toxic chemicals to drift over surrounding neighborhoods. The cloud caused lung irritation, coughing, and vomiting. When asked by local police what chemicals were in the cloud, the company refused to identify them on the grounds of trade secrets.

Another example of the lack of quick identification, containment and cleanup occurred last year in the Bay Area, when a truck dropped some chemicals on a highway. Because the substance could not be identified, cleanup was slow and thousands of people were evacuated from their homes.

In 1979, the California Legislature passed two resolutions, SR 52 and HR 62, directing the California Highway Patrol (CHP) to conduct a study of hazardous substance spill problems and prepare a report to the Legislature. The report was to contain a description of the problem, organization of existing response mechanisms, and recommendations for a statewide emergency response program.

The CHP identified the following problems:

- No uniform response system
- No single on-site coordinator
- Overlapping responsibilities
- Inadequate training
- No uniform reporting system of incidents
- Lack of public information about incidents
- Conflicting local ordinances
- Public agency liability for lack of action
- Lack of a cleanup fund

1/ Hazardous Substance Highway Spills Study, California Highway Patrol.

Based on these emergency response problems, the CHP, assisted by an advisory committee, developed recommendations for improvement. The recommendations were centered in a proposed Hazardous Substance Highway Incident Emergency Response Plan. In response to this report, the State Legislature in 1980 passed SB 183, which establishes a statewide emergency response system for toxic spills, including a training program for local fire and police departments. The Legislature also passed AB 2109, which assigns responsibility for spills management, and notification on state highways to the CHP.

Under SB 183, the California Office of Emergency Services was assigned the responsibility of developing a statewide response plan. They have recently released the second draft of the State Hazardous Material Incident Contingency Plan, which was prepared to meet those requirements.

The plan is based on three key activities: pre-emergency planning and training; emergency response; and cleanup. The plan also stresses the need for coordinated actions between Federal and State agencies, local jurisdictions, and private industry, and requires a Local Planning Advisory Committee made up of representatives from these groups. The draft plan also sets up three State advisory committees to assist in coordinating activities:

- State Interagency Oil Spill Committee
- State Highway Spill Committee
- Toxic Substance Advisory Committee

Under the plan, local response to emergency incidents involving hazardous materials would be in accordance to plans developed by the Local Planning Advisory Committee. The assignment of responsibility for activities would remain essentially the same as it is now; however, a State response system and a coordinated local response system would be developed. A key to this system would be the designation of a Scene Manager. The Scene Manager would be a representative of the responsible jurisdiction and would be in charge of managing the response. For spills on State highways, the Scene Manager would be from the Highway Patrol, while for local incidents designation of the Scene Manager would be by the local jurisdiction.1/

Another change would be the designation of a State Agency Coordinator who would be responsible for supporting the local Scene Manager by coordinating State assistance and State resources committed to the incident.

1/ By State law, the Department of Conservation supervises all oil and gas well operations in California. In the event of an incident involving a drilling or producing facility, the State Lands Commission, under a letter of agreement with the Department of Conservation, has been designated the contact point in all matters concerning control.

TABLE VI-A

EXISTING EMERGENCY RESPONSE RESPONSIBILITIES
FOR HAZARDOUS WASTE INCIDENTS

ACTIVITY	STATE HIGHWAYS	COUNTY ROADS	CITY STREETS	OFF-ROAD
Site Control	Highway Patrol	Highway Patrol	City Police	Local Jurisdiction
Spill Containment & Identification 1/	CALTRANS	County Road Dept.	City Road Dept. 2/	Local Jurisdiction 2/
Cleanup	CALTRANS 3/	County Road Dept. 3/	City Road Dept. 3/	Local Jurisdiction 3/

1/ Requires specific training.
2/ Often delegated to Fire Department.
3/ Use some private contractors.

Under the existing local hazardous materials emergency response system, the three key activities are:

1. Site, Traffic and Crowd Control - This part of the response is not outside of the normal responsibilities of local law enforcement agencies.

2. Identification and Containment - This activity is not a part of normal responsibilities and thus requires special training, particularly at the local level. Identification of a spilled substance or the contents of a burning building has proved difficult in past incidents and since containment, stabilization, cleanup, and possible evacuation all depend on accurate substance identification, it is a key activity.

   Not knowing what a spilled substance is or what chemicals are stored in a burning building significantly increase the dangers to responding personnel and increase the possibility of harmful actions.

   Containment may require special training and equipment; however, the local fire department or road department will be called whether they have special training or not. As in identification of substances, lack of training simply increases the danger to responding personnel and increases the chances of mistakes.

3. Spill Cleanup and Removal - Although the party responsible for the incident is supposed to be responsible for cleanup, it often is impossible to wait for them to act or to identify them.

For these reasons, local fire and road departments sometimes are forced to do small spill cleanup. In large spills that require local jurisdiction cleanup, the costs of commercial cleanup operations are a problem unless the responsible party is identified and has the ability to pay or has insurance coverage.

Most local jurisdictions have had emergency response plans for some time; however, they often did not address the specific requirements of hazardous or toxic spills and incidents. Because of this, many local jurisdictions are now reassessing these plans with hazardous materials in mind.

On the State level, the Office of Emergency Services has recently begun to circulate the Draft Hazardous Materials Incident Plan. Following State agency review, it will be distributed to Cities and Counties for review. Public hearings will also be conducted.

B. LOCAL EXPERIENCE

Response methods and training differ among local jurisdictions. Most local fire departments have had only limited hazardous material training. Normally only paid departments have received any advanced training, but even this is limited. Most fire departments have procedures for responding to hazardous material incidents and some have made it a policy to only contain fires in buildings with unknown substances until the substance can be identified and safe fire fighting methods are known.

Most fire departments inspect local buildings and can often identify hazardous materials located in them; however, most fire departments indicate that buildings are not inspected often enough to adequately identify all hazards. Not knowing what to expect when responding to an incident or a fire and being unable to identify a substance quickly are consistently mentioned as major problems by local fire departments.

Local fire departments also point out that they are often not a part of planning activities and thus are not aware of plans that involve hazardous materials until it is too late to make suggestions. They also indicate it is often hard to decide who is really in charge of incidents.

Probably the biggest problem, as indicated through contact with local fire departments, is funding to adequately train and equip emergency response teams. Both can be costly, especially equipment, and most local jurisdictions are experiencing reduced budgets.

Another area of concern to both local jurisdictions and private cleanup operators when responding to hazardous waste incidents, is who is going to pay for cleanup. If the person responsible cannot be identified, the local jurisdiction usually assumes the cost.

This problem was part of the reason the Legislature passed the State "Superfund" bill; however, to date there is no procedure for applying for these funds, even though the bill was an urgency measure.

C. SPECIFIC LOCAL ACTIVITIES

1. City of Sacramento

The fire department is developing an emergency response capability for hazardous material incidents. Known as HAZMAT, its purpose is to contain, control and stabilize spills or fires involving hazardous materials.

There will be three teams, two are now operational, composed of one officer and three crew members. The teams will be centrally located to provide a rapid response capability to any part of the City. The teams will provide mutual aid to other Sacramento County fire districts. The teams will become fully operational when all of the required equipment has been received. The remaining equipment is expected within the next few months.

The teams have received special training, initially 106 hours but now 180 hours, in identifying and treating materials involved in spills and fires. They can provide assistance when requested, as well as training for other fire departments.

2. City of Winters

Since Winters is primarily an agricultural area, pesticides are considered to be the biggest potential problem. Although most of the pesticide storage areas have been identified, when responding to a fire in any farm building, they assume it contains pesticides and treat the fire accordingly.

The paid firefighters have had limited training on toxic materials and the volunteers are aware of the problem. Informal procedures are used to guide response.

Building inspectors do uncover toxic material information if it is readily apparent; however, the main purpose of the inspection is to identify occupant safety hazards.

3. City of Folsom

The Folsom area is involved in agricultural activities, so pesticides present the biggest problem. So far, however, they have had few problems with toxic materials. The main concern is to identify materials involved and call CHEMTRAC to find out what to do with it.

About 75% of the firefighters have limited training on toxic materials. Building inspections identify significant problem areas, if readily apparent, during regular fire safety inspections. This could leave many potential problems unidentified. The information gathered from the inspections is put into a notebook which is carried on each call. The notebook describes the building and any unusual factors.

4. City of Live Oak

The main concern is to correctly and quickly identify any materials involved in a spill or fire. If a material cannot be readily identified, it is treated as toxic. To date, there have been few problems encountered with toxic materials.

Many of those who respond lack sufficient training about toxic materials. The City sees a need for interaction between the fire department and local businesses.

5. City of Yuba City

So far there have been few problems with toxics; but, on the average, there is one minor spill per month. One concern centers around the perception that no one central agency seems to be in charge.

Most local fire personnel have had preliminary toxic training. The general procedure is to contain and identify materials involved in the spill or fire.

Building inspections identify possible problem areas. The information gathered from the inspections in put into a notebook and is carried in the first response vehicle.

6. City of Roseville

So far there have been few problems with toxic materials; however, major potential problems exist because of the railroad and highways that pass through town. A tremendous amount of hazardous materials travel through town every day.

Most of the fire department personnel have had initial training classes sponsored by the State; however, they do not think that this is sufficient. They would like to have as much training as possible. Also, disaster preparedness exercises, which actually test the skills of the participants, would be very beneficial. The City feels there is no substitute for first-hand experience.

7. City of Davis

The main concern is to identify materials involved in a spill or fire, and treat it accordingly. Until the material is identified, the prime action is to keep it from spreading and to prevent injury or loss of life. Reference is made to the Department of Transportation publication and the Yolo County plan on hazardous materials. The documents assist in determining what materials are involved, what actions need to be taken, and how to treat the fire or spill.

Everyone has had hazardous material awareness training. In addition, all company officers have had additional training. They recognize that hazardous materials are distributed widely and that a problem exists, as noted from the several incidents reported each month. Regular inspections try to identify potential problem areas; however, the inspections can easily miss a potential problem area.

8. City of Marysville

The department is redrafting a set of manuals which will contain detailed information about toxic materials. Additional guidance will include details on how to deal with toxic situations.

Most of the firefighters have received some training and a few exercises have been conducted to test emergency response; however, much more experience and training is needed. The department would like to see a definitive plan to handle radioactive materials.

Most spills involving toxics have been minor. The department inspects local businesses and maintains an inventory of the materials being stored. To aid in this, the fire department suggests they be included on committees discussing city growth and new industries.

9. City of Rocklin

A lot of hazardous materials are being transported through the area and there is potential for a major problem. The first actions to be taken include identifying the materials involved, setting up safety zones, and isolating the area.

The first priority has been to train the command structure concerning toxic materials. Further training is required to ensure that problems are identified during regular building inspections. It is felt that many businesses try to handle on-site spills internally, rather than bringing in outside help.

The fire department feels that since they are the first responder, the fire department should also exercise on-scene control.

10. Carmichael

There are a lot of toxic materials in the area, but they have not been much of a problem yet only because nothing major has happened.

Most of the full-time firefighters have received basic toxic training. They feel a system of mandatory labeling of all storage areas would be beneficial. It should contain a list of contents, emergency telephone numbers and how to treat the materials if involved in a fire. The permit to store toxics is not always effective. Regular fire inspections are being conducted, but can easily miss something.

11. West Sacramento

There is a potential problem because there are many facilities storing hazardous materials and they are hard to keep track of. The use of a warehouse can change and the department may not be aware of it. The department is conducting a survey to determine where and how much materials are being stored because regular inspections have not been adequate.

Most of the full-time firefighters have had basic training and over 50% of the volunteers have been trained.

12. City of Wheatland

The all-volunteer fire department has had few problems, but feel a potential for trouble exists because of the railroad and state highway that go through the middle of town. Volunteers tend to have less formal training in toxics, so the potential for injury may be higher than in other areas.

13. City of Isleton

With one paid firefighter and the rest volunteers, training has not been extensive. They feel pesticides pose the greatest danger; however, they do think there is a potential for other problems because of truck traffic.

14. Mather and McClellan Air Force Bases

Both bases have up-to-date Emergency Response Plans. Air Force personnel and civilian workers are trained in proper handling, containment, and response. Active anti-spill programs have been conducted.

Buildings are inspected and labeled on a regular basis in order to identify hazardous contents and warn emergency response personnel in case of an incident.

D. CONCLUSIONS

Local response to accidents and spills involving hazardous materials or waste has been effective to date, yet local officials involved in responding have concerns about areas needing improvement.

1. Identification - Quick and accurate identification of unmarked materials involved in spills is a problem, particularly during weekends and holidays.

2. Costs - At the present time there are serious concerns about who will pay for cleanup costs if the responsible party cannot be identified. Local Cities and Counties continue to be the prime candidate.

3. Training - Most fire fighters and law enforcement staff lack advanced training in hazardous and toxic materials. This causes responding personnel to be exposed to higher dangers.

E. DISCLOSURE ORDINANCES

As indicated earlier, quick identification of hazardous materials in emergency situations is vital to effective action. Some cities and counties have attempted to fill the identification gap associated with non-transportation associated incidents through the passage of disclosure ordinances. These ordinances require businesses located in the jurisdiction to report the existence of hazardous materials on an annual basis. Most disclosure ordinances use the business license procedure as a base and simply require additional information, but some supplement this information with on-site inspections.

The information gathered through this disclosure process is used by the jurisdiction to develop response plans. In some places, these response plans include the preparation of handbooks that are placed in fire engines to indicate the specific hazardous contents of buildings and the proper emergency actions for each building. Also required in some areas is the labeling of buildings to indicate hazardous contents and proper emergency response actions.

Sample disclosure ordinances and disclosure forms for the City of Santa Monica and the City of Vallejo follow.

GENERAL SERVICES 1-213-393-9925

REC'D NOV 16 1981

CA:RMM:r
City Council Meeting 10-27-81 Santa Monica, California

ORDINANCE NUMBER 1232

(City Council Series)

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SANTA MONICA ADDING TO ARTICLE V, CHAPTER 3, ENTITLED TOXIC CHEMICAL DISCLOSURE LAW

THE CITY COUNCIL OF THE CITY OF SANTA MONICA DOES ORDAIN AS FOLLOWS:

SECTION 1. Chapter 3 is hereby added to Article V of the Santa Monica Municipal Code to read as follows:

Chapter 3--Toxic Chemical Disclosure Law.

Section 5300. Findings and Purpose. The City Council finds and declares:

(a) The handling, storage, use, processing, and disposal of toxic chemicals, radioactive materials, and hazardous and extremely hazardous wastes may endanger the public health, safety, and welfare of the citizens of the City.

(b) Recent reports have established that the municipal water system of the City has been contaminated by trichloroethylene, a known carcinogen.

(c) Recent reports have indicated that the flood control channels running through the City have been used for illegal dumping, the source of which is often unknown, and that carcinogenic substances may be contaminating the Santa Monica Bay and its beaches.

(d) It is necessary for the protection of the citizens of the City that persons and entities that handle, store, use, process, or dispose of toxic chemicals, radioactive materials, and hazardous and extremely hazardous wastes in the City disclose the identity of those substances.

(e) Disclosure is necessary so that the City may respond quickly to any emergency created by the handling, storage, use, processing, or disposal of toxic chemicals,

radioactive materials, and hazardous and extremely hazardous wastes; so that the source of such chemicals, materials, and wastes may be identified quickly in the event of such an emergency; and so that the City may acquire information on the location of persons and entities using such chemicals, materials, or wastes.

(f) It is not the intent of this Chapter to regulate the handling, storage, use, processing or disposal of toxic chemicals, radioactive materials, and hazardous and extremely hazardous wastes. This Chapter is adopted solely for the purpose of public disclosure.

Section 5301. Definition of Toxic Chemicals, Radioactive Materials, and Hazardous and Extremely Hazardous Wastes. For purposes of this Chapter, toxic chemicals and hazardous and extremely hazardous wastes are those substances set forth

in Sections 66680 and 66685 of Title 22 of the California Administrative Code or in the List of Priority Organic Pollutants maintained and updated by the United States Environmental Protection Agency. For the purposes of this Chapter, radioactive materials are those materials set forth in Chapter 1, Title 10, Energy, Appendix B, maintained and updated by the Nuclear Regulatory Commission. The Director of General Services shall maintain and update a list of such chemicals, materials, and wastes and shall distribute the list with the Toxic Chemical Disclosure Form.

Section 5302. Disclosure.

(a) The following holders of a license issued under Article VI of this Code shall be required to complete and file a Toxic Chemical Disclosure Form in the manner required by this Chapter:

(1) A licensee for a business located in the M-1 Limited Industrial District or in the M-2 General

Industrial District.

(2) A licensee for a business located in any district engaged in vehicle painting, rebuilding, reconditioning, body and fender work, repairing and overhauling, battery manufacturing, and the like.

(3) A licensee for a business located in any district engaged in laundry, dry cleaning, dyeing works, or carpet and rug cleaning.

(4) A licensee for a business located in any district engaged in photo processing.

(5) A licensee for a business located in any district engaged in metal or plastic cutting or forming.

(6) A licensee for a business in any district engaged in printing, lithographing, or similar processes.

(7) A licensee for a business in any district engaged in pest or weed control or abatement.

(8) A licensee for a business in any district engaged in a medical, dental, or chemical laboratory.

(9) A license for a business in any district engaged in furniture refurbishing.

(b) The Toxic Chemical Disclosure Form shall be adopted and from time to time amended or revised by resolution of the City Council following public hearing. The Toxic Chemical Disclosure Form shall require the disclosure of toxic chemicals, radioactive materials, and hazardous and extremely hazardous wastes handled, stored, used, processed or disposed of in the City and shall require the disclosure of such substances disposed of through the municipal sewer system or the flood control channels maintained by the Los Angeles County Flood Control District.

(c) Every person required to disclose under subdivision (a) of this section shall complete and file a Toxic Chemical Disclosure Form within 90 days of the date of adoption of this Chapter. Within 45 days of the date of adoption of this Chapter, the Director of General Services shall mail a Toxic Chemical Disclosure Form to every licensee required to

disclose under this section. Thereafter, such licensees shall complete a Toxic Chemical Disclosure Form in the manner required by subdivision (d) of this section.

(d) No license issued pursuant to Article VI of this Code shall be renewed unless a Toxic Chemical Disclosure Form is completed by any person required to file such a form under this section. The Toxic Chemical Disclosure Form shall be mailed with the Business Tax Renewal Notice and shall be completed and filed with the City on or before September 1 of each year.

(e) Prior to the issuance of any business license pursuant to Article VI of this Code for any business described in subdivision (a) of this section, a Toxic Chemical Disclosure Form shall be completed and filed with the City.

(f) When one or more substances requiring disclosure are mixed with other substances and packaged under a product name, the

product name may be disclosed instead of disclosing each substance contained therein. If the Director of General Services requests a sample of such product for purposes of analysis and such request is refused, the person making disclosure shall be required to complete and file an amended Toxic Chemical Disclosure Form within 10 days of such refusal identifying each substance subject to disclosure making up such product.

(g) Any person filing a Toxic Chemical Disclosure Form shall amend the form within 30 days of the date that the person handles, stores, uses, processes or disposes of any substance not previously disclosed.

Section 5303. Exemptions from Disclosure.

(a) No person shall be required to disclose any substance specified in Section 5301 contained in food, drug, cosmetic or tobacco products or in consumer products packaged for retail distribution to,

and use by, the general public. This subdivision does not apply to any person engaged in the manufacturing of any such product.

(b) No person engaged in retail business shall be required to disclose any substance specified in Section 5301 that is contained in food, drug, cosmetic or tobacco products or in consumer products packaged for distribution to and use by the general public, unless the product is repackaged or altered in any way by said business.

Section 5304. Disclosure by Persons or Entities Not Covered by Business Licenses. The City, hospital, utilities, and private schools that operate within the City shall complete a Toxic Chemical Disclosure Form on or before the 31st day of December of each year.

Section 5305. Public Records. Any person may inspect and copy any Toxic Chemical Disclosure Form filed pursuant to this Chapter.

Section 5306. Fee. The fee for filing a Toxic Chemical Disclosure Form shall be $ 5.00 unless revised from time to time by resolution of the City Council following public hearing.

Section 5307. Enforcement. The Director of General Services shall implement and administer this Chapter and shall institute a system of audits and spot-checks meeting legal entry requirements to ensure compliance.

SECTION 2. Any provision of the Santa Monica Municipal Code or appendices thereto inconsistent with the provisions of this ordinance, to the extent of such inconsistencies and no further, is hereby repealed or modified to that extent necessary to affect the provisions of this ordinance.

SECTION 3. If any section, subsection, sentence, clause, or phrase of this ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of the ordinance. The City Council hereby declares that it would have passed this ordinance and each and every section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the ordinance would be subsequently declared invalid or unconstitutional.

SECTION 4. The Mayor shall sign and the City Clerk shall attest to the passage of this ordinance. The City Clerk shall cause the same to be published once in the official newspaper within 15 days after its adoption. The ordinance shall become effective 30 days from its adoption.

APPROVED AS TO FORM:

ROBERT M. MYERS
City Attorney

ADOPTED AND APPROVED THIS 3rd DAY

OF November, 1981.

MAYOR

I HEREBY CERTIFY THAT THE FOREGOING ORDINANCE, NO. 1232, WAS DULY AND REGULARLY INTRODUCED AT A MEETING OF THE CITY COUNCIL ON THE 22nd DAY OF September, 1981; THAT THE SAID ORDINANCE WAS THEREAFTER DULY ADOPTED AT A MEETING OF THE CITY COUNCIL ON THE 3rd DAY OF November 1981 BY THE FOLLOWING COUNCIL VOTE:

AYES:	COUNCILMEMBERS:	Conn, Edwards, Jennings, Press, Zane, Mayor Yannatta Goldway
NOES:	COUNCILMEMBERS:	None
ABSENT:	COUNCILMEMBERS:	Reed
ABSTAIN:	COUNCILMEMBERS:	None

ATTEST:

CITY CLERK

REC'D DEC 2 4 1981

INSTRUCTIONS FOR COMPLETING THE TOXIC CHEMICAL DISCLOSURE FORM

and

LIST OF TOXIC CHEMICALS, RADIOACTIVE MATERIALS AND HAZARDOUS AND EXTREMELY HAZARDOUS WASTES

CITY OF
SANTA MONICA
CALIFORNIA

OFFICE OF THE DIRECTOR OF GENERAL SERVICES
1685 MAIN STREET, 393-9975
SANTA MONICA, CALIF. 90401

To Whom It May Concern:

Enclosed you will find the newly adopted Toxic Chemical Disclosure Form. Please review the attached instructions to determine whether your business is required to disclose information under the Toxic Chemical Disclosure Law as adopted by the Santa Monica City Council on November 3, 1981. The fact that you have received this does not necessarily mean that you are required to disclose information regarding chemicals. If you think you may have received this in error please call the number listed below.

The Toxic Chemical Disclosure Law is not intended to restrict the use of chemicals which you need to conduct your business. It was adopted to provide information to the City of Santa Monica and its citizens as well as to the Santa Monica Fire Department so that they can better respond to an emergency. Disclosure by businesses will aid the City in preparing a better inspection plan for the health and safety of all who live in and visit Santa Monica.

The form was designed in the hopes that it will prove simple and straightforward to the business owner. The City staff sought and received the input of several representatives of industrial users of chemicals in the City in preparing the forms. However, if you should have any questions concerning the form, please call Marsha Hafkemeyer, at 393-9975, extension 221.

Very truly yours,

Stanley E. Scholl
Director of General Services

TOXIC CHEMICAL DISCLOSURE FORM

PART A. General Information. (Please Type or Print)

1. Business Name: _____

2. Contact Person: _____

3. Site Address: _____

4. Mailing Address: _____

5. Business License Number: _____

6. Category of Business: (Check one or more applicable categories)

_____ Located in M-1 Limited Industrial District.
_____ Located in M-2 General Industrial District.
_____ Engaged in vehicle painting, rebuilding, reconditioning, body and fender work, repairing and overhauling, battery manufacturing, and the like.
_____ Engaged in laundry, dry cleaning, dye works, or carpet and rug cleaning.
_____ Engaged in photo processing.
_____ Engaged in metal or plastic cutting or forming.
_____ Engaged in printing, lithographing, or similar processes.
_____ Engaged in pest or weed control or abatement.
_____ Engaged in medical, dental or chemical laboratory.
_____ Engaged in furniture refurbishing.

7. Description of Business.

PART B. Statement of Disclosure.

Please check one.

_____ No toxic chemicals to disclose. Proceed to Part E.

_____ Individual toxic chemical and/or product names to disclose. Proceed to Part C and/or Part D.

Business Name: _____

PART C. Identity of Toxic Chemicals by Chemical Name. (Please type or print.)

TOXIC CHEMICAL DESCRIPTION BY CHEMICAL NAME	DIS-POSAL	QUAN-ITY	STORAGE

LEGENDS:

DISPOSAL: Yes, if disposed through City sewer system or County storm drain system.
No, if disposed through other methods.

QUANTITY:
A = Less than 1 gallon
B = 1 - 10 gallons
C = 10 - 100 gallons
D = More than 100 gallons

STORAGE:
A = Container on Shelf
B = Fixed storage tank
C = Drums or barrels
Other: Please identify

Business Name: _____

PART D. Identity of Toxic Chemicals by Product Name. (Please type or print.)

PRODUCT NAME	MANUFACTURER	DIS-POSAL	QUAN-ITY	STORAGE

LEGENDS:

DISPOSAL: Yes, if disposed through City sewer system or County storm drain system.
No, if disposed through other methods.

QUANTITY:
A = Less than 1 gallon
B = 1 - 10 gallons
C = 10 - 100 gallons
D = More than 100 gallons

STORAGE:
A = Container on Shelf
B = Fixed storage tank
C = Drums or barrels
Other: Please identify

PART E. Signature.

I certify that the above information is true and correct to the best of my knowledge.

Signature

Name (Please type or print)

Title

RETURN FORM ALONG WITH $5.00 FEE TO:

Toxic Chemical Coordinator
General Services Department
1685 Main Street
Santa Monica, California 90401

TABLE OF CONTENTS

INSTRUCTIONS FOR COMPLETING TOXIC CHEMICAL DISCLOSURE FORM

I. INTRODUCTION.

On November 3, 1981, the City Council of the City of Santa Monica adopted a Toxic Chemical Disclosure Law. Certain businesses within the City of Santa Monica are required to complete a Toxic Chemical Disclosure Form on or before February 1, 1982, and thereafter at the time of business license renewal.

In adopting the Toxic Chemical Disclosure Law, the City Council was concerned about the lack of information that existed on the handling, use, processing, and disposal of toxic chemicals, radioactive materials, and hazardous and extremely hazardous wastes (collectively referred to as toxic chemicals) in the City of Santa Monica. In order to acquire better information on this subject, the City Council adopted the Toxic Chemical Disclosure Law to require certain businesses to annually complete the Toxic Chemical Disclosure Form.

The City Council has not required all businesses to fill out this form. Instead, it has identified certain categories of businesses and other entities that are likely to be handling, using, processing or disposing of toxic chemicals. The categories of businesses and entities required to complete the form are as follows:

1. Any business located in the M-1 Limited Industrial District or in the M-2 General Industrial District.
2. Any business engaged in vehicle painting, rebuilding, reconditioning, body and fender work, repairing and overhauling, battery manufacturing, and the like.
3. Any business engaged in laundry, dry cleaning, dyeing works, or carpet and rug cleaning.
4. Any business engaged in photo processing.
5. Any business engaged in metal or plastic cutting or forming.
6. Any business engaged in printing, lithographing, or similar processes.
7. Any business engaged in pest or weed control or abatement.
8. Any business engaged in a medical, dental or chemical laboratory.
9. Any business engaged in furniture refurbishing.

(Disclosure requirements also exist for utilities, private schools, hospitals, and the City of Santa Monica. They must file a disclosure statement on or before December 31, 1981.)

If you fall within any category listed above, you must complete the Toxic Chemical Disclosure Form. Of course, the fact that you fall within one of these categories does not necessarily mean that you handle, use, process, or dispose of toxic chemicals. Nevertheless, you are required to complete the form so that the City knows that you have no chemicals to disclose.

As indicated above, businesses must complete the Toxic Chemical Disclosure Form on or before February 1, 1982. Thereafter, a form must be filed on an annual basis at the time of business license renewal. (No business license can be issued for any business subject to disclosure until the disclosure form is filed.)

The substances that you are required to disclose are set forth in the accompanying document entitled: List of Toxic Chemicals, Radioactive Materials, and Hazardous and Extremely Hazardous Wastes.

The City Council has exempted certain items from disclosure. Exemptions fall within two categories:

Category I Exemptions: You are not required to disclose any substance contained in food, drug, cosmetic or tobacco products or in consumer products packaged for retail distribution to, and use by, the general public. As you know, many of the products that one purchases for ordinary household use at supermarkets and other retail outlets may have some small quantity of toxic chemicals. This exemption ensures that you, like any other consumer, do not have to list the consumer products that you purchase from retail outlets. However, this exemption does not apply to any business engaged in the manufacturing of any such product.

Category II Exemptions: Retail businesses are not required to disclose any substances contained in food, drug, cosmetic or tobacco products or in consumer products packaged for distribution to and use by the general public, unless the product is repackaged or altered in any way by the business. This exemption ensures that retail outlets are not required to disclose their inventory of consumer products that they sell to consumers.

Unless the product is exempt, you are required to disclose any toxic chemical that you use.

Some businesses may not know the toxic chemicals that they use in their business. For example, you may purchase X Brand Industrial Detergent for cleaning your plant but have no idea what is contained in this detergent. Under the Toxic Chemical Disclosure Law, you may meet your disclosure obligation by disclosing the complete description of the product. However, if you disclose in this fashion, the City may require you to give a sample of the substance so that the City may submit it to chemical analysis.

If you are in doubt concerning whether or not a product contains a substance subject to disclosure, you should disclose the product.

II. SPECIFIC INSTRUCTIONS.

Part A. General Information.

All businesses within the categories set forth above, whether or not you have any substance to disclose, are required to complete Part A.

1. **Business Name.** Identify the name under which the business is doing business in the City of Santa Monica.

2. **Contact Person.** Identify the name of the person whom the City should contact for any further information.

3. **Site Address.** Identify the site address of the business.

4. **Mailing Address.** Identify the mailing address of the business if different from the site address.

5. **Business License.** Identify the City of Santa Monica Business License number.

6. **Category of Business.** Check the category of business that you fall into. (Check as many categories as are applicable to your business.)

7. **Description of Business.** Briefly describe the nature of your business.

A separate disclosure form is required for each separate business location in the City of Santa Monica.

Part B. Statement of Disclosure.

In Part B, you should check one of two boxes.

If you have no chemicals to disclose, check the box so indicating and proceed to Part E of th

If you have chemicals to disclose, either individually or in products, check the box so indicating and proceed to complete Part C and/or Part D.

Part C. Identity of Toxic Chemicals By Chemical Name.

In Part C, you should identify the toxic chemicals that you use by chemical name if you know or can reasonably obtain the chemical name.

In the box marked DISPOSAL, indicate by stating yes or no if you dispose of the toxic chemical listed through the City sewer system or the County storm drain system.

In the box marked QUANTITY, insert the appropriate code as listed below to indicate the approximate amounts of the toxic chemicals that you anticipate maintaining at your place of business on a yearly basis:

A = Less than 1 gallon
B = 1 - 10 gallons
C = 10 - 100 gallons
D = More than 100 gallons

In the box marked STORAGE, insert the appropriate code as listed below to indicate how you store the toxic chemicals you maintain at your place of business:

A = Container on Shelf
B = Fixed storage tanks
C = Drums or barrels
Other: Please identify

Part D. Identity of Toxic Chemicals by Product Name.

In Part D, you should identify any products by product name if you believe that the product might contain a toxic chemical but do not know what the toxic chemicals are. If you have listed the toxic chemicals contained in a product in Part C, do not list that product in Part D.

See "Part C. Identity of Toxic Chemicals by Chemical Name", above, for the instructions on how to complete the boxes marked DISPOSAL, QUANTITY and STORAGE.

Part E. Signature

You should sign and date Part E of the form.

The completed form should be returned to the City of Santa Monica no later than February 1, 1982. You should mail or deliver the form addressed as follows:

Toxic Chemical Coordinator
General Services Department
1685 Main Street
Santa Monica, California 90401

A $5.00 filing fee must accompany the form. A form will not be filed unless accompanied by this fee.

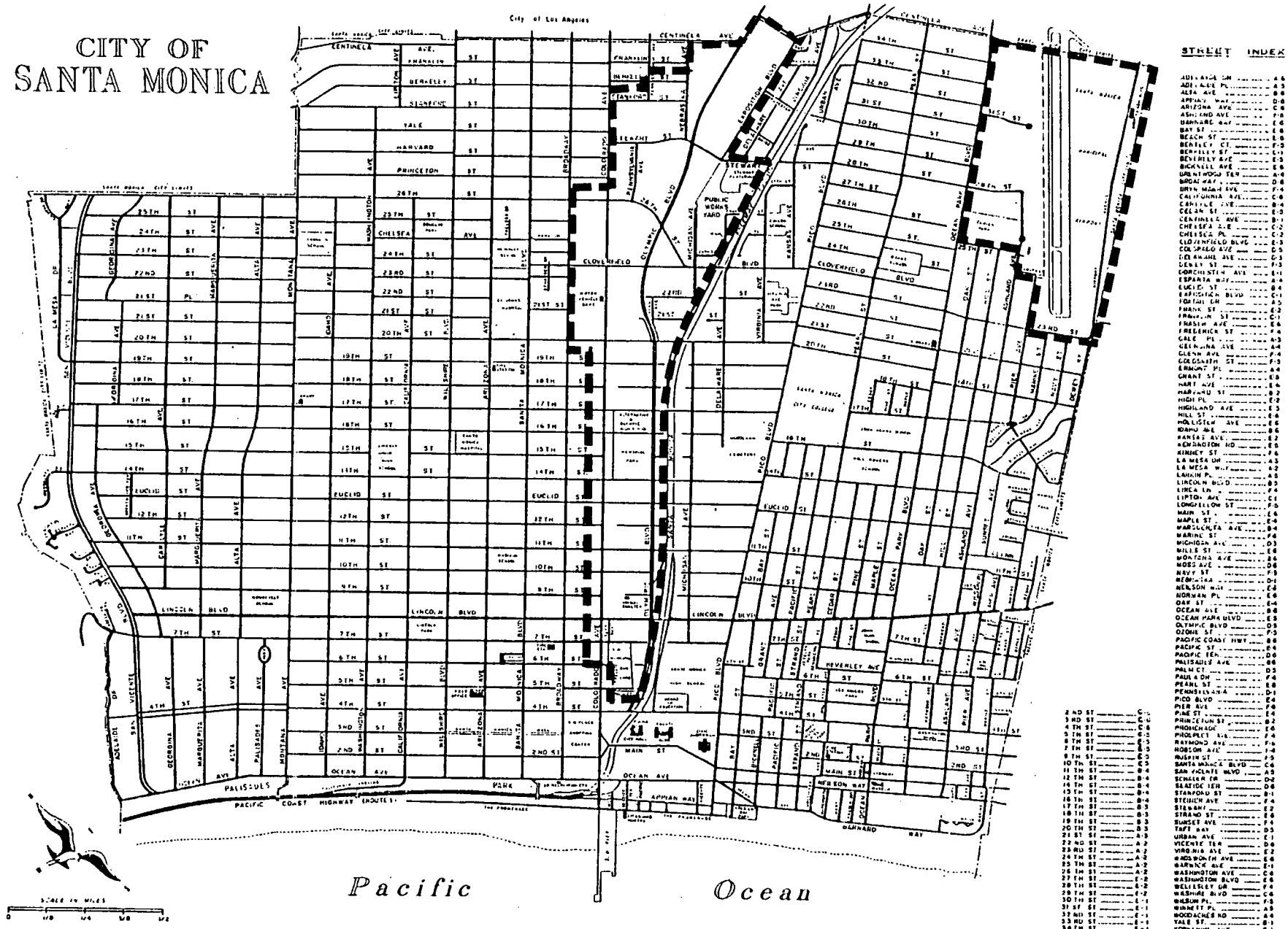
III. Amendment of Form.

You are required to file an amended Toxic Chemical Disclosure Form within 30 days of the date that you handle, use, store, process, or dispose of any toxic chemical not previously disclosed. You should contact the Department of General Services for an Amended Toxic Chemical Disclosure Form.

IV. Use of Forms.

The Toxic Chemical Disclosure Forms are designed to provide information to the City of Santa Monica and its citizens. The forms will be a public record open to inspection and copying by any citizen. A copy of each form will be made available to the Santa Monica Fire Department so that they can better respond to any emergency at your place of business.

If you have any questions concerning the form, please contact Marsha Hafkemeyer in the Department of General Services, 393-9975, extension 221. Every effort will be made in assisting you in completing this form.


CITY OF
SANTA MONICA
Pacific
Ocean
= Boundaries of the Industrial Zones

LIST OF TOXIC CHEMICALS, RADIOACTIVE MATERIALS, AND HAZARDOUS AND EXTREMELY HAZARDOUS WASTES PURSUANT TO SECTION 5301 OF THE TOXIC CHEMICAL DISCLOSURE LAW

I. SECTION 66680, TITLE 22, CALIFORNIA ADMINISTRATIVE CODE

A. CHEMICAL NAMES

1. Acetaldehyde (T,F)
2. Acetic acid (T,C)
3. Acetone, Propanone (T,F)
4. *Acetone cyanohydrin (T)
5. Acetonitrile (T,F)
6. *2-Acetylaminofluorene, 2-AAf (T)
7. Acetyl benzoyl peroxide (T,F,P)
8. Acetyl chloride (T,C,F)
9. Acetyl peroxide (T,F,P)
10. Acridine (T,C)
11. *Acrolein, Aqualin (T,I,F)
12. *Acrylonitrile (T,F)
13. *Adiponitrile (T)
14. *Aldrin; 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo-exodimethanonaphthalene (T)
15. Alkyl aluminum chloride (C,F,P)
16. Alkyl aluminum compounds (C,F,P)
17. Allyl alcohol, 2-Propen-1-ol (T,F)
18. Allyl bromide, 3-Bromopropene (T,I,F)
19. Allyl chloride, 3-Chloropropene (T,I,F)
20. Allyl chlorocarbonate, Allyl Chloroformate (T,I,F)
21. Allytrichlorosilane (T,C,F)
22. Aluminum (powder) (F)
23. Aluminum chloride (T,C)
24. Aluminum fluoride (T,C)
25. Aluminum nitrate (F)
26. *Aluminum phosphide, PHOSTOXIN (T,F)
27. *4-Aminodiphenyl, 4-ADP (T)
28. *2-Aminopyridine (T)
29. *Ammonium arsenate (T)
30. *Ammonium bifluoride (T,C)
31. Ammonium chromate (T,S,F)
32. Ammonium dichromate, Ammonium bichromate (T,C,S,F)
33. Ammonium fluoride (T,C)
34. Ammonium hydroxide (T,C)
35. Ammonium molybdate (T)
36. Ammonium nitrate (F,P)
37. Ammonium perchlorate (I,F,P)
38. Ammonium permanganate (T,F,P)
39. Ammonium persulfate (F,P)
40. Ammonium picrate (T,S,P)
41. Ammonium sulfide (T,C)
42. n-Amyl acetate, 1-Acetoxypentane (and isomers) (T,F)
43. n-Amylamine, 1-Aminopentane (and isomers) (T,I,F)
44. n-Amyl chloride, 1-Chloropentane (and isomers) (T,F)
45. n-Amyl mercaptan, 1-Pentanethiol (and isomers) (T,F)
46. n-Amylene, 1-Pentene (and isomers) (T,F)
47. n-Amyl nitrate, n-Pentyl nitrite (and isomers) (T,F)
48. Amyl trichlorosilane (and isomers) (T,C)
49. Aniline, Aminobenzene (T,S)
50. Anisoyl chloride (T,C)
51. Anthracene (T,I)
52. Antimony (T)
53. Antimony compounds (T)
54. Antimony pentachloride (T,C)
55. Antimony pentafluoride (T,C)
56. Antimony pentasulfide (T,F)
57. Antimony potassium tartrate (T)
58. Antimony sulfate, Antimony trisulfate (T,F)
59. Antimony trichloride, Antimony chloride (T,C)
60. Antimony trifluoride, Antimony fluoride (T,C)
61. Antimony trioxide, Antimony oxide (T)
62. Antimony trisulfide, Antimony sulfide (T,F,P)
63. *Arsenic (T)
64. *Arsenic acid and salts (T)
65. *Arsenic compounds (T)
66. *Arsenic pentaselenide (T)
67. *Arsenic pentoxide, Arsenic oxide (T)
68. *Arsenic sulfide, Arsenic disulfide (T)
69. *Arsenic tribromide, Arsenic bromide (T,I)
70. *Arsenic trichloride, Arsenic chloride (T,I)
71. *Arsenic triiodide, Arsenic iodide (T)
72. *Arsenic trioxide, Arsenious oxide (T)
73. *Arsenious acid and salts (T)
74. *Arsines (T)
75. Asbestos (including chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite) (T)
76. *AZODRIN, 3-Hydroxy-N-cis-crotonamide (T)
77. Barium (T,F)
78. Barium azide (T,P)
79. Barium bromide (T)
80. Barium carbonate (T)
81. Barium chlorate (T,C,F,P)
82. Barium chloride (T)
83. Barium chromate (T)
84. Barium citrate (T)
85. Barium compounds (soluble) (T)
86. *Barium cyanide (T)
87. Barium fluoride (T)
88. Barium fluosilicate (T)
89. Barium hydroxide (T)
90. Barium iodide (T)
91. Barium manganate (T)
92. Barium nitrate (T,F)
93. Barium oxide, Barium monoxide (T,I)
94. Barium perchlorate (T,F,P)
95. Barium permanganate (T,F,P)
96. Barium peroxide (T,F,P)
97. Barium phosphate (T)
98. Barium stearate (T)
99. Barium sulfide (T)
100. Barium sulfite (T)
101. Benzene (T,F)
102. Benzene hexachloride, BHC; 1,2,3,4,5,6-Hexachlorocyclohexane (T,I)
103. Benzenephosphorous dichloride (T,I)
104. Benzenesulfonic acid (T,C)
105. *Benzidine and salts (T)
106. *Benzotrifluoride, Trifluoromethylbenzene (T,F)
107. Benzoyl chloride (T,C)
108. Benzoyl peroxide, Dibenzoyl peroxide (T,F,P)
109. Benzyl bromide, alpha-Bromotoluene (T,C)
110. Benzyl chloride, alpha-Chlorotoluene (T,I)
111. Benzyl chlorocarbonate, Benzyl chloroformate (T,C)
112. *Beryllium (T,F)
113. *Beryllium chloride (T)
114. *Beryllium compounds (T)
115. *Beryllium copper (T)
116. *Beryllium fluoride (T)
117. *Beryllium hydride (T,C,F)
118. *Beryllium hydroxide (T)
119. *Beryllium oxide (T)
120. *BIDRIN, Dicrotophos, 3-(Dimethylamino)-1-methyl-3-oxo-1-propenyl dimethyl phosphate (T)
121. *bis (Chloromethyl) ether, Dichoromethylether, BCME(T)
122. Bismuth (T,F)
123. *bis (Methylmercuric) sulfate, CEREWET, Ceresan liquid (T)
124. Bismuth chromate (T,S)
125. *BOMYL, Dimethyl 3-hydroxyglutaconate dimethyl phosphate (T)
126. *Boranes (T,F)
127. *Bordeaux arsenites (T)
128. Boron trichloride (T,C)
129. Boron trifluoride (T,C)
130. Bromic acid (T,C)
131. *Bromine (T,C,F)
132. *Bomine pentafluoride (T,C,F)
133. *Bromine trifluoride (T,C,F)
134. *Brucine, Dimethoxystrychnine (T)
135. 1,2,4-Butanetriol trinitrate (P)
136. n-Butyl acetate, 1-Acetoxybutane (and isomers) (T,I,F)
137. n-Butyl alcohol, 1-Butanol (and isomers) (T,I,F)
138. n-Butyl amine, 1-Aminobutane (and isomers) (T,I,F)
139. n-Butyl formate (and isomers) (T,I,F)
140. tert-Butyl hydroperoxide, (and isomers) (T,F)
141. n-Butyllithium (and isomers) (T,C,F)
142. n-Butyl mercaptan, 1-Butanethiol (and isomers) (T,F)
143. tert-Butyl peroxyacetate, tert-Butyl peracetate (F)
144. tert-Butyl peroxybenzoate, tert-Butyl perbenzoate (F)
145. tert-Butyl peroxypivalate (F,P)
146. n-Butyltrichlorosilane (C,F)
147. para-tert-Butyl toluene (T)
148. n-Butyraldehyde, n-Butanal (and isomers) (T,F)
149. *Cacodylic acid, Dimethylarsinic acid (T)
150. Cadmium (powder) (T,F)
151. Cadmium chloride (T)
152. Cadmium compounds (T)
153. *Cadmium cyanide (T)
154. Cadmium fluoride (T)
155. Cadmium nitrate (T,F,P)
156. Cadmium oxide (T)
157. Cadmium phosphate (T)
158. Cadmium sulfate (T)
159. Calcium (F)
160. *Calcium arsenate, PENSAL (T)
161. *Calcium arsenite (T)

162. Calcium carbide (C,F)
163. Calcium chlorate (F)
164. Calcium chlorite (F)
165. Calcium fluoride (T,I)
166. Calcium hydride (C,F)
167. Calcium hydroxide, Hydrated lime (C)
168. Calcium hypochlorite, Calcium oxychloride (T,C,F)
169. Calcium molybdate (T)
170. Calcium nitrate, Lime nitrate, Nitrocalcite (F,P)
171. Calcium oxide, Lime, Slaked Lime (C)
172. Calcium permanganate (T,I,F)
173. Calcium peroxide, Calcium dioxide (C,F)
174. Calcium phosphide (T,F)
175. Calcium resinate (F)
176. Caprylyl peroxide, Octyl peroxide (F)
177. *Carbanolate, BANOL, 2-Chloro-4,5-dimethylphenyl methylcarbamate (T)
178. Carbon disulfide, Carbon bisulfide (T,F)
179. Carbon tetrachloride, Tetrachloromethane (T)
180. *Carbophenothion, TRITHION, S[(4-Chlorophenyl) thio]methyl] O, O-diethyl phosphorodithioate (T)
181. Choral hydrate, Trichloroacetaldehyde (hydrated) (T)
182. Chlordan; 1,2,4,5,6,7,8,8-Octachloro-4,7-methoano-3a,4,7,7a-tetrahydroindane (T)
183. *Chlorfenvinphos, Compound 4072, 2-Chloro-1-(2,4-dichlorophenyl) vinyl diethyl phosphate (T)
184. *Chlorine (T,C,F)
185. *Chlorine dioxide (T,C,F,P)
186. *Chlorine pentafluoride (T,C,F,P)
187. *Chlorine trifluoride (T,C,F,P)
188. *Chloroacetaldehyde (T,F)
189. *alpha-Chloroacetophenone, Phenyl chloromethyl ketone (T,I)
190. *Chloroacetyl chloride (T,C)
191. Chlorobenzene (T,F)
192. Para-Chlorobenzoyl peroxide (F,P)
193. *ortho-Chlorobenzylidene malonitrile, OCMB (T)
194. Chloroform, Trichloromethane (T)
195. *Chloropicrin, Chlorpicrin, Trichloronitromethane (T,I)
196. Chlorosulfonic acid (T,C,F)
197. Chloro-ortho-toluidine, 2-Amino-4-chlorotoluene (T,I)
198. Chromic acid, Chromium trioxide, Chromic anhydride (T,C,F,S)
199. Chromic chloride, Chromium trichloride (T,I,S)
200. Chromic fluoride, Chromium trifluoride (T,I,S)
201. Chromic hydroxide, Chromium hydroxide (T,I,S)
202. Chromic oxide, Chromium oxide (T,I,S)
203. Chromic sulfate, Chromium sulfate (T,I,S)
204. Chromium (IV) compounds, Hexavalent chromium compounds (T,C,F,S)
205. Chromyl chloride, Chlorochromic anhydride (T,C,F,S)
206. Cobalt (powder) (T,F)
207. Cobalt compounds (T)
208. Cobaltous bromide, Cobalt bromide (T)
209. Cobaltous chloride, Cobalt chloride (T)
210. Cobaltous nitrate, Cobalt nitrate (T,F)
211. Cobaltous resinate, Cobalt resinate (T,F)
212. Cobaltous sulfate, Cobalt sulfate (T)
213. Cocculus, Fishberry (T)
214. Collodion, Pyroxylin (nitrocellulose) in ether and alcohol (F)
215. *Copper acetoarsenite, Paris green (T)
216. Copper acetylide (T,P)
217. *Copper arsenate, Cupric arsenate (T)
218. *Copper arsenite, Cupric arsenite (T)
219. Copper chloride, Cupric chloride (T)
220. Copper chlorotetrazole (T,P)
221. Copper compounds (T)
222. *Copper cyanide, Cupric cyanide (T)
223. Copper nitrate, Cupric nitrate (T,F,P)
224. Copper sulfate, Cupric sulfate, Blue vitriol (T)
225. *Coroxon; ortho,ortho-Diethyl-ortho-(3-chloro-4-methylcoumarin-7-yl) phosphate (T)
226. *Coumafuryl, FUMARIN, 3-[1-(2-Furanyl)-3-oxobutyl]1-4-hydroxy-2H-1-benzopyran-2-one (T)
227. *Coumatetralyl, BAYER 25634, RACUMIN 57, 4-Hydroxy-3-(1,2,3,4-tetrahydro-1-naphthalenyl)-2H-1-benzopyran-2-one (T)
228. *Crimidine, CASTRIX, 2-Chloro-4-dimethylamino-6-methylpyrimidine (T)
229. *Crotonaldehyde, 2-Butenal (T,I,F)
230. Cumene, Isopropyl benzene (T)
231. Cumene hydroperoxide; alpha,alpha-Dimethylbenzyl hydroperoxide (T,F)
232. Cupriethylene diamine (T,I)
233. *Cyanide salts (T)
234. Cyanoacetic acid, Malonic nitrile (T,C)
235. *Cyanogen (T,F)
236. Cyanogen bromide, Bromine cyanide (T,I)
237. Cyanuric triazide (T,P)
238. Cycloheptane (T,F)
239. Cyclohexane (T,F)
240. Cyclohexanone peroxide (T,F)
241. Cyclohexenyltrichlorosilane (T,C)
242. *Cycloheximide, ACTIDIONE (T,I)
243. Cyclohexyltrichlorosilane (T,C)
244. Cyclopentane (T,F)
245. Cyclopentanol (F)
246. Cyclopentene (T,F)
247. DDT; 1,1,1-Trichloro-2,2-bis(chlorophenyl) ethane (T)
248. *DDVP, Dichlorvos, VAPONA, Dimethyl dichlorovinyl phosphate (T)
249. *Decaborane (T,F,P)
250. DECALIN, Decahydronaphthalene (T,I)
251. *Demeton, SYSTOX (T)
252. *Demeton-S-methyl sulfone, METAISOSYSTOX-SULFON, S-[2-(ethylsulfonyl) ethyl] O,O-dimethyl phosphorothinoate (T)
253. Diazodinitrophenol, DDNP, 2-Diazo-4,6-dinitrobenzene-1-oxide (T,P)
254. *Diborane, Diboron hexahydride (T,I,F)
255. 2,3-Dibromo-1-chloropropane, DBCP, FUMAZONE, NEMAGON (T,I)
256. n-Dibutyl ether, Butyl ether (and isomers) (T,F)
257. Dichlorobenzene (ortho, meta, para) (T,I)
258. *3,3-Dichlorobenzidine and salts, DCB (T)
259. 1,2-Dichloroethylene; 1,2-Dichloroethene (T,I,F)
260. Dichloroethyl ether, Dichloroether (T,I)
261. Dichloroisocyanuric acid, Dichloro-S-triazine-2,4,6-trione (T,F)
262. Dichloromethane, Methylene chloride (T,I)
263. 2,4-Dichlorophenoxyacetic acid; 2,4-D (T,I)
264. 1,2-Dichloropropane, Propylene dichloride (T,F)
265. 1,3-Dichloropropylene; 1,3-Dichloropropene (T,I,F)
266. Dicumyl peroxide (F)
267. Dieldrin; 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, exo-5,8-dimethanonaphthalene (T)
268. Diethylaluminum chloride, Aluminum diethyl monochloride, DEAC (F)
269. Diethylamine (T,I,F)
270. *Diethyl chlorovinyl phosphate, Compound 1836 (T)
271. Diethyldichlorosilane (T,C,F)
272. Diethylene glycol dinitrate (T,P)
273. Diethylene triamine (T,I,S)
274. *O,O-Diethyl-S-(isopropylthiomethyl) phosphorodithioate (T)
275. *Diethylzinc, Zinc ethyl (C,F)
276. Difluorophosphoric acid (T,C)
277. *Diglycidyl ether, bis(2,3-Epoxypropyl) ether (T,S)
278. Diisopropylbenzene hydroperoxide (T,F)
279. Diisopropyl peroxydicarbonate (T,C,F,P)
280. *Dimefox, HANANE, PEXTOX 14, Tetramethylphosphorodiamidic fluoride (T)
281. Dimethylamine, DMA (T,I,F)
282. *Dimethylaminoazobenzene, Methyl yellow (T)
283. Dimethyldichlorosilane, Dichlorodimethylsilane (T,C,F)
284. 2,5-Dimethylhexane-2,5-Dihydroperoxide (I,F)
285. *1,1-Dimethylhydrazine, UDMH (T,F)
286. *Dimethyl sulfate, Methyl sulfate (T)
287. *Dimethyl sulfide, Methyl sulfide (T,F)
288. 2,4-Dinitroaniline (T,I)
289. *Dinitrobenzene (ortho, meta, para) (T,I,P)
290. Dinitrochlorobenzene, 1-Chloro-2,4-dinitrobenzene (T,I,P)
291. *2,6-Dinitro-ortho-cresol, DNPC, SINOX, EGETOL 30 (T)
292. *Dinitrophenol(2,3-;2,4-;2,6-isomers) (T,P)
293. 2,4-Dinitrophenylhydrazine (T,F,P)
294. Dinitrotoluene (2,4-;3,4-;3,5-isomers) (T,F,P)
295. *DINOSEB; 2,4-Dinitro-6-sec-butylphenol (T)
296. 1,4-Dioxane; 1,4-Diethylene dioxide (T,F)
297. *Dioxathion, DELNAV;S,S-1,4-dioxane-2,3-diyl bis(O,O-diethyl phosphorodithioate) (T)
298. Dipentaerythritol hexanitrate (P)
299. *Diphenyl, Biphenyl, Phenylbenzene (T)
300. Diphenylamine, DPA, N-Phenylaniline (T)
301. *Diphenylamine chloroarsine, Phenarazine chloride (T,I)
302. Diphenyldichlorosilane (T,C)
303. Dipicrylamine, Hexanitrodiphenyl amine (T,P)
304. Dipropyl ether (T,F)
305. *Disulfoton, DI-SYSTON;O,O-Diethyl S-[2-(ethylthio) ethyl] phosphorodithioate (T)
306. Dodecyltrichlorosilane (T,C)
307. *DOWCO-139, ZECTRAN, Mexacarbate, 4-(Dimethylamino -3,5-dimethylphenyl methylcarbarnate (T)
308. *DOWICIDE 7, Pentachlorophenol,PCP (T)
309. *DYFONATE, Fonofos, O-Ethyl-S-phenylethyl phosphonodithioate (T)
310. *Endosulfan, THIODAN; 6,7,8,9,10,10-Hexachloro- 1,5,5a,6,9, 9a-hexahydro-6,9-methano-2,4,3-benzo-dioxathiepin-3-oxide (T)
311. *Endothal, 7-Oxabicyclo [2.2.1]heptane-2,3-dicarboxylic acid (T)
312. *Endothion, EXOTHION, S-[(5-Methoxy-4-oxo-4H-pyran-2-yl)-methyl] O,O-dimethyl phosphorothioate (T)
313. *Endrin; 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4,4a,5,6,7,8,8a-octahydro-1,4-endo-endo-5,8-dimethanonaphthalene (T)
314. Epichlorohydrin, Chloropropylene oxide (T,I,F)
315. *EPN; O-Ethyl O-para-nitrophenyl phenylphosphonothioate (T)
316. *Ethion, NIALATE;O,O,O',O'-Tetraethyl-S,S-methylenediphosphorodithioate (T)
317. Ethyl acetate (T,I,F)
318. Ethyl alcohol, Ethanol (T,F)
319. Ethylamine, Aminoethane (T,I,F)
320. Ethylbenzene, Phenylethane (T,I,F)
321. Ethyl butyrate, Ethyl butanoate (I,F)
322. Ethyl chloride, Chloroethane (T,I,F)
323. Ethyl chloroformate, Ethyl chlorocarbonate (T,C,F)

324. *Ethyldichloroarsine, Dichloroethylarsine (T,I)
325. Ethyldichlorosilane (T,C,F)
326. Ethylene cyanohydrin, beta-Hydroxypropionitrile (T)
327. Ethylene diamine (T,I,S)
328. Ethylene dibromide, 1,2-Dibromoethane (T,I)
329. *Ethylene dichloride, 1,2-Dichloroethane (T,I,F)
330. *Ethyleneimine, Aziridine, EI (T,F)
331. Ethylene oxide, Epoxyethane (T,I,F,P)
332. Ethyl ether, Diethyl ether (F,P)
333. Ethyl formate (T,I,F)
334. Ethyl mercaptan, Ethanethiol (T,F)
335. Ethyl nitrate (F,P)
336. Ethyl nitrite (F,P)
337. Ethylphenyldichlorosilane (T,C)
338. Ethyl propionate (I,F)
339. Ethyltrichlorosilane (T,I,F)
340. *Fensulfothion, BAYER 25141, DASANIT, O,O-Diethyl-O-[4-(methylsulfinyl) phenyl] phosphorothioate (T)
341. *Ferric arsenate (T,I)
342. Ferric chloride, Iron (111) chloride (T,C)
343. *Ferrous arsenate, Iron arsenate (T)
344. *Fluoboric acid, Fluoroboric acid (T,C)
345. Fluoride salts (T)
346. *Fluorine (T,C,F)
347. *Fluoroacetanilide, AFL 1082 (T)
348. *Fluoroacetic acid and salts, Compound 1080 (T)
349. *Fluorosulfonic acid, Fluosulfonic acid (T,C)
350. Formaldehyde, Methanal (T,F,S)
351. Formic acid, Methanoic acid (T,C)
352. Fulminate of mercury, Mercuric cyanate (T,P)
353. *FURADAN, NIA 10,242, Carbofuran; 2,3-Dihydro-2,2-dimethyl-7-benzofuranylmethylcarbamate (T)
354. Furan, Furfuran (T,F,P)
355. Gasoline (F)
356. *GB, O-Isopropyl methyl phosphoryl fluoride (T)
357. Glutaraldehyde (T,I,S)
358. Glycerolmonolactate trinitrate (P)
359. Glycol dinitrate, Ethylene glycol dinitrate (P)
360. Gold fulminate, Gold cyanate (P)
361. Guanidine nitrate (F,P)
362. Guanyl nitrosaminoguanylidene hydrazine (P)
363. Guthion; O,O-Dimethyl-S-4-oxo-1,2,3-benzotriazin-3(4H)-ylmethyl phosphorodithioate (T)
364. Hafnium (F)
365. Heptachlor; 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene (T)
366. n-Heptane (and isomers) (T,F)
367. 1-Heptene (and isomers) (T,F)
368. Hexadecyltrichlorosilane (T,C)
369. Hexaethyl tetraphosphate, HETP(T)
370. Hexafluorophosphoric acid (T,C)
371. Hexamethylenediamine; 1,6-Diaminohexane (T,I)
372. n-Hexane (and isomers) (T,F)
373. 1-Hexene (and isomers) (T,I,F)
374. n-Hexylamine, 1-Aminohexane (and isomers) (T,I,F)
375. Hexyltrichlorosilane (T,C)
376. *Hydrazine, Diamine (T,I,F)
377. Hydrazine azide (T,P)
378. Hydrazoic acid, Hydrogen azide (T,I,P)
379. Hydriodic acid, Hydrogen iodide (T,C)
380. Hydrobromic acid, Hydrogen bromide (T,C)
381. Hydrochloric acid, Hydrogen chloride, Muriatic Acid (T,C)
382. *Hydrocyanic acid, Hydrogen cyanide (T,F)
383. *Hydrofluoric acid, Hydrogen fluoride (T,C)
384. Hydrofluosilicic acid, Fluosilicic acid (T,C)
385. Hydrogen peroxide (T,C,F,P)
386. *Hydrogen selenide (T,I,F)
387. *Hydrogen sulfide (T,I,F)
388. Hypochlorite compounds (T,C,F)
389. Indium (T)
390. Indium compounds (T)
391. Iodine monochloride (T,C)
392. Isooctane; 2,2,4-Trimethylpentane (T,F)
393. Isooctene (mixture of isomers) (T,F)
394. Isopentane, 2-Methylbutane (T,F)
395. Isoprene, 2-Methyl-1,3-butadiene (T,I,F,P)
396. Isopropanol, Isopropyl alcohol, 2-Propanol (T,F)
397. Isopropyl acetate (T,F)
398. Isopropyl acetylene, 3-Methylbutyne (T,F)
399. Isopropylamine, 2-Aminopropane (T,I,F)
400. Isopropyl chloride, 2-Chloropropane (F)
401. Isopropyl ether, Diisopropyl ether (T,I,F)
402. Isopropyl mercaptan, 2-Propanethiol (T,I,F)
403. Isopropyl percarbonate, Diisopropyl peroxydicarborate (C,F)
404. *meta-Isopropylphenyl-N-methylcarbamate, Ac 5,727 (T)
405. Lauroyl peroxide, Di-n-dodecyl peroxide (T,C,F,P)
406. Lead compounds (T)
407. Lead acetate (T)
408. *Lead arsenate, Lead orthoarsenate (T)
409. *Lead arsenite (T)
410. Lead azide (T,P)
411. Lead carbonate (T)
412. Lead chlorite (T,P)
413. *Lead cyanide (T)
414. Lead 2,4-dinitroresorcinate (T,P)
415. Lead mononitroresorcinate (T,P)
416. Lead nitrate (T,F)
417. Lead oxide (T)
418. Lead styphnate, Lead trinitroresorcinate (T,P)
419. *Lewisite, beta-Chlorovinyldichloroarsine (T)
420. Lithium (C,F)
421. Lithium aluminum hydride, LAH (C,F,P)
422. Lithium amide (C,F,P)
423. Lithium ferrosilicon (F)
424. Lithium hydride (C,F,P)
425. Lithium hypochlorite (T,C,F)
426. Lithium peroxide (C,F,P)
427. Lithium silicon (F,P)
428. *London purple, Mixture of arsenic trioxide, aniline, lime, and ferus oxide (T)
429. Magnesium (F)
430. *Magnesium arsenate (T)
431. *Magnesium arsenite (T)
432. Magnesium chlorate (T,F)
433. Magnesium nitrate (F,P)
434. Magnesium perchlorate (T,F,P)
435. Magnesium peroxide, Magnesium dioxide (F)
436. *Maleic anhydride (T,I)
437. Manganese (powder) (F)
438. Manganese acetate (T)
439. *Manganese arsenate, Manganous arsenate (T)
440. Manganese bromide, Manganous bromide (T,I)
441. Manganese chloride, Manganous chloride (T,I)
442. Manganese methylcyclopentadienyl tricarbonyl (T)
443. Managanese nitrate, Manganous nitrate (T,F)
444. Mannitol hexanitrate, Nitromannite (P)
445. *MECARBAM;O,O-Diethyl S-(N-ethoxycarbonyl N-methylcarbamoylmethyl) phosphorodithioate (T)
446. *Medinoterb acetate, 2-tert-Butyl-5-methyl-4,6-dinitrophenyl acetate (T)
447. Memtetrahydrophthalic anhydride (T,C)
448. Mercuric acefate, Mercury acetate (T,I)
449. Mercuric ammonium chloride, Mercury ammonium chloride (T,I)
450. Mercuric benzoate, Mercury benzoate (T,I)
451. Mercuric bromide, Mercury bromide (T,I)
452. *Mercuric chloride, Mercury chloride (T,I)
453. *Mercuric cyanide, Mercury cyanide (T,I)
454. Mercuric iodide, Mercury iodide (T,I)
455. Mercuric nitrate, Mercury nitrate (T,F)
456. Mercuric oleate, Mercury oleate (T)
457. Mercuric oxide (red and yellow) (T,F)
458. Mercuric oxycyanide (T,P)
459. Mercuric-potassium iodide, Mayer's reagent (T)
460. Mercuric salicylate, Salicylated mercury (T)
461. Mercuric subsulfate, Mercuric dioxysulfate (T)
462. Mercuric sulfate, Mercury sulfate (T)
463. Mercuric thiocyanide, Mercury thiocyanate (T)
464. Mercurol, Mercury nucleate (T)
465. Mercurous bromide (T)
466. Mercurous gluconate (T)
467. Mercurous iodide (T)
468. Mercurous nitrate (T,P)
469. Mercurous oxide (T)
470. Mercurous sulfate, Mercury bisulfate (T)
471. para-Menthane hydroperoxide, Paramenthane hydroperoxide (I,F)
472. *Mercury (T)
473. Mercury compounds (T)
474. Metal carbonyls (T)
475. Metal hydrides (F,P)
476. Metal powders (T,F)
477. *Methomyl, LANNATE, S-Methyl-N-((methyl-carbamonyl) oxy) thioacetamidate (T)
478. *Methoxyethylmercuric chloride, AGALLOL, ARETAN (T)
479. Methyl acetate (T,F)
480. Methyl acetone (Mixture of acetone, methyl acetate, and methyl alcohol) (T,F)
481. Methyl alcohol, Methanol (T,F)
482. Methylaluminum Sesquibromide (F)
483. Methylaluminum sesquichloride (F)
484. Methylamine, Aminomethane (T,I,F)
485. N-Methylaniline (T)
486. *Methyl bromide, Bromomethane (T,I)
487. 2-Methyl-1-butene (F)
488. 3-Methyl-1-butene (F)
489. Methyl butyl ether (and isomers) (T,F)
490. Methyl butyrate (and isomers) (T,F)
491. Methyl chloride, Chloromethane (T,F)
492. Methyl chloroformate, Methyl chlorocarbonate (T,I,F)
493. *Methyl chloromethyl ether, CMME (T)
494. Methylcyclohexane (T,F)

495. *Methyldichloroarsine (T,I)
496. Methyldichlorosilane (T,I)
497. *4,4-Methylene bis(2-chloroaniline), MOCA (T)
498. Methyl ethyl ether (T,F)
499. Methyl ethyl ketone, 2-Butanone (T,F)
500. Methyl ethyl ketone peroxide (T,I,F)
501. Methyl formate (T,I,F)
502. *Methyl hydrazine, Monomethyl hydrazine, MMH (T,F)
503. *Methyl isocyanate (T,F)
504. Methyl isopropenyl ketone, 2-Methyl-4-butene-3-one (T,F)
505. Methylmagnesium bromide (C,F,P)
506. Methylmagnesium chloride (C,F,P)
507. Methylmagnesium iodide (C,F,P)
508. Methyl mercaptan, Methanethiol (T,I,F)
509. Methyl methacrylate (monomer) (T,F)
510. *Methyl parathion;O,O-Dimethyl-O-para-nitrophenylphosphorothioate (T)
511. Methyl propionate (F)
512. Methyltrichlorosilane (T,C,F)
513. Methyl valerate, Methyl pentanoate (and isomers) (F)
514. Methyl vinyl ketone, 3-Butene-2-one (T,I,F)
515. *Mevinphos, PHOSDRIN, 2-Carbomethoxy-1-methylvinyl dimethyl phosphate (T)
516. *MOCAP, O-Ethyl-S,S-dipropyl phosphorodithioate (T)
517. Molybdenum (powder) (F)
518. Molybdenum trioxide, Molybdenum anhydride (T,I)
519. Molybdic acid and salts (T)
520. Monochloroacetic acid, Chloracetic acid, MCA (T,C)
521. Monochloroacetone, Chloroacetone, 1-Chloro-2-propanone (T,I)
522. Monofluorophosphoric acid (T,C)
523. Naphtha (of petroleum or coal tar origin) (T,F)
524. Naphthalene (T,I,S)
525. *alpha-Naphthylamine, 1-NA (T)
526. *beta-Naphthylamine, 2-NA (T)
527. Neohexane; 2,2-Dimethylbutane (T,F)
528. Nickel (powder) (T,F)
529. Nickel acetate (T)
530. Nickel antimonide (T)
531. *Nickel arsenate, Nickelous arsenate (T)
532. *Nickel carbonyl, Nickel tetracarbonyl (T)
533. Nickel chloride, Nickelous chloride (T)
534. *Nickel cyanide (T)
535. Nickel nitrate, Nickelous nitrate (T,F,P)
536. Nickel selenide (T)
537. Nickel sulfate (T)
538. Nicotine, beta-pyridyl-alpha-N-methyl pyrrolidine (T)
539. Nicotine salts (T)
540. Nitric acid (T,C,F)
541. Nitroaniline, Nitraniline (ortho, meta, para) (T,P)
542. *Nitrobenzol, Nitrobenzene (T)
543. *4-Nitrobiphenyl, 4-NBP (T)
544. Nitro carbo nitrate (F,P)
545. Nitrocellulose, Cellulose nitrate, Guncotton, Pyroxylin (F,P)
546. Nitrochlorobenzene, Chloronitrobenzene (ortho,meta,para) (T)
547. Nitrogen mustard (T,C,I)
548. Nitrogen tetroxide, Nitrogen dioxide (T,F)
549. Nitroglycerin, Trinitroglycerin (T,F,P)
550. Nitrohydrochloric acid, Aqua regia (T,C,F)
551. *Nitrophenol (ortho, meta, para) (T)
552. *N-Nitrosodimethylamine, Dimethyl nitrosoamine (T)
553. Nitrosoguanidine (P)
554. Nitrostarch, Starch nitrate (F,P)
555. Nitroxylol, Nitroxylene, Dimethylnitrobenzene (2,4-;3,4-;2,5-isomers) (T)
556. 1-Nonene, 1-Nonylene (and isomers) (T,F)
557. Nonyltrichlorosilane (T,I)
558. Octadecyltrichlorosilane (T,I)
559. n-Octane (and isomers) (T,F)
560. 1-Octene, 1-Caprylene (T,F)
561. Octyltrichlorosilane (T,I)
562. Oil of bergamot (S)
563. Oleum, Fuming sulfuric acid (T,C)
564. Orris root (S)
565. Osmium compounds (T)
566. Oxalic acid (T,I)
567. *Oxygen difluoride (T,C,P)
568. *Para-oxon, MINTACOL;O,O-Diethyl-O-para-nitrophenyl phosphate (T)
569. *Parathion; O,O-Diethyl-O-para-nitrophenyl phosphorothioate (T)
570. Pentaborane (T,I,F)
571. Pentaerythrite tetranitrate, Pentaerythritol tetranitrate (P)
572. n-Pentane (and isomers) (T,F)
573. 2-Pentanone, Methyl propyl ketone (and isomers) (T,F)
574. Peracetic acid, Peroxyacetic acid (T,C,F,P)
575. Perchloric acid (T,C,F,P)
576. Perchloroethylene, Tetrachloroethylene (T,I)
577. *Perchloromethyl mercaptan, Trichloromethylsulfenyl chloride (T,I)
578. Perchloryl fluoride (T,C,F)
579. Petroleum ether, Petroleum naphtha (T,F)
580. Phenol, Carbolic acid (T,C)
581. *Phenyldichloroarsine (T,I)
582. Phenylenediamine, Diaminobenzene (ortho,meta,para) (T,I,S)
583. Phenylhydrazine hydrochloride (T)
584. *Phenylphenol, Orthozenol, DOWICIDE 1 (T)
585. Phenyltrichorosilane (T,C)
586. *Phorate, THIMET; O,O-Diethyl-S-[(Ethylthio) methyl] phosphorodithioate (T)
587. *Phosfolan, CYOLAN, 2-(Diethoxyphosphinylimino)-1,3-dithiolane (T)
588. *Phosgene, Carbonyl chloride (T,I)
589. *Phosphamidon, DIMECRON, 2-Chloro-2-diethylcarbamoyl-1-methylvinyl dimethyl phosphate (T)
590. *Phosphine, Hydrogen phosphide (T,I)
591. Phosphoric acid (C)
592. Phosphoric anhydride, Phosphorus pentoxide (C,F)
593. Phosphorus (amorphous, red) (T,F,P)
594. *Phosphorus (white or yellow) (T,F,P)
595. Phosphorus oxygromide, Phosphoryl bromide (T,C)
596. *Phosphorus oxychloride, Phosphoryl chloride (T,C)
597. *Phosphorus pentachloride, Phosphoric chloride (T,C,F,P)
598. Phosphorus pentasulfide, Phosphoric sulfide (T,C,F,P)
599. Phosphorus sesquisulfide, Tetraphosphorus trisulfide (T,C,F)
600. Phosphorus tribromide (T,C,P)
601. *Phosphorus trichloride (T,C,P)
602. Picramide, Trinitroaniline (T,P)
603. Picric acid, Trinitrophenol (T,P)
604. Picryl chloride, 2-Chloro-1,3,5-trinitrobenzene (T,P)
605. *Platinum compounds (T)
606. *Polychlorinated biphenyls, PCB, Askarel, AROCLOR, CHLOREXTOL, INERTEEN, PYRANOL (T,I)
607. Polyvinyl nitrate (F,P)
608. POTASAN; O,O-Diethyl-O-(4-methylumbelliferone) phosphorothioate (T)
609. Potassium (C,F,P)
610. *Potassium arsenate (T,I)
611. *Potassium arsenite (T,I)
612. *Potassium bifluoride, Potassium acid fluoride (T,C)
613. Potassium binoxalate, Potassium acid oxalate (T,I)
614. Potassium bromate (T,I,F)
615. *Potassium cyanide (T)
616. Potassium dichloroisocyanurate (T,I,F)
617. Potassium dichromate, Potassium bichromate (T,C,S,F)
618. Potassium dinitrobenzfuroxan (T,P)
619. Potassium fluoride (T,I)
620. Potassium hydride (C,F,P)
621. Potassium hydroxide, Caustic potash (T,C)
622. Potassium nitrate, Saltpeter (F,P)
623. Potassium nitrite (F,P)
624. Potassium oxalate (T,I)
625. Potassium perchlorate (T,I,F,P)
626. Potassium permanganate (T,C,F)
627. Potassium peroxide (C,F,P)
628. Potassium sulfide (T,F)
629. *Propargyl bromide, 3-Bromo-1-propyne (T,I,F)
630. *beta-Propiolactone, BPL (T,I)
631. Propionaldehyde, Propanal (T,I,F)
632. Propionic acid, Propanoic acid (T,C)
633. n-Propyl acetate (T,F)
634. n-Propyl alcohol, 1-Propanol (T,F)
635. n-Propylamine (and isomers) (T,I,F)
636. Propyleneimine, 2-Methylaziridine (T,F)
637. Propylene oxide (T,I,F)
638. n-Propyl formate (T,F)
639. n-Propyl mercaptan, 1-Propanethiol (T,F)
640. n-Propyltrichlorosilane (T,C,F)
641. *Prothoate, FOSTION, FAC; O,O-Diethyl-S-carboethoxyethyl phosphorodithioate (T)
642. Pyridine (T,F)
643. Pyrosulfuryl chloride, Disulfuryl chloride (T,C,P)
644. *Quinone; 1,4-Benzoquinone (T,I)
645. Raney nickel (F)
646. *Schradan, Octamethyl pyrophosphoramide, OMPA (T)
647. Selenium (T)
648. *Selenium fluoride (T)
649. *Selenous acid, Selenious acid and salts (T)
650. Silicon tetrachloride, Silicon chloride (T,C)
651 Silver acetylide (T,P)
652. Silver azide (T,P)
653. Silver compounds (T)
654. Silver nitrate (T,I)
655. Silver styphnate, Silver trinitroresorcinate (T,P)
656. Silver tetrazene (T,P)
657. Sodium (C,F,P)
658. Sodium aluminate (C)
659. Sodium aluminum hydride (C,F,P)
660. Sodium amide, Sodamide (C,F)
661. *Sodium arsenate (T)
662. *Sodium arsenite (T)
663. Sodium azide (T,P)
664. *Sodium bifluoride, Sodium acid fluoride (T,C)
665. Sodium bromate (T,I,F)
666. *Sodium cacodylate, Sodium dimethylarsenate (T)

667. Sodium carbonate peroxide (I,F)
668. Sodium chlorate (T,I,F)
669. Sodium chlorite (T,I,F)
670. Sodium chromate (T,C,S)
671. *Sodium cyanide (T)
672. Sodium dichloroisocyanurate (I,F)
673. Sodium dichromate, Sodium bichromate (T,C,S,F)
674. Sodium fluoride (T,I)
675. Sodium hydride (T,C,F,P)
676. Sodium hydrosulfite, Sodium hyposulfite (F)
677. Sodium hydroxide, Caustic soda, Lye (T,C)
678. Sodium hypochlorite (T,I,F)
679. Sodium methylate, Sodium methoxide (C,F)
680. Sodium molybdate (T,I)
681. Sodium nitrate, Soda niter (T,F,P)
682. Sodium nitrite (T,F,P)
683. Sodium oxide, Sodium monoxide (T,C)
684. Sodium perchlorate (T,I,F,P)
685. Sodium permanganate (T,I,F)
686. Sodium peroxide (T,I,F,P)
687. Sodium picramate (T,I,F,P)
688. Sodium potassium alloy, Nak,Nack (C,F,P)
689. *Sodium selenate (T)
690. Sodium sulfide (and Sodium hydrosulfide) (T,I,F)
691. Sodium thiocyanate, Sodium sulfocyanate (T)
692. Stannic chloride, Tin tetrachloride (T,C)
693. *Strontium arsenate (T)
694. Strontium nitrate (T,F,P)
695. Strontium peroxide, Strontium dioxide (I,F,P)
696. *Strychnine and salts (T)
697. Styrene, Vinylbenzene (T,F)
698. Succinic acid peroxide (T,I,F)
699. Sulfide salts (soluble) (T)
700. *Sulfotepp, DITHIONE, BALDAFUM, Tetraethyl dithiopyrophosphate (T)
701. Sulfur chloride, Sulfur monochloride (T,C,P)
702. Sulfur mustard (T,C)
703. *Sulfur pentafluoride (T,C)
704. Sulfur trioxide, Sulfuric anhydride (T,C,F)
705. Sulfuric acid, Oil of vitriol, Battery acid (T,C)
706. Sulfurous acid (T,C)
707. Sulfuryl chloride, Sulfonyl chloride (T,C)
708. Sulfuryl fluoride, Sulfonyl fluoride (T,C)
709. *SUPRACIDE, ULTRACIDE, S-[(5-Methoxy-2-oxo-1,3,4-thiadiazol-3(2H)-yl) methyl] -O,O-dimethyl phosphorodithioate (T)
710. *SURECIDE, Cyanophenphos, O-para-Cyanophenyl-O-ethyl phenyl phosphonothioate (T)
711. *Tellurium hexafluoride (T,C)
712. *TELODRIN, Isobenzan; 1,3,4,5,6,7,8,8-Octachloro-1,3,3a,4,7,7a-hexahydro-4,7-methanoisobenzofuran (T)
713. *TEMIK, Aldicarb, 2-Methyl-2(methylthio) propionaldehyde-O-(methylcarbamoyl) oxime (T)
714. *2,3,7,8-Tetrachlorodibenzo-para-dioxin, TCDD, Dioxin (T)
715. sym-Tetrachloroethane (T)
716. *Tetraethyl dithionopyrophosphate, TEDP (T)
717. *Tetraethyl lead, TEL (and other organic lead) (T,F)
718. *Tetraethyl pyrophosphate, TEPP (T)
719. Tetrahydrofuran, THF (T,I,F)
720. TETRALIN, Tetrahydronaphthalene (T,I)
721. Tetramethyl lead, TML (T,F)
722. *Tetramethyl succinonitrile (T)
723. *Tetranitromethane (T,F,P)
724. *Tetrasul, ANIMERT V-101, S-para-Chlorophenyl-2,4,5-trichlorophenyl sulfide (T)
725. Tetrazene, 4-Amidino-1-(nitrosamino-amidino)-1-tetrazene (T,P)
726. Thallium (T)
727. *Thallium compounds (T)
728. *Thallous sulfate, Thallium sulfate, RATOX (T)
729. Thiocarbonychloride, Thiophosgene (T,C)
730. *Thionazin, ZINOPHOS; O,O-Tetramethylthiuram monosulfide (T)
731. Thionyl chloride, Sulfur oxychloride (T,C)
732. Thiophosphoryl chloride (T,C)
733. Thorium (powder) (F)
734. Tin compounds (organic) (T)
735. Titanium (powder) (F)
736. Titanium sulfate (T,I)
737. Titanium tetrachloride, Titanic chloride (T,C)
738. Toluene, Methylbenzene (T,F)
739. *Toluene-2,4-diisocyanate, TDI (T,I,S,P)
740. Toluidine, Aminotoluene (ortho,meta,para) (T)
741. *TRANID, exo-3-Chloro-endo-6-cyano-2-norbornanone-O-(methylcarbamoyl) oxime (T)
742. Trichloroborane (T,F)
743. 1,1,2-Trichloroethane (T,I)
744. Trichloroethylene; 1,1,2-Trichlorethene (T,F)
745. Trichloroisocyanuric acid (T,I,F)
746. 2,4,5-Trichlorophenoxyacetic acid; 2,4,5-T (T)
747. Trichlorosilane, Silicochloroform (T,C,F)
748. Trimethylamine, TMA (T,I,F)
749. Trinitroanisole; 2,4,6-Trinitrophenyl methyl ether (T,P)
750. 1,3,5-Trinitrobenzene, TNB (T,P)
751. 2,4,6-Trinitrobenzoic acid (T,P)
752. Trinitronaphthalene, Naphtite (T,P)
753. 2,4,6-Trinitroresorcinol, Styphnic acid (T,P)
754. 2,4,6-Trinitrotoluene, TNT (T,F,P)
755. *tris(1-Aziridinyl) phosphine oxide, Triethylenephosphoramide, TEPA (T,I)
756. Tungstic acid and salts (T)
757. Turpentine (T,F)
758. Uranyl nitrate, Uranium nitrate (T,F,P)
759. Urea nitrate (T,F,P)
760. n-Valeraldehyde, n-Pentanal (and isomers) (T,F)
761. Vanadic acid salts (T)
762. Vanadium oxytrichloride (T,C)
763. Vanadium pentoxide, Vanadic acid anhydride (T,I)
764. Vanadium tetrachloride (T,C)
765. Vanadium tetraoxide (T,I)
766. Vanadium trioxide, Vanadium sesquioxide (T,I)
767. Vanadyl sulfate, Vanadium sulfate (T,I)
768. Vinyl acetate (F)
769. *Vinyl chloride (T,I,F)
770. Vinyl ethyl-ether (F)
771. Vinyl isopropyl ether (F)
772. Vinylidene chloride, VC (T,F)
773. Vinyltrichlorosilane (T,C,F)
774. VX, O-Ethyl methyl phosphoryl N,N-diisopropyl thiocholine (T)
775. *WEPSYN 155, WP 155, Triamiphos, para-(5-Amino-3-phenyl-1H-1,2,4-triazol-1-yl)-N,N,N',N'-tetramethyl phosphonic diamide (T)
776. Xylene, Dimethylbenzene (ortho,meta,para) (T,F)
777. Zinc (powder) (F)
778. Zinc ammonium nitrate (T,F)
779. *Zinc arsenate (T)
780. *Zinc arsenite (T)
781. Zinc chloride (T,C)
782. Zinc compounds (T)
783. *Zinc cyanide (T)
784. Zinc nitrate (T,F,P)
785. Zinc permanganate (T,I,F)
786. Zinc peroxide, Zinc dioxide (T,F,P)
787. *Zinc phosphide (T,F)
788. Zinc sulfate (T,I)
789. Zirconium (powder) (F)
790. Zirconium chloride, Zirconium tetrachloride (T,C)
791. Zirconium picramate (F)

B. COMMON NAMES

Acetylene sludge (C,I)
Acid and water (C,I)
Acid sludge (C,I)
AFU Floc (T)
Alkaline caustic liquids (C,I)
Alkaline cleaner (C,I)
Alkaline corrosive battery fluid (C,I)
Alkaline corrosive liquids (C,I)
Asbestos waste (T)
Ashes (T,C,I)
Bag house wastes*
Battery acid (C,I)
Beryllium waste (T)
Bilge water (T)
Boiler cleaning waste (T,C,I)
Bunker Oil (T,F)
Catalyst*
Caustic sludge (C,I)
Caustic wastewater (C,I)
Chemical cleaners*
Chemical toilet waste*
Cleaning solvents (F)
Corrosion inhibitor (T,C,I)
Data processing fluid (F,I)
Drilling fluids*
Drilling mud*
Dyes*
Etching acid liquid or solvent (C,I,F)
Fly ash (T,C,I)
Fuel waste (T,F)
Insecticides (T)
Laboratory waste*
Lime and sulfur sludge (C,I)
Lime and water (C,I)
Lime sludge (C,I)
Lime wastewater (C,I)
Liquid cement*
Liquid cleaning compounds*
Mine tailings*
Obsolete explosives (P)
Oil and water (T)
Oil Ash (T,C,I)
Oil of bergamot (S)
Paint (or varnish) remover or stripper (I,F)
Paint thinner (T,I,F)
Paint waste (or slops) (T,F)
Pickling liquor (C,I)
Pigments*
Plating waste (T,C,I)
Powdered orris root and products containing it (S)
Printing Ink*
Retrograde explosives (P)
Sludge acid (C,I)
Soda ash (C,I)
Solvents (I,F)
Spent acid (C,I)
Spent caustic (C,I)
Spent (or waste) cyanide solutions (T,C,I)
Spent mixed acid (C,I)
Spent plating solution (T,C,I)
Spent sulfuric acid (C,I)
Stripping solution (T,I,F)
Sulfonation oil (I,F)
Tank bottom sediment*
Tank cleaning sludges*
Tanning sludges (T,I,S)
Toxic chemical toilet wastes (T)
Unrinsed pesticide containers (T)
Unwanted or waste pesticides—an unusable portion of active ingredient or undiluted formulation (T)
Waste chemicals*
Waste epoxy*
Waste (or slop) oil (F)
Weed Killer (T)

II. SECTION 66685, TITLE 22, CALIFORNIA ADMINISTRATIVE CODE

A. EXTREMELY HAZARDOUS CHEMICALS

Acetone cyanohydrin (T)
2-Acetylaminofluorene, 2-AAF (T)
Acrolein, Aqualin (T,I,F)
Acrylonitrile (T,F)
Adiponitrile (T)
Aldrin; 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo-exodimethanonaphthalene (T)
Aluminum phosphide, PHOSTOXIN (T,F)
4-Aminodiphenyl, 4-ADP (T)
2-Aminopyridine (T)
Ammonium arsenate (T)
Ammonium bifluoride (T,C)
Arsenic (T)
Arsenic acid and salts (T)
Arsenic compounds (T)
Arsenic pentaselenide (T)
Arsenic pentoxide, Arsenic oxide (T)
Arsenic sulfide, Arsenic disulfide (T)
Arsenic tribromide, Arsenic bromide (T)
Arsenic trichloride, Arsenic chloride (T)
Arsenic triiodide, Arsenic iodide (T)
Arsenic trioxide, Arsenic oxide (T)
Arsenious acid and salts (T)
Arsines (T)
AZODRIN, 3-Hydroxy-N-cis-crotonamide (T)
Barium cyanide (T)
Benzidine and salts (T)
Benzotrifluoride, Trifluoromethylbenzene (T,F)
Beryllium (T,F)
Beryllium chloride (T)
Beryllium compounds (T)
Beryllium copper (T)
Beryllium fluoride (T)
Beryllium hydride (T,C,F)
Beryllium hydroxide (T)
Beryllium oxide (T)
BIDRIN, Dicrotophos, 3-(Dimethylamino)-1-methyl-3-oxo-1-propenyl dimethyl phosphate (T)
bis(Chloromethyl) ether, Dichloromethyl ether, BCME (T)
bis(Methylmercuric) sulfate, CEREWET, Ceresan liquid (T)
BOMYL, Dimethyl-3-hydroxyglutaconate dimethyl phosphate (T)
Boranes (T,F)
Bordeaux arsenites (T)
Bromine (T,C,F)
Bromine pentafluoride (T,C,F)
Bromine trifluoride (T,C,F)
Brucine, Dimethoxystrychnine (T)
Cacodylic acid, Dimethylarsinic acid (T)
Cadmium cyanide (T)
Calcium arsenate, PENSAL (T)
Calcium arsenite (T)
Carbanolate, BANOL, 2-Chloro-4,5-dimethylphenyl methylcarbamate (T)
Carbophenothion, TRITHION, S-[[4-(Chlorophenyl)thio] methyl]O,O-diethyl phosphorodithioate (T)
Chlorfenvinphos, Compound 4072, 2-Chloro-1-(2,4-dichlorophenyl) vinyl diethyl phosphate (T)
Chlorine (T,C,F)
Chlorine dioxide (T,C,F,P)
Chlorine pentafluoride (T,C,F,P)
Chlorine trifluoride (T,C,F,P)
Chloroacetaldehyde (T,F)
alpha-Chloroacetophenone, Phenyl Chloromethyl ketone (T,I)
Chloroacetyl chloride (T,C)
ortho-Chlorobenzylidene malonitrile, OCMB (T)
Chloropicrin, Chlorpicrin, Trichloronitromethane (T,I)
Copper acetoarsenite, Paris green (T)
Copper arsenate, Cupric arsenate (T)
Copper arsenite, Cupric arsenite (T)
Copper cyanide, Cupric cyanide (T)
Coroxon; ortho,ortho-Diethyl-ortho-(3-chloro-4-methylcoumarin-7-yl) phosphate (T)
Coumafuryl, FUMARIN, 3-[1-(2-Furanyl)-3-oxobutyl]-4-hydroxy-2H-1-benzopyran-2-one (T)
Coumatetralyl, BAYER 25634, RACUMIN-57, 4-Hydroxy-3-(1,2,3,4-tetrahydro-1-naphthalenyl)-2H-1-benzopyran-2-one (T)
Crimidine, CASTRIX, 2-Chloro-4-dimethyl-amino-6-methylpyrimidine (T)
Crotonaldehyde, 2-Butenal (T,I,F)
Cyanide salts (T)
Cyanogen (T,F)
Cycloheximide, ACTIDIONE (T,I)
DDVP, Dichlorvos, VAPONA, Dimethyl dichlorovinyl phosphate (T)
Decaborane (T,F,P)
Demeton, SYSTOX (T)
Demeton-S-methyl sulfone, METAISOSYSTOX-SULFON, S-[2-(Ethylsulfonyl) ethyl]-O,O-dimethyl phosphorothioate (T)
Diborane, Diboron hexahydride (T,I,F)
3,3-Dichlorobenzidine and salts, DCB (T)
Diethyl chlorovinyl phosphate, Compound 1836 (T)
O,O-Diethyl-S-(isopropylthiomethyl) phosphorodithioate (T)
Digylcidyl ether, bis(2,3-Epoxypropyl)ether (T,S)
Dimefox, HANANE, PEXTOX 14, Tetramethylphosphorodiamidic fluoride (T)
Dimethylaminoazobenzene, Methyl yellow (T)
1,1-Dimethylhydrazene, UDMH (T,F)
Dimethyl sulfate, Methyl sulfate (T)
Dimethyl sulfide, Methyl sulfide (T,F)
Dinitrobenzene (ortho,meta,para) (T,I,P)
2,6-Dinitro-ortho-cresol, DNPC, SINOX, EGETOL 30 (T)
Dinitrophenol (2,3-;2,4-;2,6-isomers) (T,P)
DINOSEB; 2,4-Dinitro-6-sec-butylphenol (T)
Dioxathion, DELNAV; S,S-1,4-Dioxane-2,3-diyl bis(O,O-diethyl phosphorodithioate) (T)
Diphenyl, Biphenyl, Phenylbenzene (T)
Diphenylamine chloroarsine, Phenarazine chloride (T,I)
Disulfoton, DI-SYSTON; O,O-Diethyl-S-[2-(ethylthio)ethyl] phosphorodithioate (T)
DOWCO-139, ZECTRAN, Mexacarbate, 4-(Dimethylamino)-3,5-dimethylphenyl methylcarbamate (T)
DOWICIDE 7, Pentachlorophenol, PCP (T)
DYFONATE, Fonofos, O-Ethyl-S-phenyl ethyl phosphonodithioate (T)
Endosulfan, THIODAN; 6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3-oxide (T)
Endothal, 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid (T)
Endothion, EXOTHION, S-[(5-methoxy-4-oxo-4H-pyran-2-yl)-methyl] O,O-dimethyl phosphorothioate (T)
Endrin; 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4,4a,5,6,7,8,8a-octahydro-1,4-endo-endo-5,8-dimethanonaphthalene (T)
EPN; O-Ethyl-O-para-nitrophenyl phenylphosphonothioate (T)
Ethion, NIALATE; O,O,O',O'-Tetraethyl-S,S-methylenediphosphorodithioate (T)
Ethyldichloroarsine, Dichloroethylarsine (T,I)
Ethyleneimine, Aziridine, EI (T,F)
Fensulfothion, BAYER 25141, DASANIT, O,O-Diethyl-O-[4-(methyl-sulfinyl) phenyl] phosphorothioate (T)
Ferric arsenate (T,I)
Ferrous arsenate, Iron arsenate (T)
Fluoboric acid, Fluoroboric acid (T,C)
Fluorine (T,C,F)
Fluoroacetanilide, AFL 1082 (T)
Fluoroacetic acid and salts, Compound 1080 (T)
Fluorosulfonic acid, Fluosulfonic acid (T,C)
FURADAN, NIA 10,242, Carbofuran; 2,3-Dihydro-2,2-dimethyl-7-benzofuranylmethylcarbamate (T)
GB, O-Isopropyl methyl phosphoryl fluoride (T)
Hydrazine, Diamine (T,I,F)
Hydrocyanic acid, Hydrogen cyanide (T,F)
Hydrofluoric acid, Hydrogen fluoride (T,C)
Hydrogen selenide (T,I,F)
Hydrogen sulfide (T,I,F)
meta-Isopropylphenyl-N-methylcarbamate, Ac 5,727 (T)
Lead arsenate, Lead orthoarsenate (T)
Lead arsenite (T)
Lead cyanide (T)
Lewisite, beta-Chlorovinyldichloroarsine (T)
London purple, Mixture of arsenic trioxide, aniline, lime, and ferrous oxide (T)
Magnesium arsenate (T)
Magnesium arsenite (T)
Maleic anhydride (T,I)
Manganese arsenate, Manganous arsenate (T)
MECARBAM; O,O-Diethyl-S-(N-ethyoxycarbonyl-N-methylcarbamoyl methyl) phosphorodithioate (T)
Medinoterb acetate, 2-tert-Butyl-5-methyl-4,6-dinitrophenyl acetate (T)
Mercuric chloride, Mercury chloride (T,I)
Mercuric cyanide, Mercury cyanide (T,I)
Mercury (T)
Methomyl, LANNATE, S-Methyl-N-((methyl carbamoyl)oxy) thio-acetamidate (T)
Methoxyethylmercuric chloride, AGALLOL, ARETAN (T)
Methyl bromide, Bromomethane (T,I)
Methyl chloromethyl ether, CMME (T)
Methyldichloroarsine (T,I)
4,4'-Methylene bis(2-chloroaniline), MOCA (T)
Methyl hydrazine, Monomethyl hydrazine, MM (T,F)
Methyl isocyanate (T,F)
Methyl parathion; O,O-Dimethyl-O-para-nitrophenylphosphorothioate (T)
Mevinphos, PHOSDRIN, 2-Carbomethoxy-1-methylvinyl dimethyl phosphate (T)
MOCAP, O-Ethyl-S,S-dipropyl phosphorodithioate (T)
alpha-Naphthylamine, 1-NA (T)
beta-Naphthylamine, 2-NA (T)
Nickel arsenate, Nickelous arsenate (T)
Nickel carbonyl, Nickel tetracarbonyl (T)
Nickel cyanide (T)
4-Nitrobiphenyl, 4-NBP (T)
Nitrophenol (ortho,meta,para) (T)
N-Nitrosodimethylamine, Dimethyl nitrosoamine (T)

Oxygen difluoride (T,C,P)
Para-oxon, MINTACOL; O,O-Diethyl-O-para-nitrophenyl phosphate (T)
Parathion;O,O-Diethyl-O-para-nitrophenyl phosphorothioate (T)
Perchloromethyl mercaptan, Trichloromethylsulfenyl chloride (T,I)
Phenyldichloroarsine (T,I)
Phenylphenol, Orthozenol, DOWICIDE 1 (T)
Phorate, THIMET; O,O-Diethyl-S-[(ethylthio)methyl] phosphorodithioate (T)
Phosfolan, CYOLAN, 2-(Diethoxyphosphinylimino)-1,3-dithiolane (T)
Phosgene, Carbonyl chloride (T,I)
Phosphamidon, DIMECRON, 2-chloro-2-diethylcarbamoyl-1-methylvinyl dimethyl phosphate (T)
Phosphine, Hydrogen phosphide (T,I)
Phosphorus (white or yellow) (T,F,P)
Phosphorus oxychloride, Phosphoryl chloride (T,C)
Phosphorus pentachloride, Phosphoric chloride (T,C,F,P)
Phosphorus trichloride (T,C,P)
Polychlorinated biphenyls, PCB, Askarel, AROCLOR, CHLOREXTOL, INERTEEN, PYRANOL (T,I)
POTASAN; O,O-Diethyl-O-(4-methylumbelliferone) phosphorothioate (T)
Potassium arsenate (T,I)
Potassium arsenite (T,I)
Potassium bifluoride, Potassium acid fluoride (T,C)
Potassium cyanide (T)
Propargyl bromide, 3-Bromo-1-propyne (T,I,F)
beta-Propiolactone, BPL (T,I)
Prothoate, FOSTION, FAC; O,O-Diethyl-S-carboethyoxyethyl phosphorodithioate (T)
Quinone; 1,4-Benzoquinone (T,I)
Schradan, Actamethyl pyrophosphoramide, OMPA (T)
Selenium fluoride (T)
Selenous acid, Selenious acid and salts (T)
Sodium arsenate (T)
Sodium arsenite (T)
Sodium bifluoride, Sodium acid fluoride (T,C)
Sodium cacodylate, Sodium dimethylarsenate (T)
Sodium cyanide (T)
Sodium selenate (T)
Strontium arsenate (T)
Strychnine and salts (T)
Sulfotepp, DITHIONE, BLADAFUM, Tetraethyl dithiopyrophosphate (T)
Sulfur pentafluoride (T,C)
SUPRACIDE, ULTRACIDE, S-[(5-Methoxy-2-oxo-1,3,4-thiadiazol-3(2H)-yl)methyl]-O,O-dimethyl phosphorodithioate (T)
Tellurium hexafluoride (T,C)
TELODRIN, Isobenzan; 1,3,4,5,6,7,8,8-Octachloro-1,3,3a,4,7,7a,-hexahydro-4,7-methanoisobenzofuran (T)
TEMIK, Aldicarb, 2-Methyl-2-(methylthio) propionaldehyde-O-(methylcarbamoyl)oxime (T)
2,3,7,8-Tetrachlorodibenzo-para-dioxin, TCDD, Dioxin (T)
Tetraethyl dithionopyrophosphate, TEDP (T)
Tetraethyl lead, TEL, and other organic lead (T,F)
Tetraethyl pyrophosphate, TEPP (T)
Tetramethyl lead, TML (T,F)
Tetramethyl succinonitrile (T)
Tetranitromethane (T,F,P)
Tetrasul, ANIMERT V-101, S-para-Chlorophenyl-2,4,5-trichlorophenyl sulfide (T)
Thallium (T)
Thallium compounds (T)
Thallous sulfate, Thallium sulfate, RATOX (T)
Thionazin, ZINOPHOS; O,O-Tetramethylthiuram monosulfide (T)
Toluene-2,4-diisocyanate, TDI (T,I,S,P)
TRANID, exo-3-Chloro-endo-6-cyano-2-norbornanone-O-(methylcarbamoyl) oxime (T)
tris(1-Aziridinyl) phosphine oxide, Triethylenephosphosphoramide, TEPA (T,I)
Vinyl chloride (T,I,F)
WEPSYN 155,WP 155, Triamiphos, para-(5-Amino-3-phenyl-1H-1,2,4-triazol-1-yl)-N,N,N',N',-tetramethyl phosphonic diamide(T)
Zinc arsenate (T)
Zinc arsenite (T)
Zinc cyanide (T)
Zinc phosphide (T,F)

III. PRIORITY ORGANIC POLLUTANTS, U.S. ENVIRONMENTAL PROTECTION AGENCY

Acrolein
Acrylonitrile
Benzene
Bromomethane
Bromodichloromethane
Bromoform
Carbon Tetrachloride
Chlorobenzene
Chloroethane
2-Chloroethylvinyl ether
Chloroform
Chloromethane
Dibromochloromethane
1, 1-Dichloroethane
1, 2-Dichloroethane
1, 1-Dichloroethene
trans-1, 2-Dichloroethene
1, 2-Dichloropropane
cis-1, 3-Dichloropropene
trans-1, 3-Dichloropropene
Ethylbenzene
Methylene chloride
1, 1, 2, 2-Tetrachloroethane
Tetrachlorethene
1, 1, 1-Trichloroethane
1, 1, 2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
Toluene
Vinyl chloride

IV. CHAPTER 1, TITLE 10, ENERGY, APPENDIX B, NUCLEAR REGULATORY COMMISSION

Actinium
Americium
Antimony
Argon
Arsenic
Astatine
Barium
Berkelium
Beryllium
Bismuth
Bromine
Cadmium
Calcium
Californium
Carbon
Cerium
Cesium
Chlorine
Chromium
Cobalt
Copper
Curium
Dysprosium
Einsteinium
Erbium
Europium
Fermium
Fluorine
Gadolinium
Gallium
Germanium
Gold
Hafnium
Holmium
Hydrogen
Indium
Iodinelridum
Iron
Krypton
Lanthanum
Lead
Lutetium
Manganese
Mercury
Molybednum
Neodymium
Neptumium
Nickel
Niobium (Columbium)
Osmium
Palladium
Phosphorus
Platinum
Plutonium
Polunium
Potassium
Praseodymium
Promethium
Protactinium
Radium
Radon
Rhenium
Rhodium
Rubidium
Ruthenium
Samarium
Scandium
Selenium
Silicon
Silver
Sodium
Strontium
Sulfur
Tantalum
Technetium
Tellurium
Terbium
Thallium
Thorium
Thulium
Tin
Tungsten (Wolfram)
Uranium
Vanadium
Xenon
Ytterbium
Yttrium
Zinc
Zirconium

Any Single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life less than 2 hours.

Any single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life greater than 2 hours.

Any single radionuclide not listed above which decays by alpha emission or spontaneous fission.

ORDINANCE NO. 614 N.C.(2d)

AN ORDINANCE OF THE CITY OF VALLEJO ADDING CHAPTER 7.66 [OFFENSES AGAINST PUBLIC HEALTH AND SAFETY] TO THE VALLEJO MUNICIPAL CODE REQUIRING DISCLOSURE TO THE FIRE CHIEF OF THE HANDLING OR STORAGE OF HAZARDOUS MATERIAL, AND FURTHER DECLARING THE ORDINANCE AN URGENCY MEASURE TO TAKE EFFECT IMMEDIATELY UPON ADOPTION.

THE COUNCIL OF THE CITY OF VALLEJO DOES ORDAIN AS FOLLOWS:

SECTION 1. Chapter 7.66 is hereby added to the Vallejo Municipal Code, to read as follows:

"Chapter 7.66

HAZARDOUS MATERIAL DISCLOSURE

7.66.010 Findings and purpose.

The City Council finds and declares:

A. That a number of businesses in the City of Vallejo are engaged in the handling, storage, use, processing, and disposal of hazardous material.

B. That the public, health, safety, and welfare of the citizens of the City of Vallejo may be endangered by the handling, storage, use, processing, and disposal of such hazardous material.

C. That in recent months there have been fires in businesses in which hazardous material was handled, stored, used or processed, but the fire fighters who responded to the fire had no knowledge of the presence of such hazardous material, which could have endangered their lives and endangered the community in general.

D. That it is necessary for the protection of the citizens of the City of Vallejo that all businesses disclose the presence of such hazardous material to the fire chief.

E. That this disclosure is necessary so that firefighters who respond to fires or other emergencies in structures which house such hazardous material can respond appropriately and take measures to protect their own lives and to protect the community in general.

F. That this disclosure is also necessary so that the City of Vallejo may quickly respond to any fire or

other emergency created by the handling, storage, use, processing, and disposal of hazardous material; so that the source of such hazardous material may be quickly identified in the event of such an emergency; and so that the City of Vallejo may study and reevaluate its current zoning laws to determine the appropriate location of businesses using such hazardous material.

G. It is not the intent of this ordinance to regulate the handling, storage, use, processing or disposal of hazardous material. This ordinance is adopted solely for the purpose of disclosure to the fire chief so that the fire department can have knowledge of the presence of hazardous material within the city.

7.66.020. Definitions.

A. "Fire chief" shall mean the fire chief of the City of Vallejo, or his/her duly appointed representative.

B. "Hazardous Material" means a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics may either:

1. Cause, or significantly contribute to, an increase in serious irreversible, or incapacitating reversible, illness.

2. Pose a substantial present or potential hazard to humans or the environment.

The fire chief shall maintain and update a list of categories of hazardous substances.

C. "Person" means all domestic and foreign corporations, associations, syndicates, joint stock corporations, partnerships of every kind, clubs, Massachusetts business, or common law trusts, societies, and individuals transacting and carrying on any business in the city.

7.66.030. Disclosure to Fire Chief

The fire chief shall cause to be delivered a copy of this ordinance and a Hazardous Material Disclosure

Form for completion to any person who, as a result of an inspection by fire personnel or otherwise, may be handling, storing, using, processing or disposing of hazardous material. The form shall be completed and returned by the person to the fire chief within fifteen days. Any person who is required to file such form with the fire chief shall amend the form within ten days of the date of any changes in the hazardous material that it handles, stores, uses, processes or disposes of in the City of Vallejo.

7.66.040. Violation.

Any person violating or causing the violation of any of the provisions of this chapter is guilty of an infraction, as provided for in this code, and may be assessed the cost of the city's responding to emergencies, including fire suppression, caused by the presence of hazardous material as well as the cost of cleaning up and disposing of such hazardous material.

SECTION 2. STATUTORY SEVERABILITY. If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of the ordinance. The City Council hereby declares that it would have passed this ordinance and each and every section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the ordinance would be subsequently declared invalid or unconstitutional.

SECTION 3. URGENCY MEASURE; EFFECTIVE DATE. This Ordinance is hereby declared by the City Council to be necessary as an urgency measure for preserving and safeguarding the public peace, health and safety, and the reasons for its urgency are specified in Section 7.66.010 hereinabove set forth and further because of the importance of securing the information sought at the earliest possible opportunity to avert the chance of calamity or harm befalling the general public or personnel employed by the City, and for these reasons the ordinance shall be effective immediately upon adoption.

PASSED AND ADOPTED as above at a regular meeting of the City Council of the City of Vallejo held on the 24th day of August, 1981, by the following vote:

AYES: Councilmembers Berry, Castille, Curtola, Intintoli, Keith, Kondylis and Sibley

NOES: None

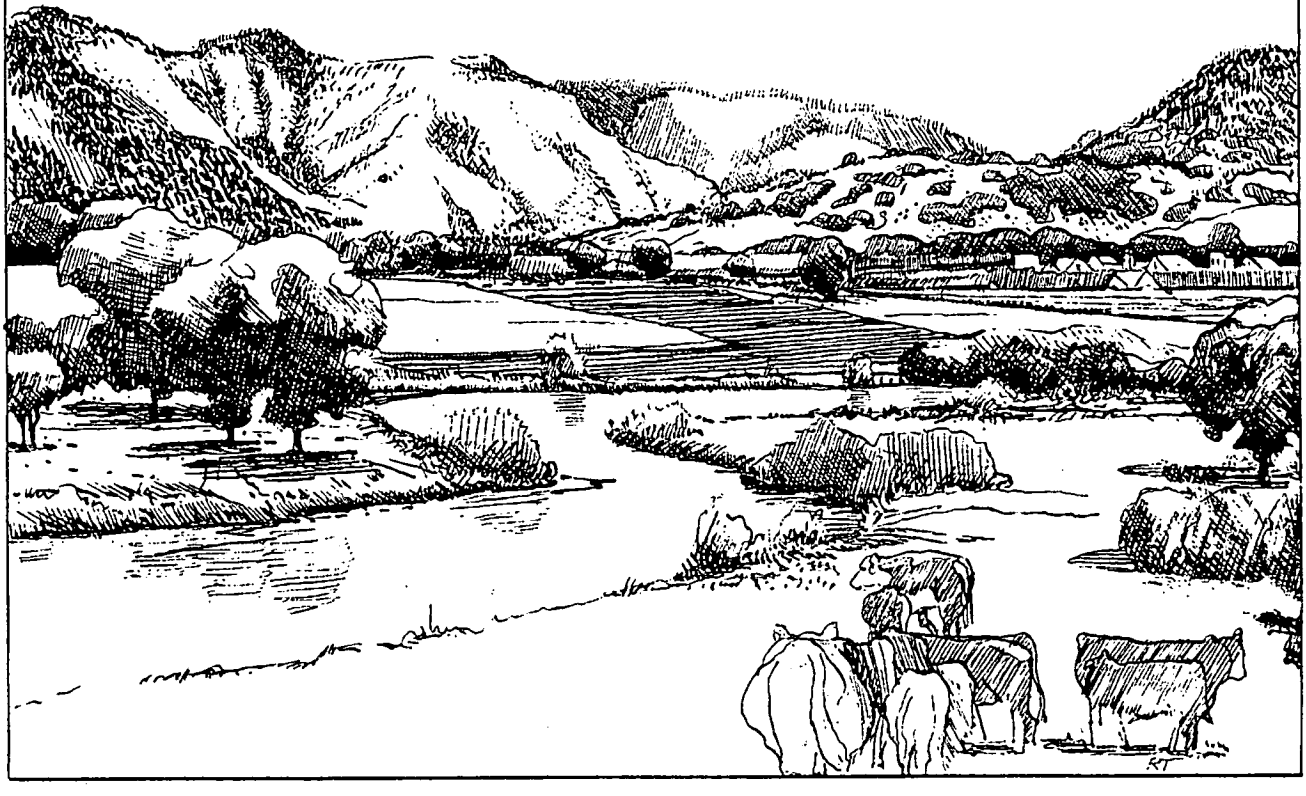
ABSENT: None

TERRY A. CURTOLA, JR., Mayor

ATTEST: MICHAELA K. POWER, Asst. City Clerk

VII.

Hazardous Waste Facility Siting



A. BACKGROUND

The issue of locating hazardous waste land disposal facilities is complex, confusing, and emotionally charged. Industry sources point with alarm to the need for new land disposal sites for hazardous waste. They indicate the need is so great that without new sites economic growth will be slowed. Reacting to demands for stronger controls on land disposal of hazardous wastes, the Governor has recently ordered the halt to land disposal of six priority wastes and has proposed the use of alternative technology to reduce the amount of hazardous waste requiring land disposal.1/

Caught somewhere in the middle of this debate are local jurisdictions and citizens. Although they are often unsure of the demand for hazardous waste land disposal facilities, they usually know they don't want one in their community. This reluctance to allow new locations may even come after a proposed site has passed all physical, geological, and hydrological tests. Opposition has also occurred after a disposal site has been operating for some time.

The Environmental Protection Agency (EPA) has indicated that citizen support is vital to location of new treatment, storage, and disposal facilities.2/ The advisory committee assisting the State in developing siting criteria for hazardous waste facilities has also indicated their belief that citizens should be involved in siting decisions.3/ The U.S. League of Women Voters feels that citizen opposition is often the result of lack of information and a mistrust of regulatory agencies. They indicate that, "In many cases, mistrust of the regulatory agency and a feeling by residents that facilities were approved 'behind their backs' has resulted in violent reaction."4/

There appear to be three key items missing in prior situations where site opposition was strong. First, lack of accurate information about the site; second, lack of clear factors on which to judge the pro's and con's of the site; and, third, a perceived lack of citizen involvement.

Because the "siting problem" is almost universal, many governmental agencies and organizations have or are presently developing siting processes that attempt to solve the problems. The New England Regional Commission has recently published a series of four handbooks on hazardous waste facility siting and site management.5/ In New York, the Department

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1/ See Appendix for press release announcing ban.

2/ "Everybody's Problem: Hazardous Waste", EPA Publication SW-826, 1980.

3/ "What to Do With Hazardous Waste", State Office of Planning and Research, Working Draft, October 1981.

4/ "Siting Hazardous Waste Facilities, A Dialogue", League of Women Voters of U.S., Publication #516, October 1980.

5/ New England Regional Commission, 141 Milk Street, Boston, Mass.

of Environmental Conservation has recently released draft siting regulations.1/

In California, the State Department of Health Services has appointed a committee on Hazardous Waste Facility Siting Criteria to advise the Department. This committee expanded its original charge to include the problem of public fear, public information actions, and the development of social and economic criteria. The committee and the State Office of Planning and Research prepared a working draft report in October 1981 that provides a series of views on siting issues.2/

Running through many siting recommendations are three central themes:

1. A strong public information and citizen participation program.

2. Technical evaluation of the proposed site based on existing state regulations for waste discharge requirements (Title 23) and hazardous waste facility management and operation (Title 22).

3. Local land use decisions based on locally adopted siting criteria and evaluation of social and economic impacts.

Although the siting debate usually revolves around hazardous waste land disposal facilities, there are really four types of hazardous waste facilities that may be involved in siting decisions:

1. Land disposal facilities (off-site and on-site).
2. Treatment facilities.
3. Storage facilities.
4. Transfer facilities.

The present hazardous waste facility siting process normally requires five permits:

PERMIT	PURPOSE	AGENCY
1. Conditional land use use permit	Land use approval	City Council Board of Supervisors
2. Permit to contruct 3. Permit to operate	Air quality control	Air Pollution Control District
4. Waste discharge permit	Water pollution control	Regional Water Quality Control Board
5. Hazardous waste facility permit	Hazardous waste management	Department of Health Services

1/ Draft Regulations for Siting of Industrial Hazardous Waste Facilities, New York State Department of Environmental Conservation, October 1980.

2/ "What To Do With Hazardous Waste", OPR, October 1981.

This process essentially divides siting decisions into two pieces. Evaluation of the technical aspects of site proposals, the ability of proposed sites to meet State standards, is assigned to the appropriate State agency, while the analysis of impacts on local communities is left to the local governmental agency. This process has a number of advantages. One significant advantage is that it allows the local jurisdiction to evaluate site proposals and reject proposals that might meet all technical requirements but would be inappropriate because of negative local impacts. Another advantage is that local jurisdictions don't need to develop special capabilities in evaluating the technical aspects of proposals; they can depend on the appropriate State agency.

Use of this process also allows for review of the key impact areas of a hazardous waste facility:

- surface and groundwater impacts
- air pollution potential
- local impacts--land use, transportation, social and economic

B. SPECIAL CRITERIA FOR HAZARDOUS WASTE FACILITY SITING

Two areas in the siting debate that are not complete are whether local jurisdictions should use special criteria in hazardous waste facility siting and what other factors should be considered when evaluating proposals. Use of special criteria would be a way for local jurisdictions to develop a clear evaluation process that citizens would understand and might improve citizen support for facilities meeting special criteria.

Two things concerning the use of special criteria should be kept in mind. First, the use of special criteria should be in addition to, not a substitute for, the existing approval process; and, second, special criteria should be used by local government to more carefully evaluate proposals, not as a device to prohibit new facilities.

The following special criteria, to be used in conjunction with the existing approval process, were developed based on a review of the activities of other agencies, groups, or advisory committees.

1. Class I Waste Disposal Sites: Off-site and on-site land disposal sites accepting all types of hazardous wastes and those limited to certain waste types:

   a. should not be located in areas subject to high soil erosion;

   b. should not be located within 5 miles of an earthquake fault line, a river, a stream, a lake, a marsh, a reservoir, a canal, or any area below sea level;

   c. should not be located within 5 miles of a 100-year floodplain, an area subject to seasonal flooding, a groundwater recharge

area, an aquifer, an area used by migratory waterfowl, or an area designated by the State or Federal Government as wildlife and game preserves; or

d. should not be located within 10 miles of the existing, or 20-year expected, developed areas of cities, towns or unincorporated communities. Developed areas should be defined as a population density of 100 or more persons per square mile.

2. Class II-1 Waste Disposal Sites: Off-site or on-site land disposal sites accepting only certain types of hazardous wastes:

a. should not be located in areas subject to high erosion;

b. should not be located within 2½ miles of an earthquake fault line, a river, a stream, a lake, a marsh, a reservoir, a canal, or any area below sea level;

c. should not be located within 2½ miles of a 100-year floodplain, an area subject to seasonal flooding, a groundwater recharge area, an aquifer, an area used by migratory waterfowl, or an area designated by the State or Federal Government as wildlife and game preserves;

d. should not be located in any area where groundwater is less than 20 feet below the lowest point of facility; or

e. should not be located within 10 miles of the existing, or 20-year expected, developed areas of cities, towns or unincorporated communities. Developed areas should be defined as a population density of 100 or more persons per square mile.

3. Treatment, Storage and Transfer Facilities: Facilities treating, storing, or handling and packaging hazardous waste for transportation to a disposal site:

a. should not be located in areas subject to high soil erosion;

b. should not be located within 2 miles of an earthquake fault line, a river, a stream, a lake, a marsh, a reservoir, a canal, or any area below sea level;

c. should not be located within 2 miles of a 100-year floodplain, an area subject to seasonal flooding, a groundwater recharge area, an aquifer, an area used by migratory waterfowl, or an area designated by the State or Federal Government as wildlife and game preserves;

d. should not be located in any area where groundwater is less than 20 feet below the lowest point of facility;

e. should only be located in land zoned for heavy industry;

f. should have a ½-mile buffer zone of land zoned for heavy industry surrounding facility;

g. should not be located within 2 miles of residential, commercial or business areas, schools, hospitals, or other areas where large groups of people are gathered on a regular basis;

h. should have access roads that are at least ½-mile from residential, commercial or business areas, schools, hospitals, or other areas where large groups of people are gathered on a regular basis.

C. OTHER SITING CONSIDERATIONS

In addition to specific criteria, many other factors have been suggested as important considerations in hazardous waste facility siting. Local jurisdictions could also use them in their evaluation of proposed facilities. These considerations include:

- Is the atmosphere around the proposed site stable or unstable? Are there frequent air inversions?
- Is the proposed facility up-wind or down-wind from nearby population centers?
- What is the probability of human or livestock exposure to toxic air and water pollutants from the proposed site?
- What are the present and future distances from residential developments, schools, hospitals, commercial centers, or other health related facilities?
- Will there be an increase in noise, odors, or dust associated with truck traffic to and from the proposed site? What will the impact be on traffic safety and traffic flow from having more trucks in the area?
- What will be the effect on property values in areas around the facility?
- What will the impact be on the character, stability, and image of the community?
- Can the surrounding area be safely evacuated in an emergency?

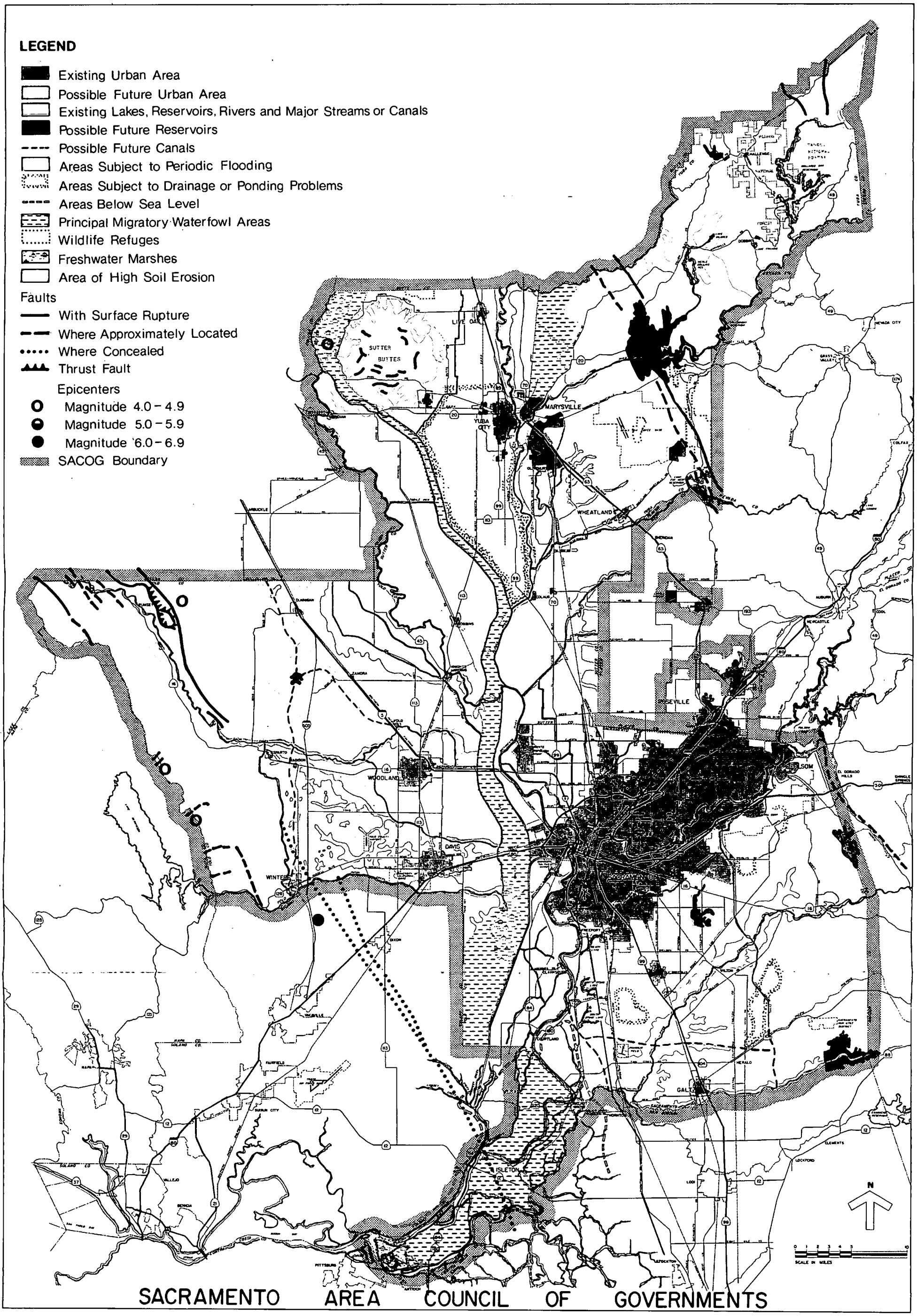
- How far away is the nearest fire station and firefighting water supply? Is the local fire department manned and equipped to handle fires or spills at the facility?
- What are the potential environmental effects of hazardous waste spills?
- What type of road serves the facility?
- Will public revenues received from the facility outweigh public expense?
- What is the site's present social value and what are the expected impacts on existing and future social and economic activities?
- Is there a potential hazard from improper or illegal disposal of hazardous wastes from the facility?
- Is the facility conveniently located for use by large and small waste generators?
- Will the site impact historical, cultural or archeological locations?
- Does the site affect open space, recreation or scenic views?

D. LOCAL INVOLVEMENT IN SITING OF HAZARDOUS WASTE FACILITIES

As indicated in the previous section on future legislation and regulatory trends, preemption of local control over hazardous waste disposal sites has been advocated by some industry groups and State advisory committee members. AB 1543 (Tanner), which would create a council to study the siting problem, appears certain to pass, possibly as an urgency measure. Local cities and counties should pay close attention to the activities of the siting council, if the bill passes, because recommendations of the siting council may well dictate the future of local involvement in hazardous waste facility siting.

An area of hazardous waste facility siting where local involvement appears to be superficial, at best, is in the State interim permitting process for treatment, storage, and handling facilities. Local jurisdictions are not part of the existing permitting process, do not receive copies of applications being processed, and are yet to receive a list of permits issued in their jurisdiction. Compounding this problem is the lack of on-site inspections by State Inspectors prior to issuing interim permits.

SITING CRITERIA
(HAZARDOUS WASTE STUDY)



SACRAMENTO AREA COUNCIL OF GOVERNMENTS

VIII.

Appendix

A. CALIFORNIA ADMINISTRATIVE CODE, Title 22, Division 4, Chapter 30. Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes.

State of California

California Administrative Code

Title 22. Social Security

Division 4. Environmental Health

Chapter 30. Minimum Standards for Management of
Hazardous and Extremely Hazardous Wastes

Department of Health Services

Document Section

DIVISION 4. ENVIRONMENTAL HEALTH

CHAPTER 30. MINIMUM STANDARDS FOR MANAGEMENT OF HAZARDOUS AND EXTREMELY HAZARDOUS WASTES

CHAPTER 30. MINIMUM STANDARDS FOR MANAGEMENT OF HAZARDOUS AND EXTREMELY HAZARDOUS WASTES

Article 1. Definitions

Article 1. Definitions

66016. Chemical Toilet.

"Chemical toilet" means any portable or permanently installed sanitation apparatus or system which utilizes a tank for toilet waste retention and into which a chemical toilet additive is added.

NOTE: Authority cited: Section 25210, Health and Safety Code. Reference: Section 25210, Health and Safety Code.

HISTORY:

1. Renumbering of Sections 60091, 60093, and 60095 from Chapter 1, and Sections 60102–60297 from Chapter 2, to form new Chapter 30 (Sections 66016–66898); filed 5-10-79; effective thirtieth day thereafter. See cross-reference table listing old and new section numbers (Register 79, No. 19).

66020. Chemical Toilet Additive.

"Chemical toilet additive" means any chemical substance, biological agent, other material, or formulation thereof, which is employed for the primary purpose of controlling waste decomposition and odors in a chemical toilet holding tank or any tank in which chemical toilet wastes are held, collected or transported. The term "chemical toilet additive" includes, but is not limited to, a chemical substance, biological agent or other material which is a deodorant, bactericide, bacteriostat, microbiocide, chemical reactant, surfactant, or enzymatic agent.

NOTE: Authority cited: Section 25210, Health and Safety Code. Reference: Section 25210, Health and Safety Code.

66024. Chemical Toilet Waste.

"Chemical toilet waste" means the waste in or from a chemical toilet.

NOTE: Authority cited: Section 25210, Health and Safety Code. Reference: Section 25210, Health and Safety Code.

66028. Container.

"Container" means any enclosure that is open or closed, and portable or stationary, in which a material can be stored, handled, treated or disposed of.

NOTE: Authority cited: Chapter 1236, Statutes of 1972. Reference: Chapter 6.5 (commencing with Section 25100, Division 20), Health and Safety Code.

66032. Corrosive.

"Corrosive" means any substance which in contact with living tissue will cause destruction of tissue by chemical action, but shall not refer to action on inanimate surfaces.

66036. Covered Container.

"Covered container" means any container which is equipped with a closure that will prevent the escape of a liquid or solid substance when closed.

66040. Decontaminate.

"Decontaminate" means to make free of hazardous material or hazardous waste.

66048. Disposal.
"Disposal" means to abandon, deposit, inter or otherwise discard waste as a final action after use has been achieved or a use is no longer intended.

66052. Disposal Site.
"Disposal site" means the location where any final deposition of hazardous waste occurs.

66056. Disposal Site Owner.
"Disposal site owner" means the person who holds title to land used for a disposal site.

66060. Extremely Hazardous Material.
"Extremely hazardous material" means any substance or mixture of substances which, if human exposure should occur, may likely result in death, disabling personal injury or illness because of the quantity, concentration or chemical characteristics of the substance or mixture of substances.

66064. Extremely Hazardous Waste.
"Extremely hazardous waste" means any hazardous waste or mixture of hazardous wastes which, if human exposure should occur, may likely result in death, disabling personal injury or illness because of the quantity, concentration or chemical characteristics of the hazardous waste or mixture of hazardous wastes.

66068. Extremely Hazardous Waste Disposal Permit.
"Extremely Hazardous Waste Disposal Permit" means the permit issued by the Department for the handling or disposal of an extremely hazardous waste.

66072. Flammable.
(a) "Flammable" means:
(1) A liquid which has a flash point at or below 37.8 degrees Centigrade (100 degrees Fahrenheit) as defined by procedures described in Title 49, Code of Federal Regulations, Section 173.115.
(2) A gas for which a mixture of 13 percent or less, by volume, with air forms a flammable mixture at atmospheric pressure or the flammable range with air at atmospheric pressure is wider than 12 percent regardless of the lower limits. Testing methods described in Title 49, Code of Federal Regulations, Section 173.115, shall be used.
(3) A solid which is likely to cause fires due to friction, retain heat from processing or which can be ignited under normal temperature conditions and when ignited burns so as to create a serious threat to public health and safety. Normal temperature conditions means temperatures normally encountered in the handling, treatment, storage and disposal of hazardous wastes.
(4) A gas, liquid, sludge or solid which ignites spontaneously in dry or moist air at or below 54.3 degrees Centigrade (130 degrees Fahrenheit) or upon exposure to water.
(5) A strong oxidizer.

66076. Handling.
"Handling" means the transporting, transferring from one place to another, loading, unloading, pumping or packaging of waste. Handling does not include the management of any substance before it becomes a waste or the storage of a hazardous waste on the property of the producer.

66080. Hauler.
"Hauler" means a person who transports hazardous waste on a public road, railroad or on water to a hazardous waste facility.

66084. Hazardous Material.
"Hazardous material" means any substance or mixture of substances which is toxic, corrosive, flammable, an irritant, a strong sensitizer or which generates pressure through decomposition, heat or other means, if such a substance or mixture of substances may cause substantial injury, serious illness or harm to humans, domestic livestock or wildlife. Hazardous material includes extremely hazardous material.

66088. Hazardous Waste.
"Hazardous waste" means any waste material or mixture of wastes which is toxic, corrosive, flammable, an irritant, a strong sensitizer or which generates pressure through decomposition, heat or other means, if such a waste or mixture of wastes may cause substantial injury, serious illness or harm to humans, domestic livestock or wildlife. Hazardous waste includes extremely hazardous waste.

66092. Hazardous Waste Area.
"Hazardous waste area" means any area where hazardous wastes are stored, mixed, handled, treated, discarded or disposed of.

66096. Hazardous Waste Facility.
"Hazardous waste facility" means a facility which handles, stores, treats or disposes of a hazardous waste and which contains at least one hazardous waste area, exclusive of a facility using a biological process on the property of a producer treating oil, its products and water and producing an effluent which is continuously discharged to navigable waters in compliance with a permit issued pursuant to Section 402 of the Federal Water Pollution Control Act (33 U.S.C. 1342).

66100. Hazardous Waste Facility Permit.
"Hazardous Waste Facility Permit" means the document issued by the Department which grants the authority to operate a transfer station or a facility that stores, treats or disposes of a hazardous waste.

66104. Hazardous Waste Manifest.
"Hazardous waste manifest" means the California Liquid Waste Hauler Record which has been approved by the Department and by the State Water Resources Control Board.

66108. Incompatible.
"Incompatible" means unsuitable for commingling with another waste or material, where the commingling might result in an explosion, violent chemical reaction, fire, extreme heat, formation of a toxic substance or other condition which might endanger the public health and safety, domestic livestock or wildlife.

66120. Irritant.
"Irritant" means any substance not corrosive within the meaning of Section 66032 of this Chapter which on immediate, prolonged or repeated contact with normal living tissue will induce a local inflammatory reaction.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:
1. Amendment filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66124. Load.
"Load" means the amount of waste transported by one truck, one railroad car or one barge to a hazardous waste facility.

66128. Management.
"Management" means a program for controlling the generation, storage, collection, transportation, treatment, use, conversion or disposal of hazardous wastes. It includes administrative, financial, legal and planning activities as well as operational aspects of hazardous waste handling, disposal and resource recovery systems.

66132. Manifest.
"Manifest" means hazardous waste manifest.

66136. Off-site Hazardous Waste Facility.
(a) "Off-site hazardous waste facility" means an operation involving handling, treatment, storage or disposal of a hazardous waste in one or more of the following situations.
(1) The hazardous waste is transported via a commercial railroad, a public road or public waters, where adjacent land is not owned by, or leased to, the producer of the waste.
(2) The hazardous waste is at a site which is not owned by, or leased to, the producer of the waste.
(3) The hazardous waste is at a site which receives hazardous waste from more than one producer.

66140. On-site Hazardous Waste Facility.
"On-site hazardous waste facility" means an operation involving handling, treatment, storage or disposal of hazardous waste on land owned by, or leased to, a waste producer, and which receives hazardous waste produced only by him. An operation that occurs after waste is transported by a commercial railroad, or on public waters or on a public road shall be considered an on-site operation only if the producer of the waste owns at least 90 percent of the linear frontage of the route traveled by the waste, or if the disposal site and the area where the hazardous wastes are generated are on the same continuous property.

66144. Operator.
"Operator" means the person within the State who operates a hazardous waste facility.

NOTE: Authority cited: Sections 208 and 25150, Health and Safety Code. Reference: Section 25150, Health and Safety Code.

HISTORY:
1. Amendment filed 9-14-78; effective thirtieth day thereafter (Register 78, No. 37).

66148. Operation Plan.
"Operation plan" means a report detailing handling, disposal and general methods of operation at a hazardous waste facility.

66160. Person.
"Person" means an individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, municipality, commission or political subdivision.

66164. Producer.
"Producer" means any person who generates a waste material.

66172. Recyclable Hazardous Waste.
"Recyclable Hazardous Waste" means any hazardous waste for which recycling is both economically and technologically feasible.

NOTE: Authority cited: Section 25175, Health and Safety Code. Reference: Section 25175, Health and Safety Code.

HISTORY:
1. New section filed 5-16-79; effective thirtieth day thereafter (Register 79, No. 19).

66174. Recycle.
"Recycle" means to redirect or utilize a waste or a substance from a waste in a manner that, in the judgment of the Department, will not result in a substantial hazard to the health or safety of persons or to livestock, wildlife or the environment.

NOTE: Authority cited: Section 25175, Health and Safety Code. Reference: Section 25175, Health and Safety Code.

HISTORY:
1. New section filed 5-16-79; effective thirtieth day thereafter (Register 79, No. 19).

66176. Registered Hazardous Waste Hauler.
"Registered hazardous waste hauler" means a hauler registered with the Department to transport hazardous wastes.

66180. Resource Recovery.
"Resource recovery" means the salvage of discarded hazardous materials or their conversion into a reusable, saleable or valuable form. Salvaged or converted materials shall not be considered waste.

66184. Reuse.
"Reuse" means reutilization of a material in a manner that will not result in a hazard to the health or safety of persons or harm to wildlife or domestic livestock.

66188. Salvaging.
"Salvaging" means the controlled removal of hazardous materials from a hazardous waste facility for use.

66196. Storage.
"Storage" means the containment of hazardous waste at an off-site hazardous waste facility for periods greater than 72 hours or the containment at an on-site hazardous waste facility for periods greater than 60 days in such a manner as not to constitute disposal.

66200. Strong Oxidizer.
"Strong oxidizer" means a substance that can supply oxygen to a reaction and cause a violent reaction, or sustain a fire when in contact with a flammable or combustible material in the absence of air.

66204. Strong Sensitizer.
"Strong sensitizer" means a substance which will cause on normal living tissue, through an allergic or photodynamic process, a hypersensitivity which becomes evident on reapplication of the same substance.

66208. Toxic.
"Toxic" means capable of producing injury, illness, or damage to humans, domestic livestock or wildlife through ingestion, inhalation or absorption through any body surface.

66212. Transfer Station.
"Transfer station" means any facility where hazardous wastes are transferred from one vehicle to another or where hazardous wastes are stored or consolidated before being transported elsewhere.

66216. Treatment.
"Treatment" means any method, technique or process designed to change the physical, chemical or biological character or composition of any hazardous waste.

66220. Treatment Facility.
"Treatment facility" means any facility at which hazardous waste is subjected to treatment or where a resource is recovered from a hazardous waste.

66224. Use.
"Use" means utilization of a material in a manner that will not result in a hazard to the health or safety of persons or harm to wildlife or domestic livestock.

66228. Variance.
"Variance" means a deviation from a requirement of this Chapter.

66232. Waste.
"Waste" means any material for which no use or reuse is intended and which is to be discarded.

66236. Water Reactive Waste.
"Water reactive waste" means a waste which, when contacted by water, may react violently, generate extreme heat, burn, explode or rapidly react to produce a flammable, toxic or corrosive mist, vapor or gas.

66240. Working Face.
"Working face" means that portion of a disposal site where waste is discharged and compacted prior to placement of cover material.

Article 2. Scope

66300. Applicability.
(a) All requirements of this Chapter shall apply to the management of the following:
(1) Any liquid, semisolid, solid or gaseous waste which conforms to the definition of hazardous waste in Article 1 of this Chapter.
(2) Waste which consists of or contains a hazardous material.
(3) Waste which consists of or contains a material cited in Article 9 or Article 10 of this Chapter.
(4) A waste mixture formed by mixing any waste or substance with a hazardous waste.
(5) A hazardous sludge, residue, concentrate or ash originating from hazardous waste.
(6) Hazardous material disposed of to land, accidentally discharged onto land or accidentally spilled onto land.
(b) Radioactive wastes and infectious wastes are not subject to the requirements of this Chapter.

66305. Classification of Hazardous Wastes as Nonhazardous.
(a) No person shall deviate from the requirements of these regulations in the classification of a waste as hazardous without written approval from the Department.
(b) Persons who wish to treat, handle, transport, store or dispose of a waste as a nonhazardous waste, even though it is defined as a hazardous waste in these regulations, shall submit to the Department a written application for classification of the waste as nonhazardous. The application shall include:

(1) The name and address of the producer of the waste.
(2) A general description of the waste, including physical states, volumes produced and the processes used in generating it.
(3) A report on the waste prepared by a laboratory approved by the Department to conduct the specific analyses. The laboratory report shall include a chemical analysis of the waste which identifies the hazardous components of the waste and their concentrations. If a waste is also tested for toxicity, flammability, irritation or pressure-generating properties, the test shall be conducted using methods approved by the Department.
(4) The proposed methods of handling, transporting, storing, treating and disposing of the waste.
(5) A summary of evidence which shows why the waste should not be classified as hazardous. The evidence shall include pertinent chemical, physical, toxicological, safety or environmental data. Technical references used to support the data shall be cited.

66310. Variances.
(a) The Department may grant a variance from the requirements of this Chapter if a hazardous waste is:
(1) Insignificant as a potential hazard to human health, domestic livestock or wildlife because of its small quantity, low concentration or physical or chemical characteristics; or
(2) Handled, processed or disposed of pursuant to regulations of another governmental agency.
(b) A request for a variance from a requirement of this Chapter shall be submitted to the Department in a detailed report clearly setting forth the procedures, controls and other pertinent data necessary to support the request.
(c) If the Department finds that the requested variance will not result in a hazard to public health and safety, wildlife or domestic livestock, a variance shall be granted.

66315. Other Requirements.
No local agency shall enforce any requirement, other than those in this Chapter, which would impede interstate or intrastate transportation or disposal of hazardous waste or which would impede use of facilities for regional multicounty management of hazardous waste.

Article 3. Enforcement and Inspections

66320. Enforcement.
The requirements of this Chapter shall be enforced by the Director or any duly authorized representative of the Department.

66328. Inspections.
(a) The Director or any duly authorized representative of the Department upon presentation of proper identification of authority and position may:

(1) Enter a factory, plant, construction site, waste disposal site, transfer station or other area where wastes are stored, handled, processed or disposed of, inspect the premises and gather evidence on existing conditions and procedures.
(2) Obtain from any person or from the property of any person samples of waste, including samples from any vehicle in which wastes are being transported.
(3) Stop any vehicle suspected of transporting hazardous wastes.
(4) Conduct tests, analyses and evaluations to determine whether the waste is hazardous waste or whether the requirements of this Chapter are met.
(5) Obtain samples of any containers and photographs or facsimiles of container labels.
(6) By appointment, inspect and copy any pertinent records, reports, information or test results relating to the requirements of this Chapter.
(7) Inspect, during business office hours, pertinent records relating to the requirements of this Chapter without an appointment.
(b) During the inspection, the inspector shall observe all reasonable security, safety and sanitation measures. In addition, he shall observe reasonable precautionary measures specified by the operator.
(c) A report listing any deficiencies found during the inspection shall be prepared by the inspector and shall be kept on file in the Department. A copy of the report shall be provided to the operator.
(d) If corrections are needed, the operator shall provide to the Department a written plan of correction which states the actions to be taken and the expected dates of completion.
(e) Upon request of the inspector, the operator of the facility being inspected shall retain evidence as instructed by the inspector for a period not to exceed 30 days.
(f) When obtaining samples, the inspector shall allow the operator to collect replicate samples for separate analysis. Analytical data that might reveal trade secrets shall be treated as confidential by the Department.

66336. Orders of the Director.
(a) The Director may issue an order to any person who has or is about to violate the provisions of this Chapter ordering the person to:
(1) Cease and desist from specified actions.
(2) Undertake specified actions, to avoid violation of the requirements of this Chapter.
(3) Prevent or correct a condition which could imperil public health and safety, domestic livestock or wildlife.

66344. Appeal.
(a) A person who has been unable to resolve an alleged deficiency on an informal basis with the Department staff may petition for a hearing within 30 days of the Department's decision concerning the deficiency.
(b) The Director shall conduct the hearing or shall designate a hearing officer, who shall not previously have participated in the decision on appeal, to conduct the hearing.
(c) The hearing shall be recorded and shall be conducted within 20 days of the receipt of the petition.

(d) The person making the appeal shall be notified in writing of the time and place of the hearing at least 10 days in advance of the hearing.

(e) The hearing officer, if other than the Director, shall prepare a proposed decision for the Director which shall contain findings of fact, a determination of issues presented and an order, if appropriate. The Director, within 30 days following the hearing, shall take one of the following actions:

(1) Adopt the proposed decision.

(2) Reject the proposed decision and have a decision prepared based upon the record.

(3) Remand the matter to the hearing officer to obtain additional evidence.

(f) The decision shall be final upon adoption by the Director. A copy of the final decision shall be mailed to the person who requested the hearing or his representative.

66352. Records of Hearings.

All records of hearings held by the Department shall be available to the public during office hours at the Vector and Waste Management Section headquarters.

66360. Delegation of Enforcement Authority.

(a) Enforcement of certain specified requirements of this Chapter may be delegated by the Department to a local public officer if it is demonstrated to the satisfaction of the Department that:

(1) The prospective designee has appropriate jurisdiction and competency, facilities and personnel to perform the functions delegated by the Department.

(2) Other activities of the governmental entity which the prospective designee represents will not compromise the designee's ability to enforce those regulations equitably and effectively.

(b) The Department may designate a local public officer to enforce all requirements of this Chapter if it is demonstrated to the satisfaction of the Department that:

(1) The prospective designee can meet the requirements cited in (a) above.

(2) The prospective designee has countywide jurisdiction.

(3) The governmental entity which the prospective designee represents does not operate a hazardous waste facility.

(4) The prospective designee's personnel are qualified to the satisfaction of the Department.

(5) The prospective designee's laboratory support is adequate to determine whether wastes contain hazardous materials.

(6) The prospective designee's personnel will be able to provide adequate reviews, inspections, and monitoring of hazardous waste and enforcement of the requirements of this Chapter.

(c) The Department shall not authorize a local public officer to enforce any requirement of this Chapter if such person does not meet the requirements specified in (a) above.

(d) The Department shall not authorize a local public officer to enforce all requirements of this Chapter if such person does not meet the requirements specified in (b) above.

Article 4. Hazardous Waste Facility Permit

66370. Requirement for Hazardous Waste Facility Permit.

(a) Beginning six months from the date of adoption of this Chapter, no person shall establish, operate or maintain a hazardous waste facility without first obtaining a Hazardous Waste Facility Permit from the Department.

(b) The person who operates an existing hazardous waste facility shall apply to the Department for a Hazardous Waste Facility Permit or a variance within 30 days from the date of adoption of this Chapter.

(c) Any solid waste facilities permit issued by the Department pursuant to Article 2, commencing with Section 66796.30, Chapter 3, Title 7.3, Government Code, shall satisfy the requirements for a Hazardous Waste Facility Permit.

(d) Waste facilities that accept only Group 2 or Group 3 wastes, pursuant to Sections 2521 and 2522, Title 23, California Administrative Code, or that have been designated as Class II-2 or Class III disposal sites pursuant to Sections 2511 and 2512, Title 23, California Administrative Code, shall be exempt from the permit requirement.

66373. Application for Hazardous Waste Facility Permit.

(a) A person desiring a Hazardous Waste Facility Permit shall submit to the Department a completed application on a form provided by the Department.

(b) An operation plan in accordance with Section 66376 of this Chapter shall accompany the application.

(c) A person desiring a Hazardous Waste Facility Permit to operate a new facility may be required to submit a report that describes potential impacts on public health and safety and on wildlife and domestic livestock that could be caused by site acquisition and development, construction, operation, accidents and closure of the hazardous waste facility.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (b) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66376. Operation Plan.

(a) The operation plan for hazardous waste facilities shall include:

(1) Known or anticipated types, general characteristics and weight or volume of hazardous waste received or handled.

(2) A list of equipment which the facility will have in conformance with Section 66525 of this Chapter.

(3) A general description of the operational procedures to be conducted at the facility, including procedures that will ensure compliance with this Chapter, and that will protect public health and safety, domestic livestock and wildlife.

(4) A general description of procedures for receiving and identifying hazardous wastes and for deployment of qualified personnel for supervision of handling and disposal of hazardous waste.

(5) A description of procedures planned for closure of the hazardous waste disposal site if closure is expected within the next five years.

(6) A map drawn to an appropriate scale such as 200 feet to the inch. The map shall show the following:

(A) Existing topographical contours of the property.
(B) Proposed final elevations of the completed disposal site.
(C) Legal boundaries for which clear title or lease is held by the person desiring a permit.
(D) Locations of permanent access and permanent internal roads.
(E) Location and type of fencing.
(F) Locations of unloading facilities, treatment facilities, storage facilities, equipment cleaning areas and disposal areas.
(G) Locations and descriptions of environmental monitoring stations.
(H) All land uses and zoning outside of the hazardous waste facility and within one-quarter mile of the perimeter for proposed new facilities if available to the applicant.
(I) Locations of facilities for control of surface or subsurface drainage, leachate or landfill gases.
(J) Locations of power lines, pipelines and easements through the hazardous waste facility.
(7) A contingency plan which sets forth the following:
(A) Actions that would be taken when an accident or accidental discharge occurs.
(B) The equipment and manpower available to correct effects of an accident or accidental discharge.
(C) Emergency procedures for evacuating employees and notifying agencies responsible for provision of services during emergencies.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (a)(2) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).
2. Editorial correction of History NOTE No. 1.

66379. Issuance of Hazardous Waste Facility Permit.

(a) After receiving an application and operation plan, the Department shall issue a Hazardous Waste Facility Permit, or specify modifications that must be made as a prerequisite for issuance of a permit, or deny the permit.
(b) The Department shall issue a Hazardous Waste Facility Permit only upon finding that the person desiring the permit will conform to the requirements of this Chapter.
(c) The Department shall issue a Hazardous Waste Facility Permit only for a disposal site for which the regional water quality control board has issued waste discharge requirements or has granted a waiver pursuant to Section 13269, Water Code.
(d) The Department shall act on the permit application within 60 days of receipt of the application and operation plan.

66381. Conditions of Hazardous Waste Facility Permit.

(a) The operator shall comply with the requirements of this Chapter and with conditions on the Hazardous Waste Facility Permit specified by the Department.
(b) The Department may issue a permit subject to special conditions, such as:
(1) Types of hazardous wastes which may be accepted or disposed of.
(2) Special operating conditions.

(3) Procedures, conditions and changes necessary to comply with the requirements of this Chapter.
(4) Deadlines for provision of corrective actions.
(5) Other provisions to ensure compliance with the requirements of this Chapter.
(c) The Department shall review each permit at least every five years and shall notify each operator in writing when the permit review has been completed. Any changes in permit conditions shall be included in the notification.
(d) The operator shall handle a waste as a hazardous waste if any section of the hazardous waste manifest indicates that the waste may be hazardous or may contain hazardous materials.

66384. Filing of Hazardous Waste Facility Permit.

The Hazardous Waste Facility Permit shall be kept on file at the approved hazardous waste facility or at the place of business maintained by the operator.

66387. Prohibition of Delivery to Unpermitted Facility.

(a) Beginning six months from the effective date of this Chapter and except as otherwise provided in Sections 66370 and 66490, no person shall deliver hazardous waste to a waste facility for which the operator has:
(1) Not applied to the Department for a Hazardous Waste Facility Permit.
(2) Been denied a Hazardous Waste Facility Permit by the Department.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (a) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66390. Modification of Hazardous Waste Facility Permit to Include New Conditions.

(a) The Department may at any time modify a permit issued pursuant to this Chapter to include new special conditions required to comply with the requirements of this Chapter.
(b) The operator shall take prompt action to comply with the new special conditions, or within 15 working days of receipt of notification of the new special conditions, petition the Department for a hearing in accordance with Section 66344 of this Chapter.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (b) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66393. Deficiencies.

(a) The Department shall notify the operator of any noncompliance with the requirements of this Chapter or with conditions on the permit.
(b) The operator shall provide the Department a plan of correction to be implemented within a reasonable time.
(c) If the operator fails to accomplish an agreed upon step in the plan of correction within the time period specified, the Director may take action to modify, suspend or revoke the permit.

66396. Modification, Suspension and Revocation of a Permit.

(a) The Director may modify, suspend or revoke a permit issued pursuant to this Chapter for:

(1) Violation of any requirement of this Chapter.
(2) Aiding, abetting or permitting the violation of any provisions of this Chapter.
(3) Action or omission associated with maintenance and operation of the facility that could cause or allow hazard to public health and safety, domestic livestock or wildlife.
(4) Violation of a condition of the Hazardous Waste Facility Permit, of a variance or of the requirements set forth in Article 7 of this Chapter.
(5) Misrepresentation or omission of a significant fact by the operator either in the application for the permit or in information subsequently reported to the Department.
(6) Failure to comply with an order issued by the Director.
(b) The Director may suspend a permit prior to any hearing when he determines such action is necessary to protect the public health and safety, domestic livestock or wildlife from imminent danger.
(c) The Director shall notify the operator of the hazardous waste facility of the suspension and the effective date thereof and at the same time shall provide the operator with an explanation of the basis of suspension.
(d) The operator shall take prompt action to correct the deficiencies cited by the Department or he may, within 15 working days of receipt of the suspension notice, petition the Department for a hearing in accordance with Section 66344 of this Chapter.
(e) The suspension shall remain in effect until the deficiencies are corrected to the satisfaction of the Department or until the Department makes a final determination based on the outcome of a hearing in accordance with Section 60181 of this Chapter. The determination may result in termination of the suspension, continuation of the suspension, modification of the permit or revocation of the permit.
(f) If the Director or his designee fails to make a final determination by the 20th day after the hearing has been completed, the suspension shall be deemed vacated.
(g) The Director may modify or revoke the permit if, after a hearing is held and the findings are duly considered, he determines that the provisions of this Chapter are violated.
(h) The withdrawal of an application for a permit shall not deprive the Director of authority to institute or continue a proceeding against the applicant upon any ground cited in this Chapter or on any ground provided by law.
(i) The suspension, expiration, revocation or forfeiture of a permit issued by the Department shall not deprive the Director of authority to institute or continue a proceeding against the operator.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (d) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66399. Petition for Reinstatement.

An operator whose permit has been suspended or revoked may petition the Department for reinstatement after 30 days or more have elapsed from the effective date of the decision or from the date of the denial of a similar petition.

66402. Modification of Processing Methods or Proposed Closure by Operator.

(a) The operator shall notify the Department in writing of any closing anticipated to be one year or longer, of a facility, or proposed major change of processing or disposal, or method of operation from that described in the operation plan 30 or more days before the proposed date of the closing or change.
(b) The operator shall not proceed with the closing or change without written approval from the Department.
(c) The Department shall respond to the operator within 15 days of the receipt of the notice of the proposed closing or change.

66405. Change of Operator.

(a) When an operator of a hazardous waste facility changes, the owner of the facility shall notify the Department in writing within 30 days after such change.
(b) Prior to the change in operators the new operator shall be notified in writing by the owner or his agent of the requirements of this Chapter and the conditions listed on the Hazardous Waste Facility Permit.
(c) A new operator shall meet all the conditions of the permit and shall operate in accordance with the approved plan of operation.

66408. Transfer of Hazardous Waste Facility Permit.

An operator holding a Hazardous Waste Facility Permit shall notify the Department in writing of the transfer of the Hazardous Waste Facility Permit to another operator within 30 days after the effective date of the transfer.

Article 5. Hazardous Waste Hauler Registration

66420. Registration of Haulers of Hazardous Waste.

(a) Beginning six months from the date of adoption of this Chapter, no person shall carry on, or engage in, the business of hauling hazardous waste, or the hauling of hazardous waste as a part of, or incidental to, any business, unless such person holds a valid registration issued by the Department.
(b) A person who is already engaged in hauling hazardous waste shall apply to the Department for registration as a hazardous waste hauler within 30 days from the date of adoption of this Chapter.

66428. Application for Registration as a Hazardous Waste Hauler.

(a) A person not registered by the State Water Resources Control Board as a liquid waste hauler and desiring to be registered as a hazardous waste hauler shall submit to the Department a completed application on a form provided by the Department.
(b) A signed statement certifying that the applicant understands and will comply with the applicable requirements of this Chapter shall accompany the application. The statement shall be on a form provided by the Department.

66436. Liquid Waste Haulers Registered by the State Water Resources Control Board.

Persons registered by the State Water Resources Control Board as Liquid Waste Haulers will be registered as hazardous waste haulers by reciprocity upon signing the statement required in Section 66428(b).

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66444. Issuance of Registration as a Hazardous Waste Hauler.

The Department shall register the applicant as a hazardous waste hauler after the applicant has met the requirements of Section 66428.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66452. Suspension or Revocation of Registration as a Hazardous Waste Hauler.

(a) The Director may suspend or revoke registration as a hazardous waste hauler for:

(1) Violation of any applicable requirement of this Chapter.

(2) Aiding, abetting or permitting the violation of any provisions of this Chapter.

(3) Action or omission associated with the transportation of hazardous wastes that could cause hazard to public health or safety, domestic livestock or wildlife.

(4) Misrepresentation or omission of a significant fact either in the application for the registration or in information subsequently reported to the Department.

(5) Failure to comply with any order issued by the Director.

(b) The Director may temporarily suspend a hazardous waste hauler registration prior to any hearing when, in his opinion, such action is necessary to protect the public health, domestic livestock or wildlife.

(c) The Director shall notify the registered hazardous waste hauler of the temporary suspension and the effective date thereof and at the same time provide such person with an explanation of the basis of suspension.

(d) The suspended hauler shall take prompt action to correct violations cited by the Department or he may, within 15 days of receipt of the suspension notice, petition the Department for a hearing in accordance with Section 66344.

(e) The suspension shall remain in effect until the violation has been corrected to the satisfaction of the Department or until the Department makes a final determination based on the outcome of a hearing in accordance with Section 66344 of this Chapter. The determination may result in termination of the suspension, continuation of the suspension or revocation of the registration.

(f) If the Director fails to make a final determination by the 30th day after the hearing has been completed, the suspension shall be deemed vacated.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsections (d) and (e) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66460. Petition for Reinstatement as a Registered Hazardous Waste Hauler.

A hauler whose registration has been suspended or revoked may petition the Department for reinstatement after 30 days or more have elapsed from the effective date of the decision or from the date of the denial of a previous petition for reinstatement.

Article 6. Requirements for Management of Hazardous and Extremely Hazardous Wastes

66470. Hazardous Waste Manifest.

(a) All applicable sections of each manifest shall be accurately, completely and legibly filled out.

(b) The manifest shall be utilized for recording all liquid, solid, semisolid or gaseous hazardous wastes transported off-site to waste handling facilities, storage facilities, treatment facilities, resource recovery facilities, transfer stations or disposal sites.

(c) The manifest shall be carried by all haulers who transport hazardous waste on a public road, railroad or on water to a hazardous waste facility.

66475. Manifest Procedures for Producer.

(a) The producer of any hazardous or extremely hazardous waste to be disposed of off-site by other than pipeline conveyance shall complete and sign the Producer of Waste section of the manifest.

(b) The producer shall describe the wastes accurately. The description on the manifest shall include the type of waste, chemical composition and special handling instructions.

(c) The producer shall indicate on the manifest whether the waste is a hazardous or extremely hazardous waste.

(d) The producer shall write on the manifest the Department of Transportation proper shipping name as required by the California Highway Patrol pursuant to Part 172, Title 49 of the Code of Federal Regulations, for each load of hazardous waste before the waste is transported on a public road.

(e) The producer shall submit a copy of the manifest for each load of a hazardous waste, with the Producer of Waste section properly completed, to the registered hazardous waste hauler to whom he transfers custody of the waste when the transfer occurs.

(f) In cases of large waste volumes which require several loads, the producer may submit one manifest daily to the same registered hazardous waste hauler as long as the waste, the driver and the date of hauling remain unchanged. Each manifest shall indicate the volume of the waste hauled by the registered hazardous waste hauler.

(g) The producer of hazardous waste shall submit each month a legible copy of each manifest used during the previous month to the Department. The manifests shall contain all information required in the Producer of Waste and Hauler of Waste sections of the manifest.

66480. Manifest Procedures for Hauler.

(a) The hauler shall not accept hazardous waste until the manifest has been properly completed and signed by the producer of the waste.

(b) The hauler of hazardous waste shall complete the Hauler of Waste section of the manifest and shall give the producer a copy of the completed manifest prior to removal of the waste from the producer's facility.

(c) The hauler shall have a copy of the completed manifest in his possession while transporting the hazardous waste and shall release a copy of the manifest to the operator of the hazardous waste facility accepting the waste.

(d) A hauler transporting hazardous wastes into or out of the State shall have in his possession a copy of the manifest with the Producer of Waste and Hauler of Waste sections completed.

(e) The hauler shall submit to the Department a legible copy of the manifest completed by the producer, hauler and hazardous waste facility operator for each load of hazardous waste transported out of the State, within 30 days of the date that the load is so transported. The manifest shall state the name and complete address of the hazardous waste facility to which the waste is transported.

66485. Manifest Procedures for Operator of Off-site Facility.

(a) The operator of an off-site hazardous waste facility shall inspect wastes before accepting them to ensure that the delivered waste has essentially the same general properties as identified by the producer on the manifest.

(b) The operator of an off-site hazardous waste facility shall require that a manifest be completed for all hazardous wastes accepted.

(c) The operator shall complete the Disposer of Waste section of the manifest.

(d) The operator shall send legible copies of all completed hazardous waste manifests to the Department on a monthly basis in conformance with Section 66550 of this Chapter.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (d) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66490. Disposal of Hazardous Waste on Land.

(a) Except as otherwise provided in subsection (b), beginning six months after the effective date of this Chapter, no person shall dispose of a hazardous waste on land except at a site for which an appropriate Hazardous Waste Facility Permit has been issued by the Department.

(b) Hazardous wastes that are classified as Group 2 or Group 3 wastes pursuant to Sections 2521 and 2522, Title 23, California Administrative Code, e.g., asbestos, may be disposed of at disposal sites that do not require a Hazardous Waste Facility Permit pursuant to Section 66370 of this Chapter.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (b) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66495. Special Measures Required by Department.

(a) The Department shall require that any specified hazardous waste be treated before it is disposed of onto or into land or before it is applied to land, if necessary to avoid a hazard to public health, personal safety, wildlife or domestic livestock.

(b) In carrying out the purposes of this Chapter, the Department shall encourage the use of hazardous waste as an alternative to disposal, when the waste can be used without hazard to public health, personal safety, wildlife or domestic livestock.

66500. Incompatible Wastes.

(a) No person who hauls, handles, treats, mixes, stores or disposes of hazardous wastes shall create a situation where incompatible wastes can contact each other if such contact could result in a hazard to the health and safety of the public or employees or hazard to domestic livestock or wildlife.

(b) Storage and transportation containers holding wastes which might be incompatible shall be separated from each other or protected from each other in order to prevent the wastes from mixing should the containers break or leak.

(c) A waste shall not be added to an unwashed container that previously held an incompatible material.

(d) The mixing of incompatible wastes under controlled conditions to effect treatment shall be such that the chemical reactions do not result in a hazard to the health and safety of the public or employees or hazard to domestic livestock or wildlife.

66505. Operation Requirements for Producer.

(a) The producer of any waste shall determine whether the waste contains a hazardous material.

(b) The Department may require the producer to show, by test or reference to published literature, to the satisfaction of the Department whether or not the waste is a hazardous waste.

(c) The producer of a hazardous waste shall take steps to ensure that his waste is taken to a facility permitted by the Department to accept such waste.

66510. Operation Requirements for Hauler.

(a) The hauler of a hazardous waste shall comply with the appropriate requirements in Section 66480 and Section 66545.

(b) The hauler of a hazardous waste shall comply with requirements of this Chapter and with applicable provisions of hazardous materials regulations adopted by the Department of the California Highway Patrol, pursuant to Sections 34500 and 34501, Vehicle Code, governing containers, packing, labels, marking, vehicle placards, shipping papers, loading, shipping certificates and incident reporting.

(c) No hauler shall deliver hazardous waste to other than a hazardous waste facility which has an appropriate and valid Hazardous Waste Facility Permit issued by the Department.

(d) The hauler shall not transport hazardous waste in a manner that could result in a hazard to public health, personal safety, wildlife or domestic livestock.

(e) The hauler shall use a covered container to transport hazardous wastes that are subject to volatilization or dispersal by wind.

(f) A hauler who discharges hazardous waste at other than a hazardous waste facility which has a Hazardous Waste Facility Permit issued by the Department shall collect the discharged waste and contaminated soil and dispose of the waste and soil in compliance with this Chapter.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (a) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66520. Personnel Requirements for Operator.

(a) The operator of a hazardous waste facility shall maintain personnel at the facility as necessary to provide effective and timely action with regard to operation, maintenance, environmental controls, records, emergencies and health and safety.

(b) The operator shall provide at the facility at least one qualified person who is able to conduct field tests of wastes for at least pH and flammability if appropriate, when hazardous waste is accepted, except when the characteristics of the waste have been represented by sampling of previously accepted loads of waste from the same source.

(c) The operator of a hazardous waste facility shall provide adequate supervision to ensure that the operation of the facility and the activities conducted at the facility are in compliance with all applicable laws, regulations, permit conditions and other requirements. The Department and local fire authority shall be kept currently advised of the names, addresses and telephone numbers, including emergency telephone numbers, of the operator, station manager and supervisor.

66525. Equipment Requirements for Operator.

(a) Hazardous waste facilities shall be designed, equipped and operated to prevent discharge of hazardous wastes outside areas designated in the operation plan, and shall prevent hazards to public health, personal safety, wildlife and domestic livestock.

(b) Equipment used to handle, treat, store or dispose of hazardous waste shall be designed to avoid an uncontrolled reaction, fire, explosion or discharge of hazardous waste.

(c) If an onsite water supply is used for controlling dust and fires, cleaning equipment or other purposes, and does not meet all health standards for drinking water, all faucets or taps shall be clearly labeled in English "POLLUTED—NOT SAFE FOR HUMAN USE", and Spanish "PELIGRO, CONTAMINACION, NO USAR".

(d) If a public water supply is used at the facility, the service connection shall be protected from contamination as specified in Section 7604, Title 17 of the California Administrative Code.

(e) The operator shall provide or otherwise require special equipment such as lifts, ramps and lines to remove containerized hazardous waste from vehicles and containers if necessary to prevent hazards to public health, personal safety, wildlife or domestic livestock.

(f) If a hazardous waste facility is open to the public, access roads leading to areas where hazardous wastes are handled, ponded or stored shall be clearly marked with notices that are legible from a distance of at least 25 feet, warning of the presence of hazardous wastes. Signs or traffic controllers shall be strategically located to prevent the public from being exposed to hazardous wastes.

(g) The Department may, on a case-by-case basis, require the hazardous waste facility to have one or more of the following, if necessary, to protect public health and safety.

(1) A telephone or radio for summoning aid in an emergency.

(2) Protective clothing and equipment to enable employees of the facility to work safely with the hazardous wastes that are accepted at the facility.

(3) At least one safety shower and one eyewash that are readily available to all personnel working in hazardous waste areas.

(4) First aid supplies.

(h) The hazardous waste facility shall have:

(1) Posting and fences as necessary to protect public health and safety, domestic livestock and wildlife.

(2) Sufficient lighting to ensure safety and to permit effective supervision of hazardous waste handling, processing or disposal if operated during hours of darkness.

66530. Operation Requirements for Operator.

(a) The operator of a hazardous waste facility shall provide for disposal or use of all hazardous waste in his custody. He shall ensure that disposal is in accordance with the requirements of this Chapter, and that any use he makes of a hazardous waste will not imperil public health and safety, wildlife or domestic livestock.

(b) The operator of a hazardous waste facility shall operate the facility in accordance with the requirements of this Chapter, the conditions of the Hazardous Waste Facility Permit issued by the Department and the operation plan filed with the Department.

(c) The operator of a hazardous waste facility which is open to the public shall provide during all operating hours an attendant at the facility who is competent to supervise all activities at the site so that they are in accordance with the requirements of this Chapter and the conditions of a permit issued by the Department for the facility.

(d) Hazardous waste shall be handled, treated, stored or disposed of only within the hazardous waste area designated in the operation plan filed with the Department.

(e) The operator shall ensure that methods used to handle, treat, store or dispose of hazardous waste at the hazardous waste facility are designed to avoid:

(1) Discharge of hazardous waste outside the designated hazardous waste area.

(2) Movement of hazardous waste to an area outside the designated hazardous waste area.

(3) Contamination of a person by hazardous waste.

(4) Undue exposure of a person to hazardous waste.

(5) Hazard to public health and safety, wildlife or domestic livestock.

(f) To prevent hazardous waste from being blown by the wind, hazardous waste in the form of powder, dust or a fine solid shall be handled, treated, stored and disposed of in covered containers or, if the waste is not water reactive, shall be wetted as a slurry. Solids that would not be blown by the wind shall be exempt from this requirement.

(g) Hazardous wastes that are capable of releasing hazardous gases, mists or vapors in excess of existing air quality standards or where the emitted hazardous materials could result in a hazard to public health and safety, domestic livestock or wildlife shall not be deposited in open ponds or in open disposal areas.

(h) Containers may be opened, emptied or buried within a hazardous waste area only if the nature of the waste and the precautions taken preclude fires, contamination of persons with hazardous waste, discharge of a hazardous waste outside the hazardous waste area and movement of hazardous waste to an area outside the hazardous waste area. Otherwise, containers holding hazardous wastes shall not be opened, handled or disposed of in a manner which may rupture the containers, or cause them to leak, before they are buried.

(i) Empty containers contaminated with hazardous materials shall be stored, handled, processed and disposed of as hazardous wastes in compliance with this Chapter. The operator shall store, handle, treat and dispose of emptied pesticide containers in accordance with the requirements of this Chapter and Title 3, Article 10, Group 3, Subchapter 3, Chapter 4, California Administrative Code.

(j) The operator of a hazardous waste facility shall expedite collection of hazardous waste that is accidentally discharged from designated storage, processing or disposal areas. The operator shall also collect soil contaminated by such discharge. The operator shall handle and dispose of such waste and soil as hazardous wastes in compliance with this Chapter and the approved operation plan.

(k) The hazardous waste facility shall be operated in such a manner as to minimize chance of fire and explosion.

(l) The operator shall make provision for prompt fire control.

(m) The operator shall make provision to prevent personnel from wearing clothing that is contaminated with hazardous waste.

(n) Equipment used at hazardous waste facilities, including but not limited to, storage containers, processing equipment, trucks, loaders, dozers and scrapers, that are contaminated with hazardous waste shall be decontaminated prior to being serviced or used in an area not used for hazardous waste, if servicing or use of contaminated equipment would cause a hazard to any person. Contaminated wash water, waste solutions or residues generated from washing or decontaminating the equipment shall be collected, and disposed of as hazardous wastes in compliance with this Chapter.

(o) Salvaging of hazardous waste shall be permitted only as described in the operation plan and provided that salvaging does not create nuisances or hazards to health and safety, domestic livestock or wildlife.

66535. Storage of Hazardous Waste.

(a) No person shall store a hazardous waste for longer than one year without written approval from the Department.

(b) Any person who stores a hazardous waste longer than one year shall pay the Department a fee as if it had been disposed of on land, in accordance with Article 8 of this Chapter. The fee shall be paid in the 13th month of storage.

(c) The Department may require that hazardous waste stored longer than one year be removed and disposed of in a manner acceptable to the Department.

(d) Storage of water-reactive hazardous waste shall be in a raintight and waterproof area.

(e) Nonstationary containers used for storing hazardous waste shall be such that the containers can be safely transported, handled or moved.

(f) Storage of hazardous waste shall be in a secure enclosure, including but not limited to, a building, room or fenced area, which shall prevent unauthorized persons from gaining access to the waste and in such a manner that will minimize the possibility of spills and escape from the area designated in the operation plan. A caution sign shall be posted and visible from any direction of access or view of hazardous waste stored in such enclosure. Wording of caution signs shall be in English, "CAUTION—HAZARDOUS WASTE STORAGE AREA—UNAUTHORIZED PERSONS KEEP OUT", and Spanish, "CUIDADO! ZONA DE RESIDUOS PELIGROSOS. PROHIBIDA LA ENTRADA A PERSONAS NO AUTORIZADAS".

(g) A label shall be maintained on all nonstationary containers in which hazardous wastes are stored for 90 days or more and records for the storage of all hazardous wastes shall be maintained pursuant to Section 66545. Labels shall include the following information:

(1) Composition and physical state of the waste.

(2) Special safety recommendations and precautions for handling the waste.

(3) Statement or statements which call attention to the particular hazardous properties of the waste.

(4) Amount of waste and name and address of the person producing the waste.

(5) Date of acceptance at the storage facility.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (g) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66540. Operation Requirements for Operator of a Disposal Site.

(a) The operator of a disposal site that handles both hazardous and nonhazardous waste shall make provisions to keep the public from being exposed to the hazardous waste.

(b) Extremely hazardous wastes, flammable wastes, water-reactive wastes and strong oxidizers shall not be applied directly to the working face of a landfill. Such wastes shall be deposited behind the working face in trenches or wells at landfill sites pursuant to the conditions of the Hazardous Waste Facility Permit.

(c) The Department may require the operator to remove from the disposal site and properly dispose of any hazardous waste if the disposal of the waste was not consistent with the requirements of this Chapter and conditions specified by the Department in the Hazardous Waste Facility Permit.

(d) Hazardous waste that has been deposited in a hazardous waste area shall not be excavated, removed or recovered without written approval of the Department. All subsequent handling, treatment, storage or disposal of such hazardous waste shall be in conformance with this Chapter. A completed manifest shall accompany the wastes if transported to an off-site hazardous waste facility and applicable fees shall be paid pursuant to Section 66670 of this Chapter.

(e) Burning wastes shall not be deposited within a hazardous waste area.

(f) Forbidden or Class A explosive wastes as defined in Title 49, Code of Federal Regulations, Sections 173.51 and 173.53, shall not be disposed of on land. Such wastes shall be destroyed or used so as not to present a hazard to persons, domestic livestock or wildlife.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (d) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66545. Records.

(a) Hazardous waste haulers and hazardous waste facility operators shall maintain at their business addresses for a period of not less than one year the following information:

(1) The names, addresses and telephone numbers of the waste producer, hauler, processor and disposal site operator of each load of waste hauled, received or stored.

(2) The source, identity, chemical composition, volume, physical state, container type and hazardous properties of each load of waste received, hauled or stored at the site.

(3) The method used to process or dispose of each waste.
(4) The date that each hazardous waste was received for storage.
(b) Copies of completed manifests may serve the purposes in items (1) through (4).
(c) The operator of a hazardous waste disposal site where solid and hazardous wastes are not commingled shall record on a grid or other suitable map the general locations where hazardous wastes have been disposed of. The hazardous waste types shall be identified on the grid or map by the types of waste, including but not limited to, the following where applicable: acid solution, alkaline solution, pesticides, paint sludge, solvent, tetraethyl lead sludge, chemical toilet waste, tank bottom sediment, oil drilling mud, contaminated oil and sand and latex waste.

66550. Monthly Reports by Operator of Off-site Hazardous Waste Facility.
(a) The operator of an off-site hazardous waste facility shall submit to the Department by the last day of each month:
(1) A report showing the amount of fees due and payable to the Department for the previous month.
(2) Information on hazardous waste delivered to him during the previous month other than by pipeline, consisting of a legible copy of the completed manifest for each load of hazardous waste accepted, and a report that summarizes the numbers of loads of hazardous waste received, disposed of on land and applied to land. A copy of the monthly operator report to the regional water quality control board may, with appropriate modifications, be used for the report.
(3) Information on hazardous waste delivered to him during the previous month by pipeline, consisting of a record of each hazardous waste disposed of during the previous month, showing the identity, source, chemical composition, weight or volume, physical state, hazardous properties and method used to dispose of each waste.

66555. Monthly Reports by Operator of On-site Hazardous Waste Facility.
(a) The operator of an on-site hazardous waste facility shall submit to the Department by the last day of each month:
(1) A record of all hazardous waste disposed of during the previous month, showing the identity, source, chemical composition, weight or volume, physical state, container type, hazardous properties and method used to dispose of each waste.
(2) A report showing the amount of fees due and payable to the Department for the previous month.

66560. Accident Reports.
Haulers of hazardous waste and operators of hazardous waste facilities shall report to the Department by telephone or telegraph any incident or accident within 24 hours of the time of occurrence, which results in or could result in a hazard to public health and safety, wildlife or domestic livestock or could result in the discharge of hazardous waste outside of a hazardous waste area designated in the operation plan. The Department may require that a written report of the incident or accident be provided within 30 days.

Article 7. Additional Requirements for Management of Extremely Hazardous Wastes

66570. Requirement for Extremely Hazardous Waste Disposal Permit.
(a) No extremely hazardous waste shall be handled or disposed of in California except pursuant to an Extremely Hazardous Waste Disposal Permit issued by the Department.
(b) No person shall dispose of waste that may reasonably be considered to be an extremely hazardous waste without first obtaining an Extremely Hazardous Waste Disposal Permit from the Department.
(c) The operator of a waste disposal site shall not accept an extremely hazardous waste without having a copy of the Extremely Hazardous Waste Disposal Permit issued by the Department covering said waste unless specific approval of the Department is obtained.
(d) No person shall deviate from methods approved by the Department for handling or disposal of an extremely hazardous waste without the written permission of the Department.

66595. Application for Extremely Hazardous Waste Disposal Permit.
(a) The producer of extremely hazardous waste shall apply for an Extremely Hazardous Waste Disposal Permit from the Department at least 15 days prior to the intended date of disposal of the waste.
(b) The application shall include, but not be limited to:
(1) The amount, type and chemical composition of the waste.
(2) The proposed methods of handling and disposal of the waste.
(3) The name and address of the proposed hauler.
(4) The name and address of the proposed disposal site.
(c) Within 10 days after receiving an application, the Department shall take one of the following actions:
(1) Approve the proposed handling and disposal methods and issue a written disposal permit.
(2) Require that the proposed methods be specifically modified.
(3) Deny the disposal permit.
(4) Notify the producer that further evaluation of the proposed handling and disposal methods will be required before the Department makes a decision.
(d) On a showing of good cause by the producer of an extremely hazardous waste, the Department may not require the 15-day notice period and may immediately issue an Extremely Hazardous Waste Disposal Permit.
(e) The extremely hazardous waste producer shall notify the Department by telephone and subsequently by certified mail if such a variance is requested. If a situation creates a need for immediate processing or disposal of an extremely hazardous waste to prevent hazards to public health and safety, the Department need not be notified prior to disposal. As soon as possible thereafter, the Department shall be notified by telephone or telegraph. Subsequently, the extremely hazardous waste producer shall notify the Department by certified mail detailing the amount and type of the extremely hazardous waste and the emergency processing or disposal method used and the reason why the emergency action was undertaken.
(f) If the method used to process or dispose of the extremely hazardous waste is unacceptable to the Department, the Department may require that the waste be reprocessed, or removed and disposed of elsewhere. If these actions are necessary, the Department shall reply within 10 working days after receiving written notification.

66620. Removal of Spilled or Improperly Deposited Waste.

The Department may require the operator to remove from the disposal site and properly dispose of any extremely hazardous waste disposed of or applied on land, and any soil contacted by the waste, if the disposal or application of the waste was not consistent with the requirements of this Chapter and the conditions of the Extremely Hazardous Waste Disposal Permit issued by the Department.

66645. Recurring Disposal of Extremely Hazardous Waste.

The Department may grant a producer of an extremely hazardous waste an Extremely Hazardous Waste Disposal Permit, valid up to 12 months, that specifies approved methods for the handling and disposal of a specific extremely hazardous waste that is routinely produced.

Article 8. Fees

66670. Fees for Off-site Disposal.

(a) The operator of an off-site hazardous waste facility shall pay fees to the Department for hazardous waste which he disposes of on or into land or applies to land, based on:

(1) Manifests received at the site for hazardous wastes delivered to him other than by pipeline.

(2) Other waste disposal records maintained in accordance with Section 66550 (a) (3) for hazardous wastes delivered to him by pipeline.

(b) The operator of an off-site hazardous waste facility shall pay fees to the Department for the first 2,500 tons per month received from one specific site of one specific producer of hazardous waste. The fees, which shall be increased at a rate of 10 percent per month if not paid within 60 days of the month of disposal, shall be:

(1) One dollar for each load of hazardous waste, delivered to him other than by pipeline, which weighs one ton or less and which he disposes of on land or applies to land.

(2) One dollar for each load or one dollar per ton, whichever is greater, for each load of hazardous waste, delivered other than by pipeline, which weighs more than one ton and which is disposed of on land or is applied to land.

(3) One dollar per ton for all hazardous waste delivered to him by pipeline, based on the weight disposed of on land or applied to land.

(c) No more than $2,500 need be paid the Department for any amount of hazardous waste received from one specific site owned by a specific producer of hazardous waste during one month.

(d) If scales are not available at a hazardous waste facility, the operator shall calculate the weight of all hazardous waste disposed of based on the known or estimated volume and density of the waste or based on other measurements or estimates approved by the Department.

(e) Hazardous wastes transported on public roads and subsequently disposed of legally to sanitary sewers shall not be exempted from the disposal fees nor from the requirements of this Chapter. The sewerage agency shall send legible copies of all completed hazardous waste manifests to the Department on a monthly basis along with one dollar per ton for the wastes so disposed.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (a) (2) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66672. Fees for On-site Disposal.

(a) The operator of an on-site hazardous waste facility shall pay a fee of one dollar per ton to the Department for the first 2,500 tons of hazardous waste which he disposes of on or into land or applies to land in any one month.

(b) No more than $2,500 need be paid the Department for any amount of hazardous waste disposed of at one specific on-site hazardous waste facility in one month.

(c) The fees shall be increased at a rate of 10 percent per month if not paid within 60 days of the month of disposal.

66674. Payment of Fees.

Fees due the Department shall be mailed to the following address:

State Department of Health
Accounting Section
Hazardous Waste Control Account
744 P Street
Sacramento, CA 95814

66676. Waiver of Fee.

(a) The operator of a hazardous waste facility shall pay the appropriate fee as required by this Article unless the Department has given the operator a written waiver of fees for disposal of that waste. The fee may be waived if it is shown to the satisfaction of the Department that the waste has been rendered nonhazardous.

(b) Requests for waiver shall be made in writing and shall include:

(1) A description of the processing method used.

(2) A chemical analysis of the waste before and after treatment.

(3) The volume of the waste before and after treatment.

(4) The volumes and compositions of any hazardous residues which are removed from the waste or which are generated as result of treatment of the waste.

(5) The method to be used for disposal of the treated waste and of any residues.

(c) The Department may obtain and analyze samples of the waste collected before and after treatment.

(d) The Department shall continue, grant or deny each request within 30 days.

(e) The Department may waive the fee for disposal of a waste for a period up to 12 months, provided the treatment and disposal method and the chemical composition of the waste do not change during that period.

Article 9. Hazardous Wastes and Hazardous Materials

66680. Lists of Chemical Names and Common Names.

(a) A waste that consists of or contains a material cited in the List of Chemical Names or the List of Common Names presented in this Article shall be considered a hazardous waste and shall be handled and disposed of according to the requirements set forth in this Chapter, unless it is shown to the satisfaction of the Department that the waste does not meet the definition of hazardous waste presented in Article 1 of this Chapter.

(b) The potential hazardous property of a material cited in the List of Chemical Names or the List of Common Names is indicated in the list as follows: (T) toxic, (C) corrosive, (I) irritant, (F) flammable, (S) strong sensitizer and (P) pressure generating. An asterisk (*) in Subsection (d) denotes an extremely hazardous waste (see Article 10 of this Chapter). All letters in trademark names are capitalized.

(c) A waste that meets the definition of hazardous waste presented in Article 1 of this Chapter shall be considered a hazardous waste whether or not the waste is cited in this Article. Such a waste shall be handled and disposed of according to the requirements of this Chapter.

(d) List of Chemical Names:

1. Acetaldehyde (T,F)
2. Acetic acid (T,C)
3. Acetone, Propanone (T,F)
4. *Acetone cyanohydrin (T)
5. Acetonitrile (T,F)
6. *2-Acetylaminofluorene, 2-AAf (T)
7. Acetyl benzoyl peroxide (T,F,P)
8. Acetyl chloride (T,C,F)
9. Acetyl peroxide (T,F,P)
10. Acridine (T,C)
11. *Acrolein, Aqualin (T,I,F)
12. *Acrylonitrile (T,F)
13. *Adiponitrile (T)
14. *Aldrin; 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo-exodimethanonaphthalene (T)
15. Alkyl aluminum chloride (C,F,P)
16. Alkyl aluminum compounds (C,F,P)
17. Allyl alcohol, 2-Propen-1-ol (T,F)
18. Allyl bromide, 3-Bromopropene (T,I,F)
19. Allyl chloride, 3-Chloropropene (T,I,F)
20. Allyl chlorocarbonate, Allyl Chloroformate (T,I,F)
21. Allytrichlorosilane (T,C,F)
22. Aluminum (powder) (F)
23. Aluminum chloride (T,C)
24. Aluminum fluoride (T,C)
25. Aluminum nitrate (F)
26. *Aluminum phosphide, PHOSTOXIN (T,F)
27. *4-Aminodiphenyl, 4-ADP (T)
28. *2-Aminopyridine (T)
29. *Ammonium arsenate (T)
30. *Ammonium bifluoride (T,C)
31. Ammonium chromate (T,S,F)
32. Ammonium dichromate, Ammonium bichromate (T,C,S,F)
33. Ammonium fluoride (T,C)
34. Ammonium hydroxide (T,C)
35. Ammonium molybdate (T)
36. Ammonium nitrate (F,P)

37. Ammonium perchlorate (I,F,P)
38. Ammonium permanganate (T,F,P)
39. Ammonium persulfate (F,P)
40. Ammonium picrate (T,S,P)
41. Ammonium sulfide (T,C)
42. n-Amyl acetate, 1-Acetoxypentane (and isomers) (T,F)
43. n-Amylamine, 1-Aminopentane (and isomers) (T,I,F)
44. n-Amyl chloride, 1-Chloropentane (and isomers) (T,F)
45. n-Amyl mercaptan, 1-Pentanethiol (and isomers) (T,F)
46. n-Amylene, 1-Pentene (and isomers) (T,F)
47. n-Amyl nitrate, n-Pentyl nitrite (and isomers) (T,F)
48. Amyl trichlorosilane (and isomers) (T,C)
49. Aniline, Aminobenzene (T,S)
50. Anisoyl chloride (T,C)
51. Anthracene (T,I)
52. Antimony (T)
53. Antimony compounds (T)
54. Antimony pentachloride (T,C)
55. Antimony pentafluoride (T,C)
56. Antimony pentasulfide (T,F)
57. Antimony potassium tartrate (T)
58. Antimony sulfate, Antimony trisulfate (T,F)
59. Antimony trichloride, Antimony chloride (T,C)
60. Antimony trifluoride, Antimony fluoride (T,C)
61. Antimony trioxide, Antimony oxide (T)
62. Antimony trisulfide, Antimony sulfide (T,F,P)
63. *Arsenic (T)
64. *Arsenic acid and salts (T)
65. *Arsenic compounds (T)
66. *Arsenic pentaselenide (T)
67. *Arsenic pentoxide, Arsenic oxide (T)
68. *Arsenic sulfide, Arsenic disulfide (T)
69. *Arsenic tribromide, Arsenic bromide (T,I)
70. *Arsenic trichloride, Arsenic chloride (T,I)
71. *Arsenic triiodide, Arsenic iodide (T)
72. *Arsenic trioxide, Arsenious oxide (T)
73. *Arsenious acid and salts (T)
74. *Arsines (T)
75. Asbestos (including chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite) (T)
76. *AZODRIN, 3-Hydroxy-N-cis-crotonamide (T)
77. Barium (T,F)
78. Barium azide (T,P)
79. Barium bromide (T)
80. Barium carbonate (T)
81. Barium chlorate (T,C,F,P)
82. Barium chloride (T)
83. Barium chromate (T)
84. Barium citrate (T)

85. Barium compounds (soluble) (T)
86. *Barium cyanide (T)
87. Barium fluoride (T)
88. Barium fluosilicate (T)
89. Barium hydroxide (T)
90. Barium iodide (T)
91. Barium manganate (T)
92. Barium nitrate (T,F)
93. Barium oxide, Barium monoxide (T,I)
94. Barium perchlorate (T,F,P)
95. Barium permanganate (T,F,P)
96. Barium peroxide (T,F,P)
97. Barium phosphate (T)
98. Barium stearate (T)
99. Barium sulfide (T)
100. Barium sulfite (T)
101. Benzene (T,F)
102. Benzene hexachloride, BHC; 1,2,3,4,5,6-Hexachlorocyclohexane (T,I)
103. Benzenephosphorous dichloride (T,I)
104. Benzenesulfonic acid (T,C)
105. *Benzidine and salts (T)
106. *Benzotrifluoride, Trifluoromethylbenzene (T,F)
107. Benzoyl chloride (T,C)
108. Benzoyl peroxide, Dibenzoyl peroxide (T,F,P)
109. Benzyl bromide, alpha-Bromotoluene (T,C)
110. Benzyl chloride, alpha-Chlorotoluene (T,I)
111. Benzyl chlorocarbonate, Benzyl chloroformate (T,C)
112. *Beryllium (T,F)
113. *Beryllium chloride (T)
114. *Beryllium compounds (T)
115. *Beryllium copper (T)
116. *Beryllium fluoride (T)
117. *Beryllium hydride (T,C,F)
118. *Beryllium hydroxide (T)
119. *Beryllium oxide (T)
120. *BIDRIN, Dicrotophos, 3-(Dimethylamino)-1-methyl-3-oxo-1-propenyl dimethyl phosphate (T)
121. *bis (Chloromethyl) ether, Dichoromethylether, BCME(T)
122. Bismuth (T,F)
123. *bis (Methylmercuric) sulfate, CEREWET, Ceresan liquid (T)
124. Bismuth chromate (T,S)
125. *BOMYL, Dimethyl 3-hydroxyglutaconate dimethyl phosphate (T)
126. *Boranes (T,F)
127. *Bordeaux arsenites (T)
128. Boron trichloride (T,C)
129. Boron trifluoride (T,C)
130. Bromic acid (T,C)
131. *Bromine (T,C,F)

132. *Bomine pentafluoride (T,C,F)
133. *Bromine trifluoride (T,C,F)
134. *Brucine, Dimethoxystrychnine (T)
135. 1,2,4-Butanetriol trinitrate (P)
136. n-Butyl acetate, 1-Acetoxybutane (and isomers) (T,I,F)
137. n-Butyl alcohol, 1-Butanol (and isomers) (T,I,F)
138. n-Butyl amine, 1-Aminobutane (and isomers) (T,I,F)
139. n-Butyl formate (and isomers) (T,I,F)
140. tert-Butyl hydroperoxide, (and isomers) (T,F)
141. n-Butyllithium (and isomers) (T,C,F)
142. n-Butyl mercaptan, 1-Butanethiol (and isomers) (T,F)
143. tert-Butyl peroxyacetate, tert-Butyl peracetate (F)
144. tert-Butyl peroxybenzoate, tert-Butyl perbenzoate (F)
145. tert-Butyl peroxypivalate (F,P)
146. n-Butyltrichlorosilane (C,F)
147. para-tert-Butyl toluene (T)
148. n-Butyraldehyde, n-Butanal (and isomers) (T,F)
149. *Cacodylic acid, Dimethylarsinic acid (T)
150. Cadmium (powder) (T,F)
151. Cadmium chloride (T)
152. Cadmium compounds (T)
153. *Cadmium cyanide (T)
154. Cadmium fluoride (T)
155. Cadmium nitrate (T,F,P)
156. Cadmium oxide (T)
157. Cadmium phosphate (T)
158. Cadmium sulfate (T)
159. Calcium (F)
160. *Calcium arsenate, PENSAL (T)
161. *Calcium arsenite (T)
162. Calcium carbide (C,F)
163. Calcium chlorate (F)
164. Calcium chlorite (F)
165. Calcium fluoride (T,I)
166. Calcium hydride (C,F)
167. Calcium hydroxide, Hydrated lime (C)
168. Calcium hypochlorite, Calcium oxychloride (T,C,F)
169. Calcium molybdate (T)
170. Calcium nitrate, Lime nitrate, Nitrocalcite (F,P)
171. Calcium oxide, Lime, Slaked Lime (C)
172. Calcium permanganate (T,I,F)
173. Calcium peroxide, Calcium dioxide (C,F)
174. Calcium phosphide (T,F)
175. Calcium resinate (F)
176. Caprylyl peroxide, Octyl peroxide (F)
177. *Carbanolate, BANOL, 2-Chloro-4,5-dimethylphenyl methylcarbamate (T)
178. Carbon disulfide, Carbon bisulfide (T,F)
179. Carbon tetrachloride, Tetrachloromethane (T)

180. *Carbophenothion, TRITHION, S[(4-Chlorophenyl) thio]methyl] O, O-diethyl phosphorodithioate (T)
181. Choral hydrate, Trichloroacetaldehyde (hydrated) (T)
182. Chlordan; 1,2,4,5,6,7,8,8-Octachloro-4,7-methoano-3a,4,7,7a-tetrahydroindane (T)
183. *Chlorfenvinphos, Compound 4072, 2-Chloro-1-(2,4-dichlorophenyl) vinyl diethyl phosphate (T)
184. *Chlorine (T,C,F)
185. *Chlorine dioxide (T,C,F,P)
186. *Chlorine pentafluoride (T,C,F,P)
187. *Chlorine trifluoride (T,C,F,P)
188. *Chloroacetaldehyde (T,F)
189. *alpha-Chloroacetophenone, Phenyl chloromethyl ketone (T,I)
190. *Chloroacetyl chloride (T,C)
191. Chlorobenzene (T,F)
192. Para-Chlorobenzoyl peroxide (F,P)
193. *ortho-Chlorobenzylidene malonitrile, OCMB (T)
194. Chloroform, Trichloromethane (T)
195. *Chloropicrin, Chlorpicrin, Trichloronitromethane (T,I)
196. Chlorosulfonic acid (T,C,F)
197. Chloro-ortho-toluidine, 2-Amino-4-chlorotoluene (T,I)
198. Chromic acid, Chromium trioxide, Chromic anhydride (T,C,F,S)
199. Chromic chloride, Chromium trichloride (T,I,S)
200. Chromic fluoride, Chromium trifluoride (T,I,S)
201. Chromic hydroxide, Chromium hydroxide (T,I,S)
202. Chromic oxide, Chromium oxide (T,I,S)
203. Chromic sulfate, Chromium sulfate (T,I,S)
204. Chromium (IV) compounds, Hexavalent chromium compounds (T,C,F,S)
205. Chromyl chloride, Chlorochromic anhydride (T,C,F,S)
206. Cobalt (powder) (T,F)
207. Cobalt compounds (T)
208. Cobaltous bromide, Cobalt bromide (T)
209. Cobaltous chloride, Cobalt chloride (T)
210. Cobaltous nitrate, Cobalt nitrate (T,F)
211. Cobaltous resinate, Cobalt resinate (T,F)
212. Cobaltous sulfate, Cobalt sulfate (T)
213. Cocculus, Fishberry (T)
214. Collodion, Pyroxylin (nitrocellulose) in ether and alcohol (F)
215. *Copper acetoarsenite, Paris green (T)
216. Copper acetylide (T,P)
217. *Copper arsenate, Cupric arsenate (T)
218. *Copper arsenite, Cupric arsenite (T)
219. Copper chloride, Cupric chloride (T)
220. Copper chlorotetrazole (T,P)
221. Copper compounds (T)
222. *Copper cyanide, Cupric cyanide (T)
223. Copper nitrate, Cupric nitrate (T,F,P)
224. Copper sulfate, Cupric sulfate, Blue vitriol (T)

225. *Coroxon; ortho,ortho-Diethyl-ortho-(3-chloro-4-methylcoumarin-7-yl) phosphate (T)
226. *Coumafuryl, FUMARIN, 3-[1-(2-Furanyl)-3-oxobutyl]1-4-hydroxy-2H-1-benzopyran-2-one (T)
227. *Coumatetralyl, BAYER 25634, RACUMIN 57, 4-Hydroxy-3-(1,2,3,4-tetrahydro-1-naphthalenyl)-2H-1-benzopyran-2-one (T)
228. *Crimidine, CASTRIX, 2-Chloro-4-dimethylamino-6-methylpyrimidine (T)
229. *Crotonaldehyde, 2-Butenal (T,I,F)
230. Cumene, Isopropyl benzene (T)
231. Cumene hydroperoxide; alpha,alpha-Dimethylbenzyl hydroperoxide (T,F)
232. Cupriethylene diamine (T,I)
233. *Cyanide salts (T)
234. Cyanoacetic acid, Malonic nitrile (T,C)
235. *Cyanogen (T,F)
236. Cyanogen bromide, Bromine cyanide (T,I)
237. Cyanuric triazide (T,P)
238. Cycloheptane (T,F)
239. Cyclohexane (T,F)
240. Cyclohexanone peroxide (T,F)
241. Cyclohexenyltrichlorosilane (T,C)
242. *Cycloheximide, ACTIDIONE (T,I)
243. Cyclohexyltrichlorosilane (T,C)
244. Cyclopentane (T,F)
245. Cyclopentanol (F)
246. Cyclopentene (T,F)
247. DDT; 1,1,1-Trichloro-2,2-bis(chlorophenyl) ethane (T)
248. *DDVP, Dichlorvos, VAPONA, Dimethyl dichlorovinyl phosphate (T)
249. *Decaborane (T,F,P)
250. DECALIN, Decahydronaphthalene (T,I)
251. *Demeton, SYSTOX (T)
252. *Demeton-S-methyl sulfone, METAISOSYSTOX-SULFON, S-[2-(ethylsulfonyl) ethyl] O,O-dimethyl phosphorothinoate (T)
253. Diazodinitrophenol, DDNP, 2-Diazo-4,6-dinitrobenzene-1-oxide (T,P)
254. *Diborane, Diboron hexahydride (T,I,F)
255. 2,3-Dibromo-1-chloropropane, DBCP, FUMAZONE, NEMAGON (T,I)
256. n-Dibutyl ether, Butyl ether (and isomers) (T,F)
257. Dichlorobenzene (ortho, meta, para) (T,I)
258. *3,3-Dichlorobenzidine and salts, DCB (T)
259. 1,2-Dichloroethylene; 1,2-Dichloroethene (T,I,F)
260. Dichloroethyl ether, Dichloroether (T,I)
261. Dichloroisocyanuric acid, Dichloro-S-triazine-2,4,6-trione (T,F)
262. Dichloromethane, Methylene chloride (T,I)
263. 2,4-Dichlorophenoxyacetic acid; 2,4-D (T,I)
264. 1,2-Dichloropropane, Propylene dichloride (T,F)

265. 1,3-Dichloropropylene; 1,3-Dichloropropene (T,I,F)
266. Dicumyl peroxide (F)
267. Dieldrin; 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, exo-5,8-dimethanonaphthalene (T)
268. Diethylaluminum chloride, Aluminum diethyl monochloride, DEAC (F)
269. Diethylamine (T,I,F)
270. *Diethyl chlorovinyl phosphate, Compound 1836 (T)
271. Diethyldichlorosilane (T,C,F)
272. Diethylene glycol dinitrate (T,P)
273. Diethylene triamine (T,I,S)
274. *O,O-Diethyl-S-(isopropylthiomethyl) phosphorodithioate (T)
275. Diethylzinc, Zinc ethyl (C,F)
276. Difluorophosphoric acid (T,C)
277. *Diglycidyl ether, bis(2,3-Epoxypropyl) ether (T,S)
278. Diisopropylbenzene hydroperoxide (T,F)
279. Diisopropyl peroxydicarbonate (T,C,F,P)
280. *Dimefox, HANANE, PEXTOX 14, Tetramethylphosphorodiamidic fluoride (T)
281. Dimethylamine, DMA (T,I,F)
282. *Dimethylaminoazobenzene, Methyl yellow (T)
283. Dimethyldichlorosilane, Dichlorodimethylsilane (T,C,F)
284. 2,5-Dimethylhexane;2,5-Dihydroperoxide (I,F)
285. *1,1-Dimethylhydrazine, UDMH (T,F)
286. *Dimethyl sulfate, Methyl sulfate (T)
287. *Dimethyl sulfide, Methyl sulfide (T,F)
288. 2,4-Dinitroaniline (T,I)
289. *Dinitrobenzene (ortho, meta, para) (T,I,P)
290. Dinitrochlorobenzene, 1-Chloro-2,4-dinitrobenzene (T,I,P)
291. *2,6-Dinitro-ortho-cresol, DNPC, SINOX, EGETOL 30 (T)
292. *Dinitrophenol(2,3-;2,4-;2,6-isomers) (T,P)
293. 2,4-Dinitrophenylhydrazine (T,F,P)
294. Dinitrotoluene (2,4-;3,4-;3,5-isomers) (T,F,P)
295. *DINOSEB; 2,4-Dinitro-6-sec-butylphenol (T)
296. 1,4-Dioxane; 1,4-Diethylene dioxide (T,F)
297. *Dioxathion, DELNAV;S,S-1,4-dioxane-2,3-diyl bis(O,O-diethyl phosphorodithioate) (T)
298. Dipentaerythritol hexanitrate (P)
299. *Diphenyl, Biphenyl, Phenylbenzene (T)
300. Diphenylamine, DPA, N-Phenylaniline (T)
301. *Diphenylamine chloroarsine, Phenarazine chloride (T,I)
302. Diphenyldichlorosilane (T,C)
303. Dipicrylamine, Hexanitrodiphenyl amine (T,P)
304. Dipropyl ether (T,F)
305. *Disulfoton, DI-SYSTON;O,O-Diethyl S-[2-(ethylthio) ethyl] phosphorodithioate (T)
306. Dodecyltrichlorosilane (T,C)
307. *DOWCO-139, ZECTRAN, Mexacarbate, 4-(Dimethylamino -3,5-dimethylphenyl methylcarbarnate (T)

308. *DOWICIDE 7, Pentachlorophenol,PCP (T)
309. *DYFONATE, Fonofos, O-Ethyl-S-phenylethyl phosphonodithioate (T)
310. *Endosulfan, THIODAN; 6,7,8,9,10,10-Hexachloro- 1,5,5a,6,9, 9a-hexahydro-6,9-methano-2,4,3-benzo-dioxathiepin-3-oxide (T)
311. *Endothal, 7-Oxabicyclo [2.2.1]heptane-2,3-dicarboxylic acid (T)
312. *Endothion, EXOTHION, S-[(5-Methoxy-4-oxo-4H-pyran-2-yl)-methyl] O,O-dimethyl phosphorothioate (T)
313. *Endrin; 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4,4a,5,6,7,8,8a-octahydro-1,4-endo-endo-5,8-dimethanonaphthalene (T)
314. Epichlorohydrin, Chloropropylene oxide (T,I,F)
315. *EPN; O-Ethyl O-para-nitrophenyl phenyphosphonothioate (T)
316. *Ethion, NIALATE;O,O,O',O'-Tetraethyl-S,S-methylenediphosphorodithioate (T)
317. Ethyl acetate (T,I,F)
318. Ethyl alcohol, Ethanol (T,F)
319. Ethylamine, Aminoethane (T,I,F)
320. Ethylbenzene, Phenylethane (T,I,F)
321. Ethyl butyrate, Ethyl butanoate (I,F)
322. Ethyl chloride, Chloroethane (T,I,F)
323. Ethyl chloroformate, Ethyl chlorocarbonate (T,C,F)
324. *Ethyldichloroarsine, Dichloroethylarsine (T,I)
325. Ethyldichlorosilane (T,C,F)
326. Ethylene cyanohydrin, beta-Hydroxypropionitrile (T)
327. Ethylene diamine (T,I,S)
328. Ethylene dibromide, 1,2-Dibromoethane (T,I)
329. Ethylene dichloride, 1,2-Dichloroethane (T,I,F)
330. *Ethyleneimine, Aziridine, EI (T,F)
331. Ethylene oxide, Epoxyethane (T,I,F,P)
332. Ethyl ether, Diethyl ether (F,P)
333. Ethyl formate (T,I,F)
334. Ethyl mercaptan, Ethanethiol (T,F)
335. Ethyl nitrate (F,P)
336. Ethyl nitrite (F,P)
337. Ethylphenyldichlorosilane (T,C)
338. Ethyl propionate (I,F)
339. Ethyltrichlorosilane (T,I,F)
340. *Fensulfothion, BAYER 25141, DASANIT, O,O-Diethyl-O-[4-(methylsulfinyl)phenyl] phosphorothioate (T)
341. *Ferric arsenate (T,I)
342. Ferric chloride, Iron (111) chloride (T,C)
343. *Ferrous arsenate, Iron arsenate (T)
344. *Fluoboric acid, Fluoroboric acid (T,C)
345. Fluoride salts (T)
346. *Fluorine (T,C,F)
347. *Fluoroacetanilide, AFL 1082 (T)
348. *Fluoroacetic acid and salts, Compound 1080 (T)
349. *Fluorosulfonic acid, Fluosulfonic acid (T,C)

350. Formaldehyde, Methanal (T,F,S)
351. Formic acid, Methanoic acid (T,C)
352. Fulminate of mercury, Mercuric cyanate (T,P)
353. *FURADAN, NIA 10,242, Carbofuran; 2,3-Dihydro-2,2-dimethyl-7-benzofuranylmethylcarbamate (T)
354. Furan, Furfuran (T,F,P)
355. Gasoline (F)
356. *GB, O-Isopropyl methyl phosphoryl fluoride (T)
357. Glutaraldehyde (T,I,S)
358. Glycerolmonolactate trinitrate (P)
359. Glycol dinitrate, Ethylene glycol dinitrate (P)
360. Gold fulminate, Gold cyanate (P)
361. Guanidine nitrate (F,P)
362. Guanyl nitrosaminoguanylidene hydrazine (P)
363. Guthion; O,O-Dimethyl-S-4-oxo-1,2,3-benzotriazin-3(4H)-ylmethyl phosphorodithioate (T)
364. Hafnium (F)
365. Heptachlor; 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene (T)
366. n-Heptane (and isomers) (T,F)
367. 1-Heptene (and isomers) (T,F)
368. Hexadecyltrichlorosilane (T,C)
369. Hexaethyl tetraphosphate, HETP (T)
370. Hexafluorophosphoric acid (T,C)
371. Hexamethylenediamine; 1,6-Diaminohexane (T,I)
372. n-Hexane (and isomers) (T,F)
373. 1-Hexene (and isomers) (T,I,F)
374. n-Hexylamine, 1-Aminohexane (and isomers) (T,I,F)
375. Hexyltrichlorosilane (T,C)
376. *Hydrazine, Diamine (T,I,F)
377. Hydrazine azide (T,P)
378. Hydrazoic acid, Hydrogen azide (T,I,P)
379. Hydriodic acid, Hydrogen iodide (T,C)
380. Hydrobromic acid, Hydrogen bromide (T,C)
381. Hydrochloric acid, Hydrogen chloride, Muriatic Acid (T,C)
382. *Hydrocyanic acid, Hydrogen cyanide (T,F)
383. *Hydrofluoric acid, Hydrogen fluoride (T,C)
384. Hydrofluosilicic acid, Fluosilicic acid (T,C)
385. Hydrogen peroxide (T,C,F,P)
386. *Hydrogen selenide (T,I,F)
387. *Hydrogen sulfide (T,I,F)
388. Hypochlorite compounds (T,C,F)
389. Indium (T)
390. Indium compounds (T)
391. Iodine monochloride (T,C)
392. Isooctane; 2,2,4-Trimethylpentane (T,F)
393. Isooctene (mixture of isomers) (T,F)
394. Isopentane, 2-Methylbutane (T,F)
395. Isoprene, 2-Methyl-1,3-butadiene (T,I,F,P)

396. Isopropanol, Isopropyl alcohol, 2-Propanol (T,F)
397. Isopropyl acetate (T,F)
398. Isopropyl acetylene, 3-Methylbutyne (T,F)
399. Isopropylamine, 2-Aminopropane (T,I,F)
400. Isopropyl chloride, 2-Chloropropane (F)
401. Isopropyl ether, Diisopropyl ether (T,I,F)
402. Isopropyl mercaptan, 2-Propanethiol (T,I,F)
403. Isopropyl percarbonate, Diisopropyl peroxydicarborate (C,F)
404. *meta-Isopropylphenyl-N-methylcarbamate, Ac 5,727 (T)
405. Lauroyl peroxide, Di-n-dodecyl peroxide (T,C,F,P)
406. Lead compounds (T)
407. Lead acetate (T)
408. *Lead arsenate, Lead orthoarsenate (T)
409. *Lead arsenite (T)
410. Lead azide (T,P)
411. Lead carbonate (T)
412. Lead chlorite (T,P)
413. *Lead cyanide (T)
414. Lead 2,4-dinitroresorcinate (T,P)
415. Lead mononitroresorcinate (T,P)
416. Lead nitrate (T,F)
417. Lead oxide (T)
418. Lead styphnate, Lead trinitroresorcinate (T,P)
419. *Lewisite, beta-Chlorovinyldichloroarsine (T)
420. Lithium (C,F)
421. Lithium aluminum hydride, LAH (C,F,P)
422. Lithium amide (C,F,P)
423. Lithium ferrosilicon (F)
424. Lithium hydride (C,F,P)
425. Lithium hypochlorite (T,C,F)
426. Lithium peroxide (C,F,P)
427. Lithium silicon (F,P)
428. *London purple, Mixture of arsenic trioxide, aniline, lime, and ferus oxide (T)
429. Magnesium (F)
430. *Magnesium arsenate (T)
431. *Magnesium arsenite (T)
432. Magnesium chlorate (T,F)
433. Magnesium nitrate (F,P)
434. Magnesium perchlorate (T,F,P)
435. Magnesium peroxide, Magnesium dioxide (F)
436. *Maleic anhydride (T,I)
437. Manganese (powder) (F)
438. Manganese acetate (T)
439. *Manganese arsenate, Manganous arsenate (T)
440. Manganese bromide, Manganous bromide (T,I)
441. Manganese chloride, Manganous chloride (T,I)
442. Manganese methylcyclopentadienyl tricarbonyl (T)
443. Managanese nitrate, Manganous nitrate (T,F)

444. Mannitol hexanitrate, Nitromannite (P)
445. *MECARBAM;O,O-Diethyl S-(N-ethoxycarbonyl N-methylcarbamoyl-methyl) phosphorodithioate (T)
446. *Medinoterb acetate, 2-tert-Butyl-5-methyl-4,6-dinitrophenyl acetate (T)
447. Memtetrahydrophthalic anhydride (T,C)
448. Mercuric acetate, Mercury acetate (T,I)
449. Mercuric ammonium chloride, Mercury ammonium chloride (T,I)
450. Mercuric benzoate, Mercury benzoate (T,I)
451. Mercuric bromide, Mercury bromide (T,I)
452. *Mercuric chloride, Mercury chloride (T,I)
453. *Mercuric cyanide, Mercury cyanide (T,I)
454. Mercuric iodide, Mercury iodide (T,I)
455. Mercuric nitrate, Mercury nitrate (T,F)
456. Mercuric oleate, Mercury oleate (T)
457. Mercuric oxide (red and yellow) (T,F)
458. Mercuric oxycyanide (T,P)
459. Mercuric-potassium iodide, Mayer's reagent (T)
460. Mercuric salicylate, Salicylated mercury (T)
461. Mercuric subsulfate, Mercuric dioxysulfate (T)
462. Mercuric sulfate, Mercury sulfate (T)
463. Mercuric thiocyanide, Mercury thiocyanate (T)
464. Mercurol, Mercury nucleate (T)
465. Mercurous bromide (T)
466. Mercurous gluconate (T)
467. Mercurous iodide (T)
468. Mercurous nitrate (T,P)
469. Mercurous oxide (T)
470. Mercurous sulfate, Mercury bisulfate (T)
471. para-Menthane hydroperoxide, Paramenthane hydroperoxide (I,F)
472. *Mercury (T)
473. Mercury compounds (T)
474. Metal carbonyls (T)
475. Metal hydrides (F,P)
476. Metal powders (T,F)
477. *Methomyl, LANNATE, S-Methyl-N-((methyl-carbamonyl) oxy) thioacetamidate (T)
478. *Methoxyethylmercuric chloride, AGALLOL, ARETAN (T)
479. Methyl acetate (T,F)
480. Methyl acetone (Mixture of acetone, methyl acetate, and methyl alcohol) (T,F)
481. Methyl alcohol, Methanol (T,F)
482. Methylaluminum Sesquibromide (F)
483. Methylaluminum sesquichloride (F)
484. Methylamine, Aminomethane (T,I,F)
485. N-Methylaniline (T)
486. *Methyl bromide, Bromomethane (T,I)
487. 2-Methyl-1-butene (F)
488. 3-Methyl-1-butene (F)

489. Methyl butyl ether (and isomers) (T,F)
490. Methyl butyrate (and isomers) (T,F)
491. Methyl chloride, Chloromethane (T,F)
492. Methyl chloroformate, Methyl chlorocarbonate (T,I,F)
493. *Methyl chloromethyl ether, CMME (T)
494. Methylcyclohexane (T,F)
495. *Methyldichloroarsine (T,I)
496. Methyldichlorosilane (T,I)
497. *4,4-Methylene bis(2-chloroaniline), MOCA (T)
498. Methyl ethyl ether (T,F)
499. Methyl ethyl ketone, 2-Butanone (T,F)
500. Methyl ethyl ketone peroxide (T,I,F)
501. Methyl formate (T,I,F)
502. *Methyl hydrazine, Monomethyl hydrazine, MMH (T,F)
503. *Methyl isocyanate (T,F)
504. Methyl isopropenyl ketone, 2-Methyl-4-butene-3-one (T,F)
505. Methylmagnesium bromide (C,F,P)
506. Methylmagnesium chloride (C,F,P)
507. Methylmagnesium iodide (C,F,P)
508. Methyl mercaptan, Methanethiol (T,I,F)
509. Methyl methacrylate (monomer) (T,F)
510. *Methyl parathion;O,O-Dimethyl-O-para-nitrophenylphosphorothioate (T)
511. Methyl propionate (F)
512. Methyltrichlorosilane (T,C,F)
513. Methyl valerate, Methyl pentanoate (and isomers) (F)
514. Methyl vinyl ketone, 3-Butene-2-one (T,I,F)
515. *Mevinphos, PHOSDRIN, 2-Carbomethoxy-1-methylvinyl dimethyl phosphate (T)
516. *MOCAP, O-Ethyl-S,S-dipropyl phosphorodithioate (T)
517. Molybdenum (powder) (F)
518. Molybdenum trioxide, Molybdenum anhydride (T,I)
519. Molybdic acid and salts (T)
520. Monochloroacetic acid, Chloracetic acid, MCA (T,C)
521. Monochloroacetone, Chloroacetone, 1-Chloro-2-propanone (T,I)
522. Monofluorophosphoric acid (T,C)
523. Naphtha (of petroleum or coal tar origin) (T,F)
524. Naphthalene (T,I,S)
525. *alpha-Naphthylamine, 1-NA (T)
526. *beta-Naphthylamine, 2-NA (T)
527. Neohexane; 2,2-Dimethylbutane (T,F)
528. Nickel (powder) (T,F)
529. Nickel acetate (T)
530. Nickel antimonide (T)
531. *Nickel arsenate, Nickelous arsenate (T)
532. *Nickel carbonyl, Nickel tetracarbonyl (T)
533. Nickel chloride, Nickelous chloride (T)
534. *Nickel cyanide (T)
535. Nickel nitrate, Nickelous nitrate (T,F,P)

536. Nickel selenide (T)
537. Nickel sulfate (T)
538. Nicotine, beta-pyridyl-alpha-N-methyl pyrrolidine (T)
539. Nicotine salts (T)
540. Nitric acid (T,C,F)
541. Nitroaniline, Nitraniline (ortho, meta, para) (T,P)
542. *Nitrobenzol, Nitrobenzene (T)
543. *4-Nitrobiphenyl, 4-NBP (T)
544. Nitro carbo nitrate (F,P)
545. Nitrocellulose, Cellulose nitrate, Guncotton, Pyroxylin (F,P)
546. Nitrochlorobenzene, Chloronitrobenzene (ortho,meta,para) (T)
547. Nitrogen mustard (T,C,I)
548. Nitrogen tetroxide, Nitrogen dioxide (T,F)
549. Nitroglycerin, Trinitroglycerin (T,F,P)
550. Nitrohydrochloric acid, Aqua regia (T,C,F)
551. *Nitrophenol (ortho, meta, para) (T)
552. *N-Nitrosodimethylamine, Dimethyl nitrosoamine (T)
553. Nitrosoguanidine (P)
554. Nitrostarch, Starch nitrate (F,P)
555. Nitroxylol, Nitroxylene, Dimethylnitrobenzene (2,4-;3,4-;2,5-isomers) (T)
556. 1-Nonene, 1-Nonylene (and isomers) (T,F)
557. Nonyltrichlorosilane (T,I)
558. Octadecyltrichlorosilane (T,I)
559. n-Octane (and isomers) (T,F)
560. 1-Octene, 1-Caprylene (T,F)
561. Octyltrichlorosilane (T,I)
562. Oil of bergamot (S)
563. Oleum, Fuming sulfuric acid (T,C)
564. Orris root (S)
565. Osmium compounds (T)
566. Oxalic acid (T,I)
567. *Oxygen difluoride (T,C,P)
568. *Para-oxon, MINTACOL;O,O-Diethyl-O-para-nitrophenyl phosphate (T)
569. *Parathion; O,O-Diethyl-O-para-nitrophenyl phosphorothioate (T)
570. Pentaborane (T,I,F)
571. Pentaerythrite tetranitrate, Pentaerythritol tetranitrate (P)
572. n-Pentane (and isomers) (T,F)
573. 2-Pentanone, Methyl propyl ketone (and isomers) (T,F)
574. Peracetic acid, Peroxyacetic acid (T,C,F,P)
575. Perchloric acid (T,C,F,P)
576. Perchloroethylene, Tetrachloroethylene (T,I)
577. *Perchloromethyl mercaptan, Trichloromethylsulfenyl chloride (T,I)
578. Perchloryl fluoride (T,C,F)
579. Petroleum ether, Petroleum naphtha (T,F)
580. Phenol, Carbolic acid (T,C)
581. *Phenyldichloroarsine (T,I)
582. Phenylenediamine, Diaminobenzene (ortho,meta,para) (T,I,S)

583. Phenylhydrazine hydrochloride (T)
584. *Phenylphenol, Orthozenol, DOWICIDE 1 (T)
585. Phenyltrichorosilane (T,C)
586. *Phorate, THIMET; O,O-Diethyl-S-[(Ethylthio) methyl] phosphorodithioate (T)
587. *Phosfolan, CYOLAN, 2-(Diethoxyphosphinylimino)-1,3-dithiolane (T)
588. *Phosgene, Carbonyl chloride (T,I)
589. *Phosphamidon, DIMECRON, 2-Chloro-2-diethylcarbamoyl-1-methylvinyl dimethyl phosphate (T)
590. *Phosphine, Hydrogen phosphide (T,I)
591. Phosphoric acid (C)
592. Phosphoric anhydride, Phosphorus pentoxide (C,F)
593. Phosphorus (amorphous, red) (T,F,P)
594. *Phosphorus (white or yellow) (T,F,P)
595. Phosphorus oxygromide, Phosphoryl bromide (T,C)
596. *Phosphorus oxychloride, Phosphoryl chloride (T,C)
597. *Phosphorus pentachloride, Phosphoric chloride (T,C,F,P)
598. Phosphorus pentasulfide, Phosphoric sulfide (T,C,F,P)
599. Phosphorus sesquisulfide, Tetraphosphorus trisulfide (T,C,F)
600. Phosphorus tribromide (T,C,P)
601. *Phosphorus trichloride (T,C,P)
602. Picramide, Trinitroaniline (T,P)
603. Picric acid, Trinitrophenol (T,P)
604. Picryl chloride, 2-Chloro-1,3,5-trinitrobenzene (T,P)
605. *Platinum compounds (T)
606. *Polychlorinated biphenyls, PCB, Askarel, AROCLOR, CHLOREXTOL, INERTEEN, PYRANOL (T,I)
607. Polyvinyl nitrate (F,P)
608. POTASAN; O,O-Diethyl-O-(4-methylumbelliferone) phosphorothioate (T)
609. Potassium (C,F,P)
610. *Potassium arsenate (T,I)
611. *Potassium arsenite (T,I)
612. *Potassium bifluoride, Potassium acid fluoride (T,C)
613. Potassium binoxalate, Potassium acid oxalate (T,I)
614. Potassium bromate (T,I,F)
615. *Potassium cyanide (T)
616. Potassium dichloroisocyanurate (T,I,F)
617. Potassium dichromate, Potassium bichromate (T,C,S,F)
618. Potassium dinitrobenzfuroxan (T,P)
619. Potassium fluoride (T,I)
620. Potassium hydride (C,F,P)
621. Potassium hydroxide, Caustic potash (T,C)
622. Potassium nitrate, Saltpeter (F,P)
623. Potassium nitrite (F,P)
624. Potassium oxalate (T,I)
625. Potassium perchlorate (T,I,F,P)

626. Potassium permanganate (T,C,F)
627. Potassium peroxide (C,F,P)
628. Potassium sulfide (T,F)
629. *Propargyl bromide, 3-Bromo-1-propyne (T,I,F)
630. *beta-Propiolactone, BPL (T,I)
631. Propionaldehyde, Propanal (T,I,F)
632. Propionic acid, Propanoic acid (T,C)
633. n-Propyl acetate (T,F)
634. n-Propyl alcohol, 1-Propanol (T,F)
635. n-Propylamine (and isomers) (T,I,F)
636. Propyleneimine, 2-Methylaziridine (T,F)
637. Propylene oxide (T,I,F)
638. n-Propyl formate (T,F)
639. n-Propyl mercaptan, 1-Propanethiol (T,F)
640. n-Propyltrichlorosilane (T,C,F)
641. *Prothoate, FOSTION, FAC; O,O-Diethyl-S-carboethoxyethyl phosphorodithioate (T)
642. Pyridine (T,F)
643. Pyrosulfuryl chloride, Disulfuryl chloride (T,C,P)
644. *Quinone; 1,4-Benzoquinone (T,I)
645. Raney nickel (F)
646. *Schradan, Actamethyl pyrophosphoramide, OMPA (T)
647. Selenium (T)
648. *Selenium fluoride (T)
649. *Selenous acid, Selenious acid and salts (T)
650. Silicon tetrachloride, Silicon chloride (T,C)
651 Silver acetylide (T,P)
652. Silver azide (T,P)
653. Silver compounds (T)
654. Silver nitrate (T,I)
655. Silver styphnate, Silver trinitroresorcinate (T,P)
656. Silver tetrazene (T,P)
657. Sodium (C,F,P)
658. Sodium aluminate (C)
659. Sodium aluminum hydride (C,F,P)
660. Sodium amide, Sodamide (C,F)
661. *Sodium arsenate (T)
662. *Sodium arsenite (T)
663. Sodium azide (T,P)
664. *Sodium bifluoride, Sodium acid fluoride (T,C)
665. Sodium bromate (T,I,F)
666. *Sodium cacodylate, Sodium dimethylarsenate (T)
667. Sodium carbonate peroxide (I,F)
668. Sodium chlorate (T,I,F)
669. Sodium chlorite (T,I,F)
670. Sodium chromate (T,C,S)
671. *Sodium cyanide (T)
672. Sodium dichloroisocyanurate (I,F)
673. Sodium dichromate, Sodium bichromate (T,C,S,F)

674. Sodium fluoride (T,I)
675. Sodium hydride (T,C,F,P)
676. Sodium hydrosulfite, Sodium hyposulfite (F)
677. Sodium hydroxide, Caustic soda, Lye (T,C)
678. Sodium hypochlorite (T,I,F)
679. Sodium methylate, Sodium methoxide (C,F)
680. Sodium molybdate (T,I)
681. Sodium nitrate, Soda niter (T,F,P)
682. Sodium nitrite (T,F,P)
683. Sodium oxide, Sodium monoxide (T,C)
684. Sodium perchlorate (T,I,F,P)
685. Sodium permanganate (T,I,F)
686. Sodium peroxide (T,I,F,P)
687. Sodium picramate (T,I,F,P)
688. Sodium potassium alloy, Nak,Nack (C,F,P)
689. *Sodium selenate (T)
690. Sodium sulfide (and Sodium hydrosulfide) (T,I,F)
691. Sodium thiocyanate, Sodium sulfocyanate (T)
692. Stannic chloride, Tin tetrachloride (T,C)
693. *Strontium arsenate (T)
694. Strontium nitrate (T,F,P)
695. Strontium peroxide, Strontium dioxide (I,F,P)
696. *Strychnine and salts (T)
697. Styrene, Vinylbenzene (T,F)
698. Succinic acid peroxide (T,I,F)
699. Sulfide salts (soluble) (T)
700. *Sulfotepp, DITHIONE, BALDAFUM, Tetraethyl dithiopyrophosphate (T)
701. Sulfur chloride, Sulfur monochloride (T,C,P)
702. Sulfur mustard (T,C)
703. *Sulfur pentafluoride (T,C)
704. Sulfur trioxide, Sulfuric anhydride (T,C,F)
705. Sulfuric acid, Oil of vitriol, Battery acid (T,C)
706. Sulfurous acid (T,C)
707. Sulfuryl chloride, Sulfonyl chloride (T,C)
708. Sulfuryl fluoride, Sulfonyl fluoride (T,C)
709. *SUPRACIDE, ULTRACIDE, S-[(5-Methoxy-2-oxo-1,3,4-thiadiazol-3(2H)-yl) methyl] -O,O-dimethyl phosphorodithioate (T)
710. *SURECIDE, Cyanophenphos, O-para-Cyanophenyl-O-ethyl phenyl phosphonothioate (T)
711. *Tellurium hexafluoride (T,C)
712. *TELODRIN, Isobenzan; 1,3,4,5,6,7,8,8-Octachloro-1,3,3a,4,7,7a-hexahydro-4,7-methanoisobenzofuran (T)
713. *TEMIK, Aldicarb, 2-Methyl-2(methylthio) propionaldehyde-O-(methylcarbamoyl) oxime (T)
714. *2,3,7,8-Tetrachlorodibenzo-para-dioxin, TCDD, Dioxin (T)
715. sym-Tetrachloroethane (T)
716. *Tetraethyl dithionopyrophosphate, TEDP (T)
717. *Tetraethyl lead, TEL (and other organic lead) (T,F)

718. *Tetraethyl pyrophosphate, TEPP (T)
719. Tetrahydrofuran, THF (T,I,F)
720. TETRALIN, Tetrahydronaphthalene (T,I)
721. Tetramethyl lead, TML (T,F)
722. *Tetramethyl succinonitrile (T)
723. *Tetranitromethane (T,F,P)
724. *Tetrasul, ANIMERT V-101, S-para-Chlorophenyl-2,4,5-trichlorophenyl sulfide (T)
725. Tetrazene, 4-Amidino-1-(nitrosamino-amidino)-1-tetrazene (T,P)
726. Thallium (T)
727. *Thallium compounds (T)
728. *Thallous sulfate, Thallium sulfate, RATOX (T)
729. Thiocarbonychloride, Thiophosgene (T,C)
730. *Thionazin, ZINOPHOS; O,O-Tetramethylthiuram monosulfide (T)
731. Thionyl chloride, Sulfur oxychloride (T,C)
732. Thiophosphoryl chloride (T,C)
733. Thorium (powder) (F)
734. Tin compounds (organic) (T)
735. Titanium (powder) (F)
736. Titanium sulfate (T,I)
737. Titanium tetrachloride, Titanic chloride (T,C)
738. Toluene, Methylbenzene (T,F)
739. *Toluene-2,4-diisocyanate, TDI (T,I,S,P)
740. Toluidine, Aminotoluene (ortho,meta,para) (T)
741. *TRANID, exo-3-Chloro-endo-6-cyano-2-norbornanone-O-(methylcarbamoyl) oxime (T)
742. Trichloroborane (T,F)
743. 1,1,2-Trichloroethane (T,I)
744. Trichloroethylene; 1,1,2-Trichlorethene (T,F)
745. Trichloroisocyanuric acid (T,I,F)
746. 2,4,5-Trichlorophenoxyacetic acid; 2,4,5-T (T)
747. Trichlorosilane, Silicochloroform (T,C,F)
748. Trimethylamine, TMA (T,I,F)
749. Trinitroanisole; 2,4,6-Trinitrophenyl methyl ether (T,P)
750. 1,3,5-Trinitrobenzene, TNB (T,P)
751. 2,4,6-Trinitrobenzoic acid (T,P)
752. Trinitronaphthalene, Naphtite (T,P)
753. 2,4,6-Trinitroresorcinol, Styphnic acid (T,P)
754. 2,4,6-Trinitrotoluene, TNT (T,F,P)
755. *tris(1-Aziridinyl) phosphine oxide, Triethylenephosphoramide, TEPA (T,I)
756. Tungstic acid and salts (T)
757. Turpentine (T,F)
758. Uranyl nitrate, Uranium nitrate (T,F,P)
759. Urea nitrate (T,F,P)
760. n-Valeraldehyde, n-Pentanal (and isomers) (T,F)
761. Vanadic acid salts (T)
762. Vanadium oxytrichloride (T,C)
763. Vanadium pentoxide, Vanadic acid anhydride (T,I)

764. Vanadium tetrachloride (T,C)
765. Vanadium tetraoxide (T,I)
766. Vanadium trioxide, Vanadium sesquioxide (T,I)
767. Vanadyl sulfate, Vanadium sulfate (T,I)
768. Vinyl acetate (F)
769. *Vinyl chloride (T,I,F)
770. Vinyl ethyl ether (F)
771. Vinyl isopropyl ether (F)
772. Vinylidene chloride, VC (T,F)
773. Vinyltrichlorosilane (T,C,F)
774. VX, O-Ethyl methyl phosphoryl N,N-diisopropyl thiocholine (T)
775. *WEPSYN 155, WP 155, Triamiphos, para-(5-Amino-3-phenyl-1H-1,2,4-triazol-1-yl)-N,N,N',N'-tetramethyl phosphonic diamide (T)
776. Xylene, Dimethylbenzene (ortho,meta,para) (T,F)
777. Zinc (powder) (F)
778. Zinc ammonium nitrate (T,F)
779. *Zinc arsenate (T)
780. *Zinc arsenite (T)
781. Zinc chloride (T,C)
782. Zinc compounds (T)
783. *Zinc cyanide (T)
784. Zinc nitrate (T,F,P)
785. Zinc permanganate (T,I,F)
786. Zinc peroxide, Zinc dioxide (T,F,P)
787. *Zinc phosphide (T,F)
788. Zinc sulfate (T,I)
789. Zirconium (powder) (F)
790. Zirconium chloride, Zirconium tetrachloride (T,C)
791. Zirconium picramate (F)

(e) List of Common Names. Any of the following waste shall be handled and disposed of according to the regulations set forth in this Chapter. The hazardous property of each waste is identified as follows: (T) toxic, (C) corrosive, (I) irritant, (F) flammable, (S) strong sensitizer and (P) pressure generating. In this subsection an asterisk denotes the common name of an item which comes under the requirements of this Chapter if it contains a hazardous material.

Acetylene sludge (C,I)
Acid and water (C,I)
Acid sludge (C,I)
AFU Floc (T)
Alkaline caustic liquids (C,I)
Alkaline cleaner (C,I)
Alkaline corrosive battery fluid (C,I)
Alkaline corrosive liquids (C,I)
Asbestos waste (T)
Ashes (T,C,I)
Bag house wastes*
Battery acid (C,I)
Beryllium waste (T)

Bilge water (T)
Boiler cleaning waste (T,C,I)
Bunker Oil (T,F)
Catalyst*
Caustic sludge (C,I)
Caustic wastewater (C,I)
Chemical cleaners*
Chemical toilet waste*
Cleaning solvents (F)
Corrosion inhibitor (T,C,I)
Data processing fluid (F,I)
Drilling fluids*
Drilling mud*
Dyes*
Etching acid liquid or solvent (C,I,F)
Fly ash (T,C,I)
Fuel waste (T,F)
Insecticides (T)
Laboratory waste*
Lime and sulfur sludge (C,I)
Lime and water (C,I)
Lime sludge (C,I)
Lime wastewater (C,I)
Liquid cement*
Liquid cleaning compounds*
Mine tailings*
Obsolete explosives (P)
Oil and water (T)
Oil Ash (T,C,I)
Oil of bergamot (S)
Paint (or varnish) remover or stripper (I,F)
Paint thinner (T,I,F)
Paint waste (or slops) (T,F)
Pickling liquor (C,I)
Pigments*
Plating waste (T,C,I)
Powdered orris root and products containing it (S)
Printing Ink*
Retrograde explosives (P)
Sludge acid (C,I)
Soda ash (C,I)
Solvents (I,F)
Spent acid (C,I)
Spent caustic (C,I)
Spent (or waste) cyanide solutions (T,C,I)
Spent mixed acid (C,I)
Spent plating solution (T,C,I)
Spent sulfuric acid (C,I)
Stripping solution (T,I,F)
Sulfonation oil (I,F)

Tank bottom sediment*
Tank cleaning sludges*
Tanning sludges (T,I,S)
Toxic chemical toilet wastes (T)
Unrinsed pesticide containers (T)
Unwanted or waste pesticides—an unusable portion of active ingredient or undiluted formulation (T)
Waste chemicals*
Waste epoxy*
Waste (or slop) oil (F)
Weed Killer (T)

Article 10. Extremely Hazardous Wastes and Extremely Hazardous Materials

66685. List of Extremely Hazardous Wastes.

(a) A waste containing any of the materials cited in the List of Extremely Hazardous Wastes presented in this Article shall be considered an extremely hazardous waste and shall be handled and disposed of according to requirements of this Chapter. The potential hazardous property of each material is identified as follows: (T) toxic; (C) corrosive, (I) irritant, (F) flammable, (S) strong sensitizer or (P) pressure generating. All letters in trademark names are capitalized.

(b) A waste that meets the definition of extremely hazardous waste presented in Article 1 of this Chapter shall be considered an extremely hazardous waste whether or not the waste is cited in this Article. Such a waste shall be handled and disposed of according to the requirements of this Chapter that pertain to hazardous wastes and extremely hazardous wastes.

(c) List of extremely hazardous chemicals:

Acetone cyanohydrin (T)
2-Acetylaminofluorene, 2-AAF (T)
Acrolein, Aqualin (T,I,F)
Acrylonitrile (T,F)
Adiponitrile (T)
Aldrin; 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo-exodimethanonaphthalene (T)
Aluminum phosphide, PHOSTOXIN (T,F)
4-Aminodiphenyl, 4-ADP (T)
2-Aminopyridine (T)
Ammonium arsenate (T)
Ammonium bifluoride (T,C)
Arsenic (T)
Arsenic acid and salts (T)
Arsenic compounds (T)
Arsenic pentaselenide (T)
Arsenic pentoxide, Arsenic oxide (T)
Arsenic sulfide, Arsenic disulfide (T)
Arsenic tribromide, Arsenic bromide (T)
Arsenic trichloride, Arsenic chloride (T)
Arsenic triiodide, Arsenic iodide (T)
Arsenic trioxide, Arsenic oxide (T)

Arsenious acid and salts (T)
Arsines (T)
AZODRIN, 3-Hydroxy-N-cis-crotonamide (T)
Barium cyanide (T)
Benzidine and salts (T)
Benzotrifluoride, Trifluoromethylbenzene (T,F)
Beryllium (T,F)
Beryllium chloride (T)
Beryllium compounds (T)
Beryllium copper (T)
Beryllium fluoride (T)
Beryllium hydride (T,C,F)
Beryllium hydroxide (T)
Beryllium oxide (T)
BIDRIN, Dicrotophos, 3-(Dimethylamino)-1-methyl-3-oxo-1-propenyl dimethyl phosphate (T)
bis(Chloromethyl) ether, Dichloromethyl ether, BCME (T)
bis(Methylmercuric) sulfate, CEREWET, Ceresan liquid (T)
BOMYL, Dimethyl-3-hydroxyglutaconate dimethyl phosphate (T)
Boranes (T,F)
Bordeaux arsenites (T)
Bromine (T,C,F)
Bromine pentafluoride (T,C,F)
Bromine trifluoride (T,C,F)
Brucine, Dimethoxystrychnine (T)
Cacodylic acid, Dimethylarsinic acid (T)
Cadmium cyanide (T)
Calcium arsenate, PENSAL (T)
Calcium arsenite (T)
Carbanolate, BANOL, 2-Chloro-4,5-dimethylphenyl methylcarbamate (T)
Carbophenothion, TRITHION, S-[[4-(Chlorophenyl) thio] methyl]O,O-diethyl phosphorodithioate (T)
Chlorfenvinphos, Compound 4072, 2-Chloro-1-(2,4-dichlorophenyl) vinyl diethyl phosphate (T)
Chlorine (T,C,F)
Chlorine dioxide (T,C,F,P)
Chlorine pentafluoride (T,C,F,P)
Chlorine trifluoride (T,C,F,P)
Chloroacetaldehyde (T,F)
alpha-Chloroacetophenone, Phenyl Chloromethyl ketone (T,I)
Chloroacetyl chloride (T,C)
ortho-Chlorobenzylidene malonitrile, OCMB (T)
Chloropicrin, Chlorpicrin, Trichloronitromethane (T,I)
Copper acetoarsenite, Paris green (T)
Copper arsenate, Cupric arsenate (T)
Copper arsenite, Cupric arsenite (T)
Copper cyanide, Cupric cyanide (T)
Coroxon; ortho,ortho-Diethyl-ortho-(3-chloro-4-methylcoumarin-7-yl) phosphate (T)
Coumafuryl, FUMARIN, 3-[1-(2-Furanyl)-3-oxobutyl]-4-hydroxy-2H-1-benzopyran-2-one (T)

Coumatetralyl, BAYER 25634, RACUMIN-57, 4-Hydroxy-3-(1,2,3,4-tetrahydro-1-naphthalenyl)-2H-1-benzopyran-2-one (T)
Crimidine, CASTRIX, 2-Chloro-4-dimethyl-amino-6-methylpyrimidine (T)
Crotonaldehyde, 2-Butenal (T,I,F)
Cyanide salts (T)
Cyanogen (T,F)
Cycloheximide, ACTIDIONE (T,I)
DDVP, Dichlorvos, VAPONA, Dimethyl dichlorovinyl phosphate (T)
Decaborane (T,F,P)
Demeton, SYSTOX (T)
Demeton-S-methyl sulfone, METAISOSYSTOX-SULFON, S-[2-(Ethylsulfonyl) ethyl]-O,O-dimethyl phosphorothioate (T)
Diborane, Diboron hexahydride (T,I,F)
3,3-Dichlorobenzidine and salts, DCB (T)
Diethyl chlorovinyl phosphate, Compound 1836 (T)
O,O-Diethyl-S-(isopropylthiomethyl) phosphorodithioate (T)
Digylcidyl ether, bis(2,3-Epoxypropyl) ether (T,S)
Dimefox, HANANE, PEXTOX 14, Tetramethylphosphorodiamidic fluoride (T)
Dimethylaminoazobenzene, Methyl yellow (T)
1,1-Dimethylhydrazene, UDMH (T,F)
Dimethyl sulfate, Methyl sulfate (T)
Dimethyl sulfide, Methyl sulfide (T,F)
Dinitrobenzene (ortho,meta,para) (T,I,P)
2,6-Dinitro-ortho-cresol, DNPC, SINOX, EGETOL 30 (T)
Dinitrophenol (2,3-;2,4-;2,6-isomers) (T,P)
DINOSEB; 2,4-Dinitro-6-sec-butylphenol (T)
Dioxathion, DELNAV; S,S-1,4-Dioxane-2,3-diyl bis(O,O-diethyl phosphorodithioate) (T)
Diphenyl, Biphenyl, Phenylbenzene (T)
Diphenylamine chloroarsine, Phenarazine chloride (T,I)
Disulfoton, DI-SYSTON; O,O-Diethyl-S-[2-(ethylthio) ethyl] phosphorodithioate (T)
DOWCO-139, ZECTRAN, Mexacarbate, 4-(Dimethylamino)-3,5-dimethylphenyl methylcarbamate (T)
DOWICIDE 7, Pentachlorophenol, PCP (T)
DYFONATE, Fonofos, O-Ethyl-S-phenyl ethyl phosphonodithioate (T)
Endosulfan, THIODAN; 6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3-oxide (T)
Endothal, 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid (T)
Endothion, EXOTHION, S-[(5-methoxy-4-oxo-4H-pyran-2-yl)-methyl] O,O-dimethyl phosphorothioate (T)
Endrin; 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4,4a,5,6,7,8,8a-octahydro-1,4-endo-endo-5,8-dimethanonaphthalene (T)
EPN; O-Ethyl-O-para-nitrophenyl phenylphosphonothioate (T)
Ethion, NIALATE; O,O,O',O'-Tetraethyl-S,S-methylenediphosphorodithioate (T)
Ethyldichloroarsine, Dichloroethylarsine (T,I)

Ethyleneimine, Aziridine, EI (T,F)
Fensulfothion, BAYER 25141, DASANIT, O,O-Diethyl-O- [4-(methyl-sulfinyl) phenyl] phosphorothioate (T)
Ferric arsenate (T,I)
Ferrous arsenate, Iron arsenate (T)
Fluoboric acid, Fluoroboric acid (T,C)
Fluorine (T,C,F)
Fluoroacetanilide, AFL 1082 (T)
Fluoroacetic acid and salts, Compound 1080 (T)
Fluorosulfonic acid, Fluosulfonic acid (T,C)
FURADAN, NIA 10,242, Carbofuran; 2,3-Dihydro-2,2-dimethyl-7-benzofuranylmethylcarbamate (T)
GB, O-Isopropyl methyl phosphoryl fluoride (T)
Hydrazine, Diamine (T,I,F)
Hydrocyanic acid, Hydrogen cyanide (T,F)
Hydrofluoric acid, Hydrogen fluoride (T,C)
Hydrogen selenide (T,I,F)
Hydrogen sulfide (T,I,F)
meta-Isopropylphenyl-N-methylcarbamate, Ac 5,727 (T)
Lead arsenate, Lead orthoarsenate (T)
Lead arsenite (T)
Lead cyanide (T)
Lewisite, beta-Chlorovinyldichloroarsine (T)
London purple, Mixture of arsenic trioxide, aniline, lime, and ferrous oxide (T)
Magnesium arsenate (T)
Magnesium arsenite (T)
Maleic anhydride (T,I)
Manganese arsenate, Manganous arsenate (T)
MECARBAM; O,O-Diethyl-S-(N-ethyoxycarbonyl-N-methylcarbamoyl methyl) phosphorodithioate (T)
Medinoterb acetate, 2-tert-Butyl-5-methyl-4,6-dinitrophenyl acetate (T)
Mercuric chloride, Mercury chloride (T,I)
Mercuric cyanide, Mercury cyanide (T,I)
Mercury (T)
Methomyl, LANNATE, S-Methyl-N-((methyl carbamoyl)oxy) thio-acetamidate (T)
Methoxyethylmercuric chloride, AGALLOL, ARETAN (T)
Methyl bromide, Bromomethane (T,I)
Methyl chloromethyl ether, CMME (T)
Methyldichloroarsine (T,I)
4,4'-Methylene bis(2-chloroaniline), MOCA (T)
Methyl hydrazine, Monomethyl hydrazine, MM (T,F)
Methyl isocyanate (T,F)
Methyl parathion; O,O-Dimethyl-O-para-nitrophenylphosphorothioate (T)
Mevinphos, PHOSDRIN, 2-Carbomethoxy-1-methylvinyl dimethyl phosphate (T)
MOCAP, O-Ethyl-S,S-dipropyl phosphorodithioate (T)
alpha-Naphthylamine, 1-NA (T)

beta-Naphthylamine, 2-NA (T)
Nickel arsenate, Nickelous arsenate (T)
Nickel carbonyl, Nickel tetracarbonyl (T)
Nickel cyanide (T)
4-Nitrobiphenyl, 4-NBP (T)
Nitrophenol (ortho,meta,para) (T)
N-Nitrosodimethylamine, Dimethyl nitrosoamine (T)
Oxygen difluoride (T,C,P)
Para-oxon, MINTACOL; O,O-Diethyl-O-para-nitrophenyl phosphate (T)
Parathion;O,O-Diethyl-O-para-nitrophenyl phosphorothioate (T)
Perchloromethyl mercaptan, Trichloromethylsulfenyl chloride (T,I)
Phenyldichloroarsine (T,I)
Phenylphenol, Orthozenol, DOWICIDE 1 (T)
Phorate, THIMET; O,O-Diethyl-S-[(ethylthio)methyl] phosphorodithioate (T)
Phosfolan, CYOLAN, 2-(Diethoxyphosphinylimino)-1,3-dithiolane (T)
Phosgene, Carbonyl chloride (T,I)
Phosphamidon, DIMECRON, 2-chloro-2-diethylcarbamoyl-1-methylvinyl dimethyl phosphate (T)
Phosphine, Hydrogen phosphide (T,I)
Phosphorus (white or yellow) (T,F,P)
Phosphorus oxychloride, Phosphoryl chloride (T,C)
Phosphorus pentachloride, Phosphoric chloride (T,C,F,P)
Phosphorus trichloride (T,C,P)
Polychlorinated biphenyls, PCB, Askarel, AROCLOR, CHLOREXTOL, INERTEEN, PYRANOL (T,I)
POTASAN; O,O-Diethyl-O-(4-methylumbelliferone) phosphorothioate (T)
Potassium arsenate (T,I)
Potassium arsenite (T,I)
Potassium bifluoride, Potassium acid fluoride (T,C)
Potassium cyanide (T)
Propargyl bromide, 3-Bromo-1-propyne (T,I,F)
beta-Propiolactone, BPL (T,I)
Prothoate, FOSTION, FAC; O,O-Diethyl-S-carboethyoxyethyl phosphorodithioate (T)
Quinone; 1,4-Benzoquinone (T,I)
Schradan, Octamethyl pyrophosphoramide, OMPA (T)
Selenium fluoride (T)
Selenous acid, Selenious acid and salts (T)
Sodium arsenate (T)
Sodium arsenite (T)
Sodium bifluoride, Sodium acid fluoride (T,C)
Sodium cacodylate, Sodium dimethylarsenate (T)
Sodium cyanide (T)
Sodium selenate (T)
Strontium arsenate (T)
Strychnine and salts (T)
Sulfotepp, DITHIONE, BLADAFUM, Tetraethyl dithiopyrophosphate (T)
Sulfur pentafluoride (T,C)

SUPRACIDE, ULTRACIDE, S-[(5-Methoxy-2-oxo-1,3,4-thiadiazol-3(2H)-yl)methyl]-O,O-dimethyl phosphorodithioate (T)
Tellurium hexafluoride (T,C)
TELODRIN, Isobenzan; 1,3,4,5,6,7,8,8-Octachloro-1,3,3a,4,7,7a,-hexahydro-4,7-methanoisobenzofuran (T)
TEMIK, Aldicarb, 2-Methyl-2-(methylthio) propionaldehyde-O-(methylcarbamoyl)oxime (T)
2,3,7,8-Tetrachlorodibenzo-para-dioxin, TCDD, Dioxin (T)
Tetraethyl dithionopyrophosphate, TEDP (T)
Tetraethyl lead, TEL, and other organic lead (T,F)
Tetraethyl pyrophosphate, TEPP (T)
Tetramethyl lead, TML (T,F)
Tetramethyl succinonitrile (T)
Tetranitromethane (T,F,P)
Tetrasul, ANIMERT V-101, S-para-Chlorophenyl-2,4,5-trichlorophenyl sulfide (T)
Thallium (T)
Thallium compounds (T)
Thallous sulfate, Thallium sulfate, RATOX (T)
Thionazin, ZINOPHOS; O,O-Tetramethylthiuram monosulfide (T)
Toluene-2,4-diisocyanate, TDI (T,I,S,P)
TRANID, exo-3-Chloro-endo-6-cyano-2-norbornanone-O-(methylcarbamoyl) oxime (T)
tris(1-Aziridinyl) phosphine oxide, Triethylenephosphosphoramide, TEPA (T,I)
Vinyl chloride (T,I,F)
WEPSYN 155,WP 155, Triamiphos, para-(5-Amino-3-phenyl-1H-1,2,4-triazol-1-yl)-N,N,N',N',-tetramethyl phosphonic diamide(T)
Zinc arsenate (T)
Zinc arsenite (T)
Zinc cyanide (T)
Zinc phosphide (T,F)

Article 12. Recyclable Hazardous Wastes

66763. Recyclable Hazardous Waste Disposal Statement

(a) Within 180 days of the disposal of a recyclable hazardous waste of a type listed in Section 66796, the Department may request the producer of such waste to provide the Department with a written statement justifying having not recycled the waste. A person requested to provide such a statement shall comply within 30 days of the Department's written request. If the request is made of an entity specified in Section 66160 other than an individual, the statement shall be issued by the responsible management of that entity.

(b) The Department's request for a statement from the waste producer pursuant to subsection (a) above shall cite a special property or component of the waste and a possible use or method of reclamation on the basis of which the Department considers that the waste might feasibly be recycled.

(c) The statement from the waste producer justifying having not recycled a hazardous waste pursuant to subsection (a) above shall include, but need not be limited to, the following:

(1) The general description, source, chemical composition, physical state, and amount of the waste.

(2) The amount of similar waste discarded or recycled during the 365-day period preceding the disposal in question.

(3) An estimate of the amount of similar waste to be generated by the producer in the 365-day period succeeding the disposal in question.

(4) A summary of efforts made to find a use for the waste such as the following:

(A) Use without processing.

(B) Use after processing to remove or modify undesired impurities.

(C) Use as a source of energy by the producer or by another person.

(5) Technologic, economic or other reason for not recycling the waste, taking into account relevant factors which may include any of the following:

(A) The available amount and the storability of the waste.

(B) Chemical, physical, toxicological or other properties of the waste which might affect its recyclability.

(C) The concentration or recoverability of the chemical component, chemical reactivity, fuel value or other attribute cited by the Department pursuant to subsection (b) above which may determine the feasibility of recycling the waste.

(D) The processing required in recycling the waste and the availability and cost of suitable processing technology and facilities.

(E) The marketability of the waste as such or as its reclaimed components in terms of the distance from the waste source to the point of use or reclamation, the costs of handling and transport, and the current market prices for the individual waste components as pure or technical grade materials.

(d) The statement shall indicate what information contained therein is considered to be a trade secret. The Department shall keep confidential trade secrets contained in any statement submitted to the Department pursuant to this section.

NOTE: Authority cited: Section 25175, Health and Safety Code. Reference: Section 25175, Health and Safety Code.

HISTORY:

1. New Article 12 (Sections 66763 and 66796) filed 5-16-79; effective thirtieth day thereafter (Register 79, No. 19).

66796. List of Recyclable Hazardous Waste Types.

(a) Wastes of the types cited on the list of Recyclable Hazardous Wastes in subsection (b) are waste types which the Department finds to be both economically and technologically feasible to recycle.

(b) List of Recyclable Hazardous Waste Types (including examples of potential recycling methods or uses);

(1) Commercial chemical products including unused laboratory grade products (return to manufacturer or supplier or turn over to chemical salvager for resale or resource recovery; sell or barter to another consumer).

(2) Solvents, used or contaminated (reclaim, in-plant or through custom solvent reclaimer, by purification processes of rectification, ion exchange, adsorption, or extraction; or if combustible, use in-plant or sell for use as energy resource for heating, cooling, or power generation), including:

(A) Halogenated solvents such as trichloroethane, perchloroethylene, methylene dichloride, chloroform, carbon tetrachloride, Freons(R);

(B) Oxygenated solvents, such as acetone, methyl ethyl ketone, methanol, ethanol, butanol, ethyl acetate;

(C) Hydrocarbon solvents such as hexanes, Stoddard, benzene, toluene, xylenes, paint thinner.

(3) Used or unused petroleum products, including motor oils, hydraulic fluids, cutting lubricants, fortified weed oils (turn over to reclaimer of motor oils and other petroleum products for recovery of petroleum components; or use in-plant, or sell for use as energy resource for heating, cooling, or power generation).

(4) Pickling liquor (recover iron salts by concentration, e.g., by solar evaporation of spent liquor).

(5) Unspent acids, such as hydrochloric, hydrofluoric, nitric, phosphoric, sulfuric, in concentrations exceeding 15% (use directly as pickling and etching acids; in neutralization of alkaline process waste streams; or in manufacture of useful salt products, e.g., ammonium salts, calcium fluoride).

(6) Unspent alkalis, including hydroxides and carbonates of sodium, potassium, and calcium, and acetylene sludge (use directly in certain metal finishing operations; in neutralization of pickling acids and acid process waste streams; in precipitation of heavy metals; or in manufacture of useable products, e.g., calcium oxide, sulfate, fluoride, and chloride).

(7) Unrinsed empty containers of iron or steel used for pesticides or other hazardous chemicals:

(A) Pesticide containers (return to the registrant or, if 30- or 55-gallon size, recondition, pursuant to Section 3143 of Title 3, California Administrative Code; or shred or bale, after removal of pesticide residues by solvent or chemical action or burning, for use as steel scrap).

(B) Hazardous chemical containers (other than pesticide containers return to product supplier or, if 30- or 55-gallon size, recondition; or shred or bale, after removal of chemical residues by solvent or chemical action or burning, for use as steel scrap).

NOTE: Authority cited: Section 25175, Health and Safety Code. Reference: Section 25175, Health and Safety Code.

Article 14. Prohibited Chemical Toilet Additives

66880. Prohibition of Sale.

(a) On or after January 1, 1979, no person in the State of California shall manufacture, formulate, package, import or receive from outside the State and sell or offer for sale within the State a material for use as a chemical toilet additive, as indicated on a label on the container or by any other representation by said person, which contains a nonbiodegradable toxic chemical substance.

(b) On or after January 1, 1979, no person shall sell or offer for sale at retail or wholesale within the State a material for use as a chemical toilet additive, as indicated on a label on the container or by any other representation relating to the sale of the material, which contains a nonbiodegradable toxic chemical substance.

(c) The foregoing provisions of this section shall not prohibit a person from selling or shipping to a person outside of the State a material for use as a chemical toilet additive, as indicated on a label on the container or by other representation, which contains a nonbiodegradable toxic chemical substance, which is manufactured, formulated, or packaged within the state or imported or received from outside of the State.

NOTE: Authority cited: Section 25210, Health and Safety Code. Reference: Section 25210, Health and Safety Code.

66883. Prohibition of Use.

On or after January 1, 1979, no person shall use, or cause to be used, a material as a chemical toilet additive which contains a nonbiodegradable toxic chemical substance.

NOTE: Authority cited: Section 25210, Health and Safety Code. Reference: Section 25210, Health and Safety Code.

66886. Criteria for Identifying a Toxic Chemical Substance.

(a) A chemical substance shall be considered to be a toxic chemical for the purpose of this Article if such substance satisfies any of the following criteria:

(1) The chemical substance has a 96-hour LC_{50} of 500 milligrams or less per liter as determined in soft water with fathead minnows (*Pimephales promelas*) or golden shiners (*Notemigonus crysoleucas*) by the method given in Standard Methods for the Examination of Water and Wastewater (14th Edition), or with another species of test fish or another test method approved by the Department.

(2) The chemical substance is regulated as a carcinogenicity hazard by the United States Occupational Safety and Health Administration pursuant to Title 29, Code of Federal Regulations.

(3) The chemical substance presents a hazard to public health or the environment through its bioaccumulative or chronic toxicity properties.

NOTE: Authority cited: Section 25210, Health and Safety Code. Reference: Section 25210, Health and Safety Code.

66889. Criteria for Identifying a Nonbiodegradable Toxic Chemical Substance.

(a) A chemical substance shall be considered to be a nonbiodegradable toxic chemical substance for the purpose of this Article if such chemical substance satisfies any of the following criteria:

(1) The chemical substance contains any of the following elements:

antimony	molybdenum
arsenic	nickel
barium	selenium
beryllium	silver
cadmium	thallium
chromium	titanium
cobalt	uranium
copper	vanadium
lead	zinc
mercury	

(2) The chemical substance satisfies at least one of the criteria established in Section 66886 and either:

(A) Under conditions of the Five-Day Biochemical Oxygen Demand (BOD_5) test method, as given in Standard Methods for the Examination of Water and Wastewater (14th Edition) or in a modification of the method approved by the Department, using unadapted settled domestic wastewater seed, is degraded to the extent that its initial concentration in the test medium is reduced by less than fifty (50) percent. The extent of degradation shall be determined by an analysis which establishes to the satisfaction of the Department the percent of the test substance which is undegraded at the completion of the test.

(B) Under conditions of the BOD_5 test method or of a modification of the method approved by the Department is degraded to a residue which contains a toxic chemical substance.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment of subsection (a)(2) filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

66892. Disclosure of Identity, Composition, and Properties.

(a) At the request of the Department, the seller of a chemical toilet additive shall provide the Department with the brand name or other designation and the name and address of the producer or other supplier of each chemical toilet additive that he offers for sale.

(b) At the request of the Department, a person in the State of California who manufactures, formulates, packages, imports or receives from outside the State a material for sale within the State for use as a chemical toilet additive, as indicated on a label on the container or by any other representation by said person, shall disclose to the Department the names of all of the ingredients of the material and provide toxicological and biodegradability data which establish to the satisfaction of the Department whether the material contains any ingredient which is a nonbiodegradable toxic chemical substance.

(c) At the request of the Department, the user of a chemical toilet additive for his household purpose shall disclose to the Department the brand name or other designation of the additive and the name and address of its producer or seller.

(d) At the request of the Department, a person who uses a chemical toilet additive for other than his household purpose, including a person who maintains or services chemical toilets or chemical toilet waste holding tanks or who collects, transports, or disposes of chemical toilet wastes as a commercial business, as part of or incidental to a commercial business, as a government agency, or for hire, shall disclose to the Department:

(1) The brand name or other designation of the chemical toilet additive used and the name and address of its producer or seller.

(2) The names of all ingredients of any material used as a chemical toilet additive which is not labeled on its container or in accompanying printed matter to indicate its use for such purpose, its brand name or other designation, and its producer or seller. At the request of the Department, the person shall also provide toxicological and biodegradability data which establish to the satisfaction of the Department whether the material contains any ingredient which is a nonbiodegradable toxic chemical substance.

(e) The chemical analyses and bioassay methods and procedures used in obtaining data and the quality and adequacy of the data which are submitted in compliance with this section shall be subject to approval of the Department.

NOTE: Authority cited: Section 25210, Health and Safety Code. Reference: Section 25210, Health and Safety Code.

66895. Enforcement and Inspections.

(a) The requirements of this Article shall be enforced as provided for under Article 3 of this Chapter.

(b) Inspections may be made of and samples taken from any factory, plant or other place where chemical toilet additives are manufactured, stored, sold, or used.

NOTE: Authority cited: Section 25210, Health and Safety Code. Reference: Section 25210, Health and Safety Code.

66898. Applicability of Other Requirements of This Chapter.

Nothing in this Article shall be construed to relieve a person from handling and managing a chemical toilet waste as a hazardous waste in accordance with the requirements of this Chapter if the chemical toilet waste contains a hazardous material or is a hazardous waste as defined in Sections 66084 and 66088, respectively, or is listed in either Section 66680 or Section 66685 of this Chapter except that a person who produces, hauls, or disposes of chemical toilet waste shall be exempt from the requirements of Articles 2 and 4 through 10 of this Chapter if disposal of the waste is in accordance with the requirements of Chapter 6, Division 20, Health and Safety Code and Article 3, Chapter 1, Division 7.5, Water Code.

NOTE: Authority and reference cited: Section 208, Health and Safety Code.

HISTORY:

1. Amendment filed 5-10-79; effective thirtieth day thereafter (Register 79, No. 19).

B. EXCERPT, WASTE DISCHARGE REQUIREMENTS FOR NONSEWERABLE WASTE DISPOSAL TO LAND, Title 23, Chapter 3, Subchapter 15, Waste Disposal to Land; California State Water Resources Control Board, July 1980.

DISPOSAL SITE DESIGN,

OPERATION, and CLOSURE INFORMATION

EXCERPT

from:

Waste Discharge Requirements for Nonsewerable Waste Disposal to Land

By Alvin L. Franks, Ph.D.

July 1980

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

Article 1. General Provisions

2500. Definition of Terms

2500(a) "Disposal Site" means any place used for the disposal of solid or liquid wastes. It does not include any part of sewage treatment plant or point of discharge of sewage effluent or land drainage from pipes or ditches into waters of the state.

2500(b) "Disposal area" is that portion of the site which has received or is receiving wastes.

Comment: More than one class of disposal area may be established in a disposal site. Throughout the Code and this document, the term "disposal area" has been chosen specifically to allow exemption of other portions of a disposal site (buffer zones, access roads) from having to meet criteria that are intended to be oriented to the point of waste disposal.

2500(c) "Leachate" is drainage from the waste or fluid resulting from the percolation of liquid through a waste substance.

2500(d) "Usable" ground or surface water includes potentially usable water.

Comment: "Potentially usable water" is to be defined by the Regional Board on a case-by-case basis. Proposed United States Environmental Protection Agency standards for the Underground Injection Control program established water containing less than 10,000 mg/l as usable or concentration of toxic materials that render it useless as a drinking water supply (e.g. Arsenic, etc.)

2500(e) "Hydraulic continuity" is a condition existing when fluid occupying an interstice of a saturated material is able to move under a head differential to adjoining interstices or surface channels containing fluid.

2500(f) "Capillary fringe" is the partly saturated zone immediately above the water table in which water is held by capillary forces.

Comment: In a barrier constructed of soil, the capillary fringe may occur within the barrier at different elevations than the capillary fringe above the adjacent groundwater table.

2500(g) "Toxic" means lethal, injurious, or damaging to man or other living organisms including plants, domestic animals, fish and wildlife.

2500(h) "Active life" is the period of time required to achieve stabilization of decomposing waste in a site such that leachate or the rate of generation of gases is no longer a threat to water quality.

Comment: The active life might be highly variable from case to case ranging from a few years to greater than several hundreds of years. For Group 2 wastes in most portions of California, this period is usually in excess of 50 years for 50 percent decomposition and hence concern for water quality protection at solid waste disposal sites should continue respectively. The degree of decomposition may possibly be evaluated from test borings of the waste disposal area. The leachate potential may persist long after decomposition of the organic material since it is a function of the water movement through the waste materials and the mineral extraction (leaching) rate. Water soluble toxic waste such as arsenic, lead, etc., may pose a threat to water quality indefinately.

2500(i) "Hazardous waste disposal site" means a disposal site as defined in Chapter 6.5 (commencing with Section 25100) of Division 20 of the Health and Safety Code.

2500(j) "Site closure and maintenance revolving account" is that fund established in accordance with Article 3.6 of Chapter 1 of Division 7.5 (commencing with Section 14055) of the Water Code.

2500(k) A "liquid waste disposal site" is a facility that receives liquid waste in any form, including but not limited to, any solid or gaseous substance contained in any such waste from any producing, manufacturing, or processing operation of whatever nature, excluding sewage, fertilizer, or any radioactive material that is subject to provisions of Chapter 7.3 (commencing with Section 25650) of Division 20 of the Health and Safety Code.

Comment: As defined, solid fraction of a liquid waste is included in the definition. A "liquid" waste disposal site therefore includes all Class I, Class II-1, Class II, and any other unclassified land disposal practice (see Sections 2500(a) and 2500(b)).

2500(l) "Hazardous waste" means a waste, or combination of wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may either:

(1) Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.

(2) Pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

Article 2. Classification of Waste Disposal Sites

2510. Class I Disposal Sites. Class I disposal sites are those at which complete protection is provided for all time for the quality of ground and surface waters from all wastes deposited therein and against hazard to public health and wildlife resources.

The following criteria must be met to qualify a site as Class I:

2510(a) Geological conditions are naturally capable of preventing vertical hydraulic continuity between liquids and gases emanating from the waste in the site and usable surface or groundwaters.

Comment: Class I sites can be underlain by usable groundwater only under exceptional circumstances. If a site is underlain by a substantial amount of nonwater-bearing materials with permeabilities less than 1×10^{-6} cm/sec and they were again underlain at depth by water-bearing deposits, the total threat to water quality would have to be evaluated. It is highly probable that if horizontal movement from the site can be prevented and it is naturally capable of preventing vertical movement to usable water, it could be approved. For example, if low-head evaporation ponds are proposed over an area where minor sand lenses of moderate permeability are found to be less than about

10 feet below the bottom of the site, the horizontal extension of the lenses at the pond boundary must be located and a vertical trench excavated removing all permeable material and backfilling with compacted materials having a permeability less than $1x10^{-6}$ cm/sec. This is considered a barrier to lateral movement and thus falls under Section 2510(b). If a site is over a formation containing unusable water (more than 10,000 mg/l TDS) the geologic structure must be evaluated and an engineering design formulated that will prevent lateral movement of any waste from the disposal areas to usable water. The downdip percolation capacity of the formation can be utilized if addition of the waste does not interfere with other uses (e.g., oil production, mineral production, etc.).

2510(b) Geological conditions are naturally capable of preventing lateral hydraulic continuity between liquids and gases emanating from wastes in the site and usable surface or groundwaters, or the disposal area has been modified to achieve such capability.

Comment: If the conditions at the site are not naturally capable of preventing lateral (horizontal) continuity or movement between the site and usable waters, it can be modified by placing a proper structure to prevent such movement. An example of this would be if there is a continuous sand layer below a proposed Class I site that dips towards a usable surface or groundwater system. A vertical cutoff along the downdip side constructed of impervious material containing an internal or external hydraulic barrier would effectively prevent the horizontal movement through this system to usable water. The regulations as written would <u>not</u> allow installation of a liner over the sand in the disposal area to prevent vertical movement but does allow construction of the cutoff dam as previously described.

The modifications made to enable lateral control of waste migration must be in a manner acceptable to the Regional Board. The impermeable conditions established should meet all the following performance standard criteria, if the barrier is comprised of soil, or provide equivalent impermeable conditions and life expectancy for as long as the waste poses a threat to the environment if comprised of cement or synthetic materials:

a. Permeability of $1x10^{-8}$ cm/sec, or less.

b. CL, CH or OH soils per Unified Soil Classification system.

c. Not less than 30 percent by weight passes a No. 200 sieve (U. S. Standard).

d. Liquid limit of not less than 30 (ASTM Test D423).

e. Plasticity index of not less than 15 (ASTM Test D424).

f. Permeability is not adversely affected by chemical or physical reaction with the anticipated wastes.

To provide for monitoring of the effectiveness of any dam used for control of horizontal movement from a Class I site, it is necessary to provide a positive hydraulic barrier. This can be accomplished by constructing a gravel collection gallery in the dam to intercept the phreatic line or upstream from the dam to intercept flow and thus prevent buildup of subsurface hydraulic head on the dam. When there could be movement through minor fractures below the dam collection gallery system, a triple line grout curtain of material compatible with the proposed waste must be installed.

2510(c) Underlying geological formations which contain rock fractures or fissures of questionable permeability must be permanently sealed to provide a competent barrier to the movement of liquids or gases from the disposal site to usable water.

Comment: An otherwise impermeable bedrock formation under a proposed Class I disposal site may have surficial joints or fractures that can be sealed by grouting and/or removed by excavation to prevent lateral movement from the site. If a grout curtain is used, it should be a triple line system and constructed with materials that will not be adversely affected by the anticipated waste products. Formations having joints or fractures and vertical continuity with usable water are unsatisfactory and should not be approved.

2510(d) Inundation of disposal areas shall not occur until the site is closed in accordance with requirements of the Regional Board.

Comment: See Sec. 2535 for details.

2510(e) Disposal areas shall not be subject to washout.

Comment: An unlimited Class I site cannot be subject to flooding or to washout. Overflow protection should be provided at disposal areas, such as ponds to protect against failures (i.e., storage facilities located downslope). Freeboard should be established to prevent overflow under the greatest anticipated seasoned rainfall with the occurrence of the greatest anticipated 24-hour or 6-day rainfall and wind conditions, whichever is more restrictive.

2510(f) Leachate and subsurface flow into the disposal area shall be contained within the site unless other disposition is made in accordance with requirements of the Regional Board.

Comment: Internal runoff might contain deleterious substances, hence it normally must be retained in the site. An approved discharge might include an effluent from a processing or treatment system which has been shown to meet waste discharge requirements for the receiving water.

2510(g) Sites shall not be located over zones of active faulting or where other forms of geological change would impair the competence of natural features or artificial barriers which prevent continuity with usable waters.

Comment: Active faulting would be conditions where geologic evidence indicates that there may be movement in the disposal area along a fault tract during the active life of the site (in the case of some conservative toxic materials this might be an infinite period). Other forms of geologic change would include local liquefaction due to seismic shocks, natural landslide, soil movement, man-caused subsidence, regional uplift with resultant acceleration of erosion, regional subsidence and resultant inundation or erosion, slope failure of disposal area due to seismic acceleration, etc. (See Section 2553.2 (h))

2510(h) Sites made suitable for use by man-made physical barriers shall not be located where improper operation or maintenance of such structures could permit the waste, leachate, or gases to contact usable ground or surface water.

Comment: The integrity of waste containment structures must be maintained. Excavations made as part of the site operation should not result in removal of portions of confinement barriers without prior evaluation of the effect on containment features. Waste disposal facilities utilizing mechanical equipment, such as pumps, must be designed or have backup facilities to prevent overflows due to malfunction of the equipment.

2510(i) Sites which comply with a, b, c, e, f, and g, but would be subject to inundation by a tide or a flood of greater than 100-year frequency may be considered by the Regional Board as a limited Class I disposal site.

Comment: See Sec. 2531 for additional details.

--Other Sections Which Relate to Class I Sites are:--
2520, 2530, 2531, 2534 2552, 2553, 2557 and 2563

2511. Class II Disposal Sites. Class II disposal sites are those at which protection is provided to water quality from Group 2 and Group 3 wastes. The types of physical features and the extent of protection of groundwater quality divides Class II sites into the two following categories:

Class II-1 sites are those overlying usable groundwater and geologic conditions, are either naturally capable of preventing lateral and vertical hydraulic continuity between liquids and gases emanating from the waste in the site and usable surface or groundwaters, or the disposal area has been modified to achieve such capability.

Comment: Impervious formations, such as natural soil or the equivalent of artificially constructed barriers should have a permeability of 1×10^{-6} cm/sec or less and meet similar soil material criteria as indicated in items b, c, d and e for Sec. 2510(b). Confinement capabilities should retain the wastes within the boundary of the disposal area including vertical infiltration as long as the waste poses a threat to water quality. The thickness of the confining material should be based upon the soil permeability, hydraulic head of the waste material, and the time the hydraulic head will be maintained. A leachate collection system can be used to prevent buildup of hydraulic head. Infiltration into nonwater-bearing sediments which do not have hydraulic continuity with usable water may be permitted.

Class II-2 sites are those having vertical and lateral hydraulic continuity with usable groundwater but for which geological and hydraulic features such as soil type, artificial barriers, depth to groundwater, and other factors will assure protection of the quality of usable groundwater underneath or adjacent to the site.

Comment: Variability exists from site to site regarding the factors which will prevent degradation of usable groundwater quality. The factors may include:

a. Size of the landfill composed of Group 2 materials.
b. Types of Group 2 materials received.
c. Permeability of underlying soils.
d. Depth to groundwater.
e. Quality of the groundwater.
f. Anticipated use of the groundwater during the life of site.
g. Annual precipitation.
h. Rate of groundwater movement.

Class II-2 sites dedicated to one type of waste, such as sewage sludge or cannery waste, can be managed to provide the required protection for groundwater and surface water supplies by balancing moisture-nutrient load to crop requirements. In general, California water requirements for crops range from 2 to 7 feet per year and nitrogen requirements from 50 to 300 pounds per acre per year. Projects designed for application rates in excess of crop requirements or containing chemical additives that could degrade water should provide the protection set forth for Class II-1 sites.

The following criteria must be met to qualify a site as Class II:

2511(a) Disposal areas shall be protected by natural or artificial features so as to assure protection from any washout and from inundation which could occur as a result of tides or floods having a predicted frequency of once in 100 years.

Comment: The flood frequency evaluation should be based upon data such as furnished by the State Department of Public Works, Department of Water Resources, Corps of Engineers, or local flood control district. Computations should be submitted by the discharger showing that a 100-year flood will not cause inundation of the disposal site or cause erosion of wastes or the surface cover from a landfill with resultant exposure of buried waste materials.

2511(b) Surface drainage from tributary areas shall not contact Group 2 wastes in the site during disposal operations and for the active life of the site.

Comment: At sites where applicable, major drainage channels must be improved or realigned prior to commencement of disposal operations. During disposal operations, provisions must be taken to direct internal site drainage away from Group 2 wastes. Prior to rainfall season, all necessary runoff diversion channels must be in place to prevent erosion or flooding of the site, and the site graded to prevent ponding of water over the waste. Cover material used must be of sufficient thickness and permeability to prevent percolating water through the cover. (See Section 2553.2). Disposal areas located adjacent to irrigated areas must be protected from flow of runoff water into the disposal area.

2511(c) Gases and leachate emanating from waste in the site shall not unreasonably affect groundwater during the active life of the site.

Comment: In establishing waste discharge requirements, the Regional Board will evaluate the potential effect of any leachate or gases that may emanate from a waste disposal site on the beneficial uses of the affected water. To prevent impairment of beneficial uses of the groundwater, the waste discharge requirements may contain provisions to either control the pollutants or the type or quantity of materials deposited, such as limitation of moisture content of waste.

In climatic areas with over 30" annual precipitation, leachate controls, such as a leachate collection system, hydraulic barrier, and an impervious cover, may be mandatory requirements for the disposal areas.

2511(d) Subsurface flow into the site and the depth at which water soluble materials are placed shall be controlled during construction and operation of the site to minimize leachate production and assure that the Group 2 waste material will be above the highest anticipated elevation of the capillary fringe of the groundwater. Discharge from the site shall be subject to waste discharge requirements or a National Pollutant Discharge Elimination System Permit.

Comment: Specification of the distance separating the base of Group 2 wastes and the groundwater table must be established on an individual site basis. Variables may include types of Group 2 waste (based upon expected rate of decomposition), soil permeability, and quality of groundwater. The lowest elevation (USGS Datum) of Group 2 waste placement will normally be specified. The minimum separating distance between Group 2 waste and the highest anticipated groundwater level is considered to be 5 feet in clayey soils, unless water quality, underlying soil materials, or the installation of a barrier would permit a reduced distance. Commonly, greater separating distances in the order of 10 to 20 feet are required dependent on soils.

Group 3 materials may be placed below the specified minimum elevation.

Disposal of Group 2 wastes below the level of the regional water table would require construction of engineering features, such as an infiltration or leachate control barrier so as to prevent contact of the wastes by the groundwater. Such placement of Group 2 wastes would require presentation of sufficient data and information to demonstrate that exceptional circumstances were involved, such as type of water quality and proper site design and construction.

—Other Sections Which Relate to Class II Sites Are:—
2521, 2530, 2532, 2552, 2553, 2557, and 2563.

2512. Class III Disposal Sites - Class III disposal sites are those at which protection is provided to water quality from Group 3 wastes by location, construction, and operation which prevent erosion of deposited material.

Comment: Examples include filling of areas which contain water, such as marshy areas, pits, and quarries. Also included might be other areas with insufficient distance separating the disposal area and groundwater to qualify for a Class II-2 site. Construction practices and facilities that could cause a discharge of soil or accelerate downstream transport of soil are also considered Class III disposal sites.

—Other Sections Relating to Class III Sites Are:—
2522, 2533, and 2535

2513. Waste Wells Construction, maintenance, or use of any waste well extending to or into a subterranean water-bearing stratum that is used or intended to be used as, or is suitable for, a source of water supply for domestic purposes shall be in compliance with Article 6 (commencing with Section 13540) of Chapter 7, Division 7 of the Water Code.

Comment: This section is intended to apply to discharge of wastes from industrial sources, oil field brines, and other fluids regulated under Division 7.5 of the Water Code, and policy for setting discharge requirements for deep well injection. All waste wells used for disposal of fluids excluding oil and geothermal well production water must be under Regional Board waste discharge requirements and in compliance with these regulations.

Wells suitable for the disposal of wastes shall provide protection to usable groundwater as determined by the following conditions:

a. The receiving formation shall not be in hydraulic continuity with any usable groundwater.

Comment: See Section 2500 (d) for definition of usable water.

b. Construction and injection procedures shall be such that no passageways are developed which will permit the movement of waste to a usable aquifer or to the surface.

Comment: If passageways are not to be developed during injection of waste, pressures in excess of the strength of the receiving materials shall not be exceeded. This is interpreted to set a discharge pressure at 75 percent of hydrofracture pressure as determined by formation testing with clear water or other appropriate method.

c. Certification has been provided by the California Division of Oil and Gas that construction and operation of waste wells under its jurisdiction conform to regulations of the Division.

Comment: Presently, under the Porter-Cologne Water Quality Control Act, each Regional Board is authorized to issue waste discharge requirements for the discharge of waste into the waters of the State and to regulate the disposal of waste into waste wells pursuant to Water Code Section 13540. Injection of brines and condensate from oil well production and geothermal facilities are considered disposal by waste wells and is regulated by the Regional Boards and the Division of Oil and Gas. The regulatory activities of the Regional Board and the Division of Oil and Gas are presently coordinated as follows:

1. The operator of an oil or geothermal brine injection well will report the proposed waste discharge to the Division of Oil and Gas on forms required by the Division and file the report in the District Office. The Division will forward a copy of the report to the Regional Board.

2. The Division of Oil and Gas, the Regional Board, and local agencies will consult with one another and conduct any necessary investigations of the proposed waste discharge.

3. The Division of Oil and Gas will prescribe requirements for discharge of the wastewater in accordance with statutory regulations, furnishing a copy of the documents to the Regional Board.

4. The Regional Board will either concur in the requirements of the Division of Oil and Gas or prescribe separate discharge requirements, but in either case will furnish a copy of its actions to the Division of Oil and Gas.

To determine the relationship of the disposal well system with the hydrogeologic environment, the basic data submitted by the discharger shall include all items indicated in Vol. 39, No. 69, page 12923 of the Federal Register, dated April 9, 1974.

Article 3. Classification of Wastes Discharged to Land

2520. Group 1 Wastes. Group 1 wastes consist of or contain toxic substances as defined in Section 2500 and substances which could significantly impair the quality of usable waters. Examples include but are not limited to the following:

Comment: The waste categorization system is not able to acknowledge the quantitative aspects of a waste nor is it sensitive to the ranges in qualitative characteristics which exist. To be considered a Group 1 waste, a waste material must consist of or contain toxic substances or other substances of a degree which could significantly impair the quality of usable waters. Involved are the amount of the substance, its critical concentration in the receiving water, and its physical and chemical behavior (persistence, degradability, etc.). Hazardous wastes (Section 2500) have been defined by the California Department of Health Services and lists have been published in "California Characterization and Assessment System for Hazardous and Extremely Hazardous Wastes". Some of these materials are not water soluble and therefore not a Group 1 waste. A good example would be asbestos which is hazardous but a Group 3 waste.

Because of the range in quantitative/qualitative characteristics, "borderline" wastes exist spanning the Group 1-Group 2 categories. Examples of these wastes, dependent on the quantity, waste concentration, and specific constituents are: chemical toilet wastes, paint sludges, pumpings from grease traps, drilling muds, and chemical fertilizers.

2520(a) Municipal origin.

1. Saline fluids from water or waste treatment and reclamation processes.

2. Community incinerator ashes.

Comment: The threat to water quality from incinerator ash leachate is dependent upon the solubility of salts and organic compounds contained in the ash and the environment in which the ash is placed. Most incinerator ashes derived from the combustion of community waste and dewatered sewage sludge can be disposed of at Class II-1 sites having leachate control systems. Some stable ashes do not contain water soluble salts or organic compounds that could adversely affect water quality and can be disposed of at Class II-2 or Class III sites. The California Department of Health Services has developed a "Waste Extraction Test" which can be used along with tables of "Toxicity" to determine potential hazard of leachate from these wastes.

3. Toxic chemical toilet wastes.

Comment: A wide variability exists in the types of chemicals used in chemical toilets. Examples include solutions containing a chemical compound such as caustic soda, cresylic acid (a phenol compound), hypochlorite, formaldehyde, or zinc sulfate. The concentrations of some of these chemicals are diminished during the storage or recirculation of the wastes in the toilets. Nontoxic levels may be reached or disposal of the wastes as Group 2 materials may be feasible if soil absorption and bacterial degradation processes can reduce the chemicals to acceptable concentrations.

2520(b) Industrial origin.

1. Brines from food processing, oil well production, water treatment, industrial processes, and geothermal plants.

2. Other toxic or hazardous fluids from industrial operations such as spent cleaning fluids, petroleum fractions, chemicals, acids, alkalies, phenols, and spent washing fluids.

3. Substances from which toxic materials can leach such as process ashes, chemical mixtures, and mine tailings.

4. Rotary drilling muds containing toxic materials.

Comment: In most instances, fluids containing dissolved salt concentrations in excess of quality required for irrigation must be prevented from percolating to fresh groundwater and thus are considered a Group 1 waste. The wastes derived from geothermal electric generating plants, fossil fuel electric generating plants, refineries and units required to clean up air discharges can contain substantial quantities of sulfur, radon, boron, and heavy metals. An evaluation of fixation, cementation, and solubility of these wastes must be made on an individual basis to determine the threat to water quality. In most instances, if not fixed in a nonsoluble form, these materials contain sufficient toxic hazardous materials to be included as Group 1 waste. The usual toxic materials found in drilling mud are chromimum compounds used for thinning agents.

2520(c) Agricultural origin.

1. Chemicals such as pesticides or chemical fertilizers.

2. Discarded containers of chemicals unless adequately cleansed.

Comment: See Section 2521(b)(4) - discussion for criteria relating to "adequately cleansed chemical containers".

2520(d) Other toxic wastes such as compounds of arsenic or mercury or chemical warfare agents.

Comment: The above general outline of examples of Group 1 waste is not all inclusive and in some instances may list a waste that when a dilute form that could be included in the list of Group 2 wastes. An evaluation of each waste must be made based upon threat to water quality for clarification. As a general rule, however, most heavy metals waste in a soluble form or being placed in an environment that could cause an increase in solubility are Group 1 wastes.

2521. Group 2 Wastes. Group 2 wastes consist of or contain chemically or biologically decomposable material which does not include toxic substances nor those capable of significantly impairing the quality of usable waters. Examples include but are not limited to the following:

2521(a) Municipal and industrial origin.

1. Garbage from handling, preparation, processing or serving of food or food products.

2. Rubbish such as paper, cardboard, tin cans, cloth, glass, etc.

3. Construction and demolition materials such as paper, cardboard, wood, metal, glass, rubber products, roofing paper, and wallpaper.

4. Street refuse such as sweepings, dirt, leaves, catch basin cleanings, litter, yard clippings, glass, paper, wood and metals.

5. Dead animals and portions thereof.

6. Abandoned vehicles.

7. Sewage treatment residue such as solids from screens and grit chambers, dewatered sludge, and septic tank pumpings.

Comment: Dewatered sludge is stabilized sludge having a moisture content of less than 80 percent for primary sludge and less than 85 percent for secondary or a mixture of secondary and primary sludge.

Raw sewage sludge that cannot be reintroduced into the treatment system or be further treated because of equipment breakdown or other emergency may be disposed of at a Class II disposal site having leachate control systems on approval from the Regional Board Executive Officer. Transport handling and disposal must provide for the protection of public health and water quality. Not more than 25 gallons of moisture may be added for each cubic yard of solid waste in the cell and the sludge must be covered as soon as possible to prevent health, odor and vector problems.

8. Water treatment residue such as solid, organic matter collected on screens and in settling tanks.

9. Ashes from household burning.

10. Infectious materials and hospital or laboratory wastes authorized for disposal to land by official agencies charged with control of plant, animal, or human disease.

11. Magnesium and other highly flammable or pyrophoric materials.

2521(b) Agriculutral origin.

1. Plant residues from the production of crops including, but not limited to, stalks, vines, green drops, culls, stubble, hulls, lint, seed, roots, stumps, prunings, and trimmings.

2. Manures.

3. Dead animals or portions thereof.

4. Adequately cleansed pesticide containers.

Comments: To be adequately cleansed, the pesticide containers should meet the following conditions:

a. Metal, plastic, and glass containers used for liquids shall have been processed by rinsing and draining or by other decontamination techniques. The processing procedure shall include or be equivalent to at least triple rinsing with thorough draining and puncturing of the containers. Rinse waters produced shall be placed in the spray tank or disposed of in accordance with requirements of the Regional Board. To ensure that the containers have been cleansed as directed, the County Agricultural Commissioner must certify that such programs exist and are utilized by pesticide users in the County.

b. Paper or plastic sacks and bags used for pesticide dusts and wettable powders which are empty are suitable for disposal as Group 2 wastes in Class II-2 sites which are protected from flooding per Section 2511(a) and where the depth to groundwater is greater than 10 feet.

For public health and safety reasons, the local health officer or agricultural commissioner may permit the pesticide containers used for liquids, dusts, and powders to be disposed of only at supervised disposal sites or under supervised conditions.

2522. Group 3 Wastes. Group 3 wastes consist entirely of nonwater soluble, nondecomposable inert solids, examples include but are not limited to the following:

2522(a) Construction and demolition wastes such as earth, rock, concrete, asphalt paving fragments, inert plastics, plasterboard, and demolition material containing minor amounts of wood and metals.

Comment: "Minor amount" of wood and metals is regarded to be approximately ten percent (by volume) of the total. Earth and rock from construction activities is considered waste if there is a potential for transport from the site to waters of the State.

Earth and rock, subject to erosion from construction and land disturbance from such activities as timber harvesting, subdivisions, and road construction, are a Group 3 waste.

2522(b) Vehicle tires.

2522(c) Industrial wastes such as clay products, glass, inert slags, asbestos, inert tailings, inert rubber scrap and inert plastics.

Comment: A discharger proposing to dispose of industrial wastes, such as slag, tailings, or process residues (i.e. plastics) as Group 3 wastes, may be required to show evidence that such wastes are substantially inert. (See Section 2520 (a))

Article 4. Use of Sites

2530. Disposal at Classified Sites. Disposal of solid or liquid wastes shall be only at sites which have been approved by the appropriate Regional Water Quality Control Board consistent with the classifications established by this subchapter and for which waste discharge requirements have been prescribed unless a waiver has been granted in accordance with Section 2540 of this subchapter.

Comment: At sites where special protection measures must be taken, permission to commence disposal operations may be withheld until the staff of the Regional Board has determined that the measures necessary to meet waste discharge requirements have been taken.

Any abandoned wells situated within the influence of a disposal area must be located and properly sealed. A notice of intent to abandon a well must be filed with the Department of Water

Resources prior to the abandonment. Procedures used to destroy these wells or modify wells still in use should conform to the specifications of the local health department or other applicable agency prior to the discharge of waste materials within 100 feet of such wells.

2531. Disposal in Class I Sites. Any wastes may be disposed of in unlimited Class I sites. Wastes disposed of in limited Class I disposal sites shall be subject to waste discharge requirements which include limits on the type and quantity of material entering the site, the concentration of material in the waste disposed of on the site, and the amount of material present or remaining on the site after evaporation of liquids.

Comment: Adoption of waste discharge requirements for Class I sites entails the evaluaton of data and information submitted by the discharger that indicates the disposal area meets specified criteria. Each critical area is to be described and the geological conditions substantiated by field tests. The design of containment devices should be described in detail by the discharger.

Information concerning the following specific criteria from Section 2510 Title 23 CAC must be submitted:

a. Describe geologic conditions providing vertical hydraulic continuity control.

b. Describe lateral hydraulic continuity control.

c. Indicate absence of continuity of rock fractures or fissures.

d. Evaluate surface drainage provisions.

e. Evaluate flooding and washout potential.

f. Evaluate need for any discharge from the disposal area--type and quantity of discharge.

g. Review active faulting potential including subsidence or uplift so that design of containment features is commensurate with the land movement risks and anticipated seismic shock.

h. Indicate plans for site operations near barriers.

i. Indicate plans of subsequent use of the property (if known).

j. Financial Responsibility.

Setback distances may be required between water control barriers and adjacent property lines and water bodies to enable future corrective measures to be taken if necessary.

The discharger should state the effective permeability he will attain in structures created to prevent lateral waste migration; this should be consistent with the criteria listed in the Section 2510(b) discussion. In such structures it may be necessary to provide a positive hydraulic barrier constructed of impermeable materials and equipped with a seepage collection drain and sump for return of the seepage upgradient in the disposal area.

Earthfill structures should be compacted under the direction of a qualified soils engineer. The following are example specifications for an earthfill barrier:

> Materials placed in the barrier shall be compacted at 95 percent relative density at optimum moisture content or greater. Control testing shall be performed routinely during material placement to ensure that every lift shall, so far as possible, be staggered so as not to coincide in a vertical plane and so as to approximate representative coverage of the entire surface area. Where tests reveal that material placement is less than the minimum standard of 1×10^{-8} cm/sec permeability, it shall be removed and be recompacted to the minimum and again tested.

Construction of levees (or dams) may be inspected by the Regional Board staff. A narrative report of conditions encountered during construction should be provided to the Regional Board by the engineering geologist or the soils engineer.

The Regional Board should be furnished copies of as-built plans showing the details of the barrier, including materials used for construction, compaction densities, effective permeability, depth of bedrock, grouting, etc. The exact location and physical measurements of compacted earthfill barriers, cut-off walls, and/or hydraulic barriers should be indicated.

The maximum permissible height of storage liquids behind a barrier must be stipulated. The liquid level buildup at the upstream face of the barrier and within the seepage collection drain or sump must be monitored.

The face of barriers must be protected from deterioration by erosion or be rodents through placement of riprap or periodic maintenance. The effectiveness of the barrier must be maintained for the active life of the site.

It should be noted that other appropriate agencies may restrict specific wastes received by a Class I site or the manner of operation pursuant to their authority.

The limitation of wastes by a Regional Board at a limited Class I Site is associated with the hazard of flooding of the disposal area (water contacting wastes with possible erosion or discharge of them from the disposal area). Wastes placed in such a site may be required to be neutralized, covered and or solidified to reduce the threat of discharge from the site into the receiving waters.

The criteria set forth in Section 2531 must be evaluated on an individual site basis to determine the dilution capacity of the 100+ year storm and the allowable material that might be redissolved and discharged.

2532. Disposal in Class II Sites. Any Group 2 or Group 3 wastes may be disposed of in Class II sites.

Regional Boards or other appropriate authorities may adopt more stringent requirements (Section 2541) and restrict the disposal of specific Group 2 wastes in Class II-1 or II-2 sites.

Comment: Limitations may be placed by the Regional Board on the disposal of certain Group 2 wastes in Class II sites if the water content of the wastes would endanger the water balance of the disposal area or cause groundwater quality degradation by CO_2 gas, or at marginal Class II-2 sites where it is necessary to reduce the quantity of potentially leachable substances or generation rate of CO_2 gas. An example of the latter might be the restriction of the landfill of receipt of demolition-type wastes only.

Liquids or high moisture content wastes (greater than 50 percent), such as sewage sludge, should not be disposed of in Group 2 materials (attempting to utilize the potential absorption capacity) at sites without either natural or artificial leachate control capabilities. Class II-2 sites dedicated to the disposal of these high-moisture content wastes must provide for a management system to balance moisture-nutrient loading to crop requirements (see Section 2511). Exceptions to this may occur in extreme dry climate areas where it is shown that soil type or depth to groundwater will assure protection of water quality from leachate or CO_2 gas. Where leachate collection facilities are installed, limitations on the amount of liquids added will be based upon the capacity of the leachate containment and treatment facilities.

The disposal of certain Group 1 wastes may be allowed in a Class II-1 site by a Regional Board when, in the judgment of the Board, such disposal will not unreasonably affect water quality. Such restricted disposal of specific Group 1 wastes shall be subject to terms and conditions considered appropriate by the Regional Board.

Comment: The permission to allow disposal of certain Group 1 wastes at a Class II-1 site can be made for specific waste by the Regional Board only after public hearing. The list of specific materials must be included in the waste discharge requirements. Disposal of Group 1 wastes in Class II-1 sites will be evaluated on the basis of:

a. Type and volume of wastes
b. Concentration of material in the waste
c. Methods proposed for disposal
d. Long-term threat to water quality of specific waste
e. Absorption capacity of Group 2 waste available at the site.

Construction of barriers at Class II sites should follow the general construction specifications listed for Class I sites (Section 2531 discussion) and meet criteria for impermeable conditions listed in the Section 2511 discussion.

In general, a Class II-1 site is a disposal facility designed for containment and/or biodegradation of a specific waste (e.g., oily production brines, mine waste, geothermal gas scrubber wastes, etc.) or a facility receiving Group 2 materials such as domestic/household wastes in which restricted amounts of select Group 1 wastes are permitted that are compatible with the site and do not pose a threat to water quality. In special cases, Class II-1 sites can be developed and used for the disposal of restricted types of borderline Group 1 wastes, such as petroleum products, scrubber slurries, and other such wastes. Under no circumstances will the Class II-1 site be used for the disposal of large quantities of "hard" Group 1 wastes, such as heavy metals, long-life pesticides, and other long-life wastes.

2533. Disposal in Class III Sites. Only Group 3 wastes may be disposed of in Class III sites.

Comment: Disposal sites which have been classified as Class III are not permitted to receive more than the minor 10 percent allowable amount of Group 2 wastes (wood and metals only). Construction sites and timber harvest operations when constructing fills, and disposal areas are also subject to these limitations.

At a Class III site, timber harvest areas, or construction sites, where Group 2 waste disposal is desired and where it can meet Class II-2 criteria, application should be made to the Regional Board to have the site reclassified to Class II-2.

2534. Record Maintenance and Inspection. Operators of Class I and Class II-1 sites shall maintain at their business address legible records of the volume and type of Group 1 waste received at the site and the manner and location of disposal. Such records shall be maintained as specified by the State Board for a period of not less than ten years on forms approved by the State Board. Records shall be available for review by representatives of the State or Regional Board at any time during normal business hours. When disposal operations cease, the records shall be forwarded to the Regional Board.

Comment: The records for type of Group 1 waste received at the site and manner and location of disposal shall maintained at the site. If there is a major change in operations there record should be forwarded to the Regional Board with the annual update of the operation plan as required in Section 2552 of the regulations.

2535. Abandonment of Waste Wells.

2535(a) Prior to abandonment of waste wells, the operator shall file a technical report with the appropriate Regional Board describing the methods and controls to be used for closing the well.

2535(b) Abandonment of waste wells, other than those within the jurisdiction of the California Division of Oil and Gas, shall be under the supervision of a registered geologist, a registered petroleum engineer, or the Division of Oil and Gas.

2535(c) Abandonment of wells within the jurisdiction of the Division of Oil and Gas shall be under the supervision and direction of the Division.

Comment: Under the present system, the Division of Oil and Gas provides the Regional Board with plans and specifications for abandonment of oil and gas wells. A Regional Board adopts its own requirements only if it disagrees with the requirements of the Division of Oil and Gas (See comments, Section 2513).

Article 5. Provisions for Variance

2540. Waivers. The Regional Board may waive the reporting of solid waste discharge, or approval and classification of disposal sites or types of sites, or the establishment of waste discharge requirements as provided by Section 13269 of the Water Code when an operation will not unreasonably affect water quality because of the type of waste and disposal operation, or an operation is in compliance with ordinances or regulations of other governmental agencies which adequately protect water quality. Such waivers shall be conditional and may be terminated by the Regional Board at any time.

Comment: This waiver provision is for discretionary exemption of small disposal systems, land disturbance, or storage and disposal

for plant processes. All such facilities must meet all of the provisions in this Subchapter for the group of wastes, with fail-safe monitoring and/or alarm systems to detect spills or malfunctions within the disposal or storage system. Land disturbance activities not posing a threat to water quality will not require the same degree of monitoring as a more hazardous activity.

2541. Higher Standards.

2541(a) Nothing in this subchapter shall be construed to limit the power of a Regional Board, city, county, or other jurisdiction to adopt and enforce equal or higher standards for the protection of water quality in connection with the disposal of waste materials to land, or to adopt and enforce land use restrictions which govern the location and operation of waste disposal sites.

2541(b) The Regional Board shall adopt and enforce higher standards in connection with the disposal of waste materials to land where such action is necessary to protect water quality.

Article 6. Implementation

2550. Waste Discharge Requirements for Waste Disposal Sites.

2550(a) Persons planning to establish new waste disposal sites or expand existing sites shall notify the appropriate Regional Board of their proposal for the purpose of receiving site classification, reclassification, or waste discharge requirements prior to the disposal of waste at the new or expanded site in accordance with Section 13260, et. seq. of the Water Code.

2550(b) Operators of existing sites for which requirements have not been prescribed, shall notify the appropriate Regional Board prior to July 1, 1972, for the purpose of receiving site classification and waste discharge requirements consistent with the provisions of this subchapter.

2551. Report of Waste Discharge. In addition to the requirements of Section 2205, a report of discharge for a waste disposal site shall contain, or be accompanied by, a certification that all local agencies with jurisdiction have approved use of the site for the intended purposes. Without such certification, reports shall not be accepted for filing pursuant to Section 2206.

2552. Operation Plan.

(a) Operators of hazardous and liquid disposal sites shall develop an operation plan which will be updated when substantial change in operations have been made and a letter indicating conformance with existing plan submitted annually. Such reports shall be approved by the Regional Board. The initial operation plan shall be submitted to the Regional Board with the report of waste discharge pursuant to Section 13260 of the California Water Code. For existing hazardous waste sites, the plan shall be submitted to the Regional

Board within six months of the date of adoption of this regulation. All other sites not having an operation plan on file with the Regional Board shall submit one upon request of the Regional Board. The Regional Board shall, upon receipt, send copies of the operation plan to the Solid Waste Management Board and the Department of Health Services.

(b) The operation plan shall include at least the following:

1. Description of the waste materials anticipated to be received.

2. A map showing the boundaries of the disposal site and waste disposal areas.

3. General description of disposal site operations.

4. Detailed hydrological and geological data for the disposal area.

5. Measures proposed for control of drainage, leachate and gases.

6. Anticipated land use after termination of disposal operations.

(c) The Regional Board shall within 120 days after receipt of an operation plan either approve the plan or inform the operator that the plan is not adequate and additional information is deemed necessary. If no response is received by the operator within that period, the operator may proceed with implementation of the plan.

2553. Completion of Disposal Operations.

(a) Whenever a Regional Board determines that a site closure and maintenance report is necessary to prevent an adverse threat to the environment, it shall so notify the owner or operator of such site.

(b) Every owner or operator of a liquid waste disposal site, or hazardous waste disposal site, shall within 180 days after receiving notice from the appropriate Regional Board, submit a report to that Regional Board describing methods and procedures for termination of operations. The report shall include the information listed in Section 2553.1. The report shall be updated if there is a substantial change in operations and a report submitted annually indicating conformance with existing operations. A final report shall be submitted no less than 120 days prior to cessation of disposal operations. The original and final report shall be prepared by or under the supervision of a registered engineer or a certified engineering geologist. The annual updating of the report may be prepared by, or under the supervision of, the owner or operator of the waste disposal site.

Comment: Because of the potential threat to water quality, closure reports for all hazardous waste disposal sites, waste wells, and all Class II-1 sites will be required. A review of all previously submitted plans will be made to determine compliance with these regulations. If deficiencies are found, the Regional Boards will notify the owner or operator and allow a reasonable time for corrections.

2553.1 Site Closure and Maintenance Report. The methods used to close a site and assure continuous protection of the quality of surface and groundwater shall comply with waste discharge requirements established by the Regional Board. All site closure and maintenance reports shall describe at least the following items:

(a) The boundaries of areas used for waste disposal, accompanied by a map of the disposal site.

(b) Method of control of surface drainage flow through the site.

(c) Evaluation of the anticipated settlement due to decomposition and consolidation of the wastes.

(d) Manner of surface drainage and leachate control in waste disposal areas.

(e) Cover thickness and physical properties including permeability, expansion characteristics, and erodibility.

(f) Relationship of waste disposal area to underlying groundwater quality.

(g) Location of groundwater monitoring points.

(h) Proposed subsequent use of the land.

(i) Estimate of the useful site life.

(j) A discussion and evaluation of alternative methods of site closure and subsequent maintenance, and a recommendation regarding the most practicable method of closure and maintenance which will pose no adverse threat to the environment.

(k) The estimated cost for alternative methods of site closure and for subsequent maintenance of the site for the active life of the waste, and a detailed financial plan which adequately provides for the financing of the recommended method of site closure and maintenance.

(l) Such other relevant information which the Regional Board may request in writing.

2553.2 Minimum Closure Requirements. At a minimum, the alternatives evaluated for site closure and maintenance shall ensure the following:

(a) All completed disposal areas shall be compacted and provided a final cover of at least three feet of clean soil. A lesser thickness of final cover may be allowed upon demonstration that, due to thorough compaction of refuse or other factors, differential settlement is likely to be minimal. At least one foot of the final cover shall be compacted to attain a permeability no greater than 1×10^{-6} cm/sec.

Exceptions to this requirement may be granted by the Regional Board upon a demonstration that equivalent protection against water penetration may be provided by other means or, that because of climatological conditions, there will be no deep penetration of precipitation into the waste.

(b) Completed disposal areas shall be graded and maintained to prevent ponding and to provide slopes of at least three percent. Lesser slopes may be allowed if an effective system is provided for carrying off surface drainage. Steep areas, surface drainage courses, or other areas subject to erosion by water and/or wind shall be provided with a lining, planted with vegetation, or otherwise designed and constructed to prevent such erosion.

(c) Slopes shall be designed to minimize the potential for sliding by control of grades, drainage, or other means. Any slides observed within the disposal area shall be promptly stabilized, and the appropriate Regional Board shall be notified immediately upon discovery of a slide.

(d) All necessary facilities shall be provided to ensure that leachate and gases from Groups 1 and 2 wastes and ponded water containing leachate or in contact with refuse is not discharged to surface waters or to usable groundwaters.

(e) The closed Class II disposal area(s) shall be protected from any washout or erosion and from inundation, which could occur as a result of tides or of floods having a predicted frequency of once in 100 years. Closed Class I disposal areas shall be protected from any washout or erosion of waste.

(f) The migration of methane gas from waste shall be controlled as necessary to prevent creation of a nuisance or hazard, as required by regulations of the State Solid Waste Management Board.

(g) A monitoring program consisting of inspection of surface improvements, drainage facilities, erosion control facilities, vegetation, leachate, surface water flows from the site, methane gas control facilities, and/or groundwater sampling shall be established and maintained as long as the disposal site may pose a threat to water quality or pose a public nuisance.

(h) The site closure facility shall be able to withstand the maximum credible earthquake without damage to the graded foundation or to the structures which control leachate, surface drainage, erosion, and gas.

Comment: These closure standards are based on minimum desired performance of engineered systems for protection of water quality. Other systems providing equal protection can be approved.

2554. Consultation with other State Agencies. Before determining the acceptability of a report, the Regional Board shall consult with the State Solid Waste Management Board and the State Department of Health Services as to whether the recommended method of site closure and subsequent maintenance will pose an adverse threat to the environment.

2555. Additional Criteria. Notwithstanding any provisions of this Article, any Regional Board may establish more stringent restrictions or additional criteria to protect water quality.

2556. Use of Existing Information. If any information required by a plan or report has been previously furnished to any state agency, such information may be incorporated by reference.

Article 6.5 Financial Responsibility

2557. Adequate Assurances. Upon submission of an acceptable report, pursuant to Section 2553.1(k) Title 23, CAC, the Regional Board shall require the owner or operator to provide assurances that monies are available in an amount estimated by the Regional Board to be sufficient to ensure the closure and subsequent maintenance of the disposal site in a manner that will not pose an adverse threat to the environment.

2558. Failure to Comply. If the owner or operator fails to submit a report acceptable to the Regional Board or otherwise fails to comply with the requirements of Article 6, the Regional Board may order the owner or operator of a liquid waste disposal site, or hazardous waste disposal site, to comply with one of the following provisions:

(a) Post a bond, in favor of the State, guaranteeing payment to the State of an amount estimated by the Regional Board to be sufficient to ensure the closure and subsequent maintenance of the disposal site in a manner that will pose no adverse threat to the environment. Such bond may be waived or released when the Regional Board finds that there is sufficient security to otherwise ensure compliance with this section.

(b) Establish and maintain a monetary reserve fund in an amount estimated by the Regional Board to be sufficient to ensure the closure and subsequent maintenance of the disposal site in a manner that will pose no adverse threat to the environment.

(c) Comply with other procedures that the Regional Board determines will ensure that monies are available in an amount estimated by the Regional Board to be sufficient to ensure the closure and subsequent maintenance of the disposal site in a manner that will pose no adverse threat to the environment.

2559. Guidelines. The Regional Boards shall make the determinations under Sections 2557 and 2558 in accordance with guidelines adopted by the State Board.

Comment: This guideline will be developed and will be provided to the Regional Boards as soon as it is available.

2560. Emergency Expenditure of Funds. Monies from any fund established pursuant to Section 2558(b) shall be used exclusively for expenses of closure and subsequent maintenance of the site. Any owner or operator of such a site, however, may petition the Regional Board for expenditure of money from the fund for any emergency purpose which threatens public safety or the environment. Fund expenditure for emergency purposes must have the written concurrence of the Regional Board and all money shall be repaid to the fund according to a time schedule to be established by the Regional Board.

Comment: When there is not sufficient time in which to obtain funds for emergency action, it may be possible to obtain funds from the State Water Resources Control Board's Cleanup and Abatement Fund which in turn can be reimbursed pursuant to Section 2560.

2561. Change in Ownership or Operation. The Regional Board shall be notified in writing of any change in the owner or other person responsible for site closure and subsequent maintenance of a liquid waste disposal site, or hazardous waste disposal site. This notification must be given at least 30 days prior to the effective date of the change, and shall include:

(a) adequate assurance that the new owner or operator will close and maintain the disposal site in a manner that will pose no adverse threat to the environment, and

(b) A certified statement that the new owner or operator has established a fund, posted a bond, or had the original fund or bond transferred to his ownership.

2562. Annual Review. The Regional Board shall reevaluate annually, the adequacy of assurances given, bonds posted, or monetary reserve funds established.

Comment: See Section 2559.

2563. Statewide Site Closure and Maintenance Revolving Account. There is established within the State Water Quality Control Fund a state-administered Site Closure and Maintenance Revolving Account. Funds in this account shall be used exclusively for closure and maintenance of, or emergency repair to, those sites that pose an adverse effect to the environment in any case where closure, maintenance, or emergency repair to a site has not been adequately provided for and funds cannot otherwise be acquired. Funds from the account may also be expended for costs incurred by the State or Regional Board in administering the provisions of this Subchapter.

Funds in the account shall not exceed a total of $500,000 at any time, plus any amounts recovered through lien foreclosure proceedings pursuant to Section 2564. Assessments collected pursuant to Section 2563.1 shall not exceed a total of $250,000 annually.

2563.1 Assessments*. Owners and operators of hazardous waste or liquid waste disposal sites shall pay an annual fee in accordance with a fee schedule adopted by the state board. The state board will deposit such fees in the Site Closure and Maintenance Revolving Account. The fee schedule and computation of fee to be paid by the site operator and owner into the Site Closure and Maintenance Revolving Account shall be established as follows:

(a) Owners and operators of Class I and Class II-1 disposal sites receiving hazardous waste shall be assessed annually a proportional amount as follows:

1. If the amount of hazardous waste disposed of at the site during the previous year exceeds 150,000 tons, the fee will be $6x per year.

2. If the amount of hazardous waste disposed of at the site during the previous year exceeds 5,000 tons but is less than 150,000 tons, the fee will be $4x per year.

3. If the amount of hazardous waste disposed of at the site during the previous year is less than 5,000 tons, the fee will be $2x per year.

(b) Owners and operators of Class I and Class II-1 disposal sites receiving nonhazardous waste shall be assessed annually as follows:

1. If the total amount of nonhazardous waste discharged at the site during the previous year exceeds 150,000 tons, the fee will be $3x per year.

2. If the total amount of nonhazardous waste discharged at the site during the previous year exceeds 5,000 tons but is less than 150,000 tons, the fee will be $2x per year.

3. If the amount of nonhazardous waste discharged at the site during the previous year is less than 5,000 tons, the fee will be $1x per year.

(c) The value "x" shall be annually determined from the total amount of funds which can be collected and the types and amounts of wastes disposed of the preceding year at the three site size ranges. In the event that the assessment results in a collection greater than the statutory limits imposed, the excess funds will be rebated to each owner and operator in proportion to his share of the total collection.

*An appeal has been filed for modification of this Section. If the Board makes a modification an errata sheet will be prepared for inclusion in this document.

(d) Production brines from oil and gas production certified by the Division of Oil and Gas to be reinjected into formations containing saline fluid or oil or gas reservoirs and not posing a threat to water quality are exempt from fees if waste discharge requirements are waived by the Regional Board.

2563.2 Amount of Charge. The Regional Boards in cooperation with the California Department of Health Services shall initiate an inventory of the quantity and types of liquid and hazardous wastes disposed of within their boundaries.

2563.3 Date Levied; Apportionment of Charge. Assessments shall be levied on the first Monday in March against the person operating the site. The charge levied upon each site shall be apportioned among the persons owning or operating the site in fractional amounts proportionate to their respective interests in the site, but the whole of the charge shall be payable by the operator.

Where the actual operation of any site has changed hands during the assessment period, the assessment shall be apportioned between each operator based on the amount of waste disposed of at the site during the assessment period.

2563.4 Date Due; Delinquencies. All charges levied and assessed under this Article are due and payable on the first of July of each year. One half thereof shall be delinquent if not paid on or before August 15 of each year, and if paid thereafter, 15 percent shall be added to the amount thereof. Unless paid on or before the first of February, next thereafter, an additional 5 percent shall be added to the amount thereof.

The remaining one half of the charges shall be delinquent if not paid on or before the first of February next succeeding the day upon which it became due and payable. If not paid prior thereto, 5 percent shall be added to the amount thereof.

2564. Liens. The assessments and charges levied under this Article and expenditures from the account to close or maintain said sites, to the extent and in the amount expenditures exceed charges collected, shall constitute a lien upon the site so posted upon recordation of the notice of the lien, in accordance with Section 14055.7 of the Water Code.

2564.1 Posting and Recordation. Any lien so posted and recorded describing the property on which closure or maintenance took place, the amount of such lien, and the naming of the owner of record of such a property and the office of a county recorder of the county of which the property is located will be recorded immediately after expenditures have been made or after the first of February next succeeding the day upon which assessments and charges become due and payable.

2564.2 Effect. The lien shall have the same force effect and priority as if it had been a judgment lien imposed upon real property which is not exempt from execution except that it shall attach only to the property so posted and described in such a notice.

2564.3 Duration. The lien shall continue for 10 years from the time of recording of such notice unless sooner released or otherwise discharged.

2564.4 Foreclosure. Such lien may be foreclosed by an action brought by the State Board on behalf of the Regional Board for a money judgment.

2564.5 Judgment. Any money recovered by the judgment in favor of the State Board shall be returned to the Site Closure and Maintenance Revolving Account.

2565. Expenditures. (a) The State Board may expend funds collected in the account for any of the following purposes:

(1) Closure and maintenance of any liquid or hazardous waste disposal site when it can be demonstrated that other funds are unavailable or are insufficient to cover the cost of closing and maintaining the site, and that such expenditure is reasonable and necessary to prevent an adverse threat to the environment.

(2) Closure and maintenance of any liquid or hazardous waste disposal site which was abandoned prior to the establishment of the account, provided that such expenditure is reasonable and necessary to prevent an adverse threat to the environment.

(3) Closure and maintenance of the Stringfellow Quarry Class I hazardous waste disposal site.

(4) Any other purpose consistent with the provisions of Article 3.6 of Division 7.5 of the Water Code.

(b) No expenditure from the account shall be made by the State Board until all of the following conditions have been met:

(1) The Regional Board, Department of Health Services, or the State Solid Waste Management Board has determined that a site poses an adverse threat to the environment and has submitted evidence of such determination and a request for funding to the State Board.

(2) The owner or operator of the affected site has been notified of and had the opportunity to object to the proposed expenditure in the manner provided in subdivision (d) of this section.

(3) The proposed expenditure has been approved by the Director of the Department of Finance.

(c) Upon finding that any liquid or hazardous waste disposal site poses an adverse threat to the environment, the Regional Board, the Department of Health Services, or the State Solid Waste Management Board shall provide notice to the State Board requesting funds. Such notice shall identify the site and its location, and shall describe the nature of the adverse threat to the environment caused by the site and shall contain an estimate of necessary expenditures to remedy the threat.

(d) Upon receiving notice that a liquid or hazardous waste disposal site poses an adverse threat to the environment, the State Board shall cause to be delivered a written notice to the owner or operator of the affected site. Such notice shall identify the site, describe the nature of the adverse threat to the environment, and contain an estimate of the proposed expenditure from the account necessary to remedy such threat.

(1) Upon receipt of such notice, the affected owner or operator may, within 30 calendar days, request a hearing before the State Board. Such response shall be in writing. Failure of an owner or operator to respond in writing within the prescribed 30-day period shall be deemed a waiver of that owner or operator's right to a hearing before the State Board.

(2) If no response to the notice is received from the owner or operator within 30 days, the State Board may, on its own motion, determine that a hearing should be held.

(3) If the State Board determines a hearing must be held, it shall notify the affected owner or operator and other interested persons of the date, time, and place of the hearing.

(4) At the hearing, the State Board shall consider all relevant evidence presented. After the hearing, the Board shall determine the amount of the expenditure from the account needed to remedy the adverse threat to the environment caused by the site. If the Board finds an expenditure is needed, it shall forward its findings to the Director of the Department of Finance for approval.

(5) After approval of the proposed expenditure by the Director of the Department of Finance, the State Board shall order such expenditure to be made from the account for the purpose of remedying the adverse threat to the environment. Such order shall be deemed administratively final.

(e) No hearing need be held by the State Board if the owner or operator of an affected site waives the right to a hearing by stipulating to have the proposed expenditure from the account determined by proceedings in lieu of hearing or if the affected owner or operator has been notified of and does not comply with the requirements set forth in subdivision (d)(1).

(f) In the event that no hearing is held by the State Board, the affected owner or operator shall be notified that the expenditure from the account shall be determined by proceedings in lieu of hearing and such owner or operator shall have an opportunity to object to the proposed expenditure by submitting written objections and the reasons therefore to the State Board within such reasonable period of time as may be prescribed by the Board. To the extent applicable, the procedures set forth in Title 23, California Administrative Code, Section 737(a) through (3) shall govern any proceedings in lieu of hearing held under this subdivision.

(g) Any expenditures from the account ordered by the State Board pursuant to this section shall be subject to the enforcement provisions set forth in Section 14055.7 of Division 7.5 of the Water Code.

Article 7. Animal Wastes

2567. Guidelines. The State Board shall adopt guidelines setting forth minimum standards for the disposal of animal wastes and shall distribute such guidelines to the Regional Boards, all known interested persons, and to any person upon request.

MINIMUM GUIDELINES FOR PROTECTION OF WATER QUALITY FROM ANIMAL WASTES

The State Water Resources Control Board has issued these guidelines for the assistance of Regional Water Quality Control Boards and all other persons in the preparation and amendment of water quality control plans and waste discharge requirements for the protection of the quality of the waters of the State with respect to the disposal of animal wastes.

It is intended that, when justified, Regional Boards may be more restrictive than these guidelines.

The disposal of animal wastes can cause problems other than water quality degradation. To whatever extent it is appropriate, solutions to such problems will need to be integrated with these guidelines. Other agencies may have guidelines directed to points not addressed in the guidelines below.

ARTICLE I: DEFINITIONS

Animal Confinement - Cattle, calves, sheep, swine, horses, mules, goats, fowl or other domestic animals corralled, penned, tethered or otherwise caused to remain in restricted areas where feeding is other than by grazing.

Manure Storage Areas - Corrals, feedyards, retention ponds, manure collection areas of any kind and areas used for storage, composting and/or drying of animal wastes.

Ten-year 24-hour Storm - A storm of 24-hour duration which yields a total precipitation of a magnitude that has a probability of recurring only once every ten years.

Washwater - Water which has been used for washing animals or equipment or for cleaning manure storage areas.

Retention Pond - Pond used to retain washwater or surface drainage from manure storage areas until proper disposal on land or other suitable disposal means can be accomplished.

Twenty-year Peak Streamflow - Streamflow magnitude that is expected to be equaled or exceeded on the average of once every 20 years.

One Hundred-year Peak Streamflow - Streamflow magnitude that is expected to be equaled or exceeded on the average of once every 100 years.

Sandy Loam - Soil material in which the sandy characteristics are readily recognizable. A typical sandy loam will contain from 43 percent to 85 percent sand, less than 20 percent clay and a content of silt plus twice the clay exceeding 30 percent. The normal soil textural triangle utilizing the content of sand, silt and clay to determine texture will provide the standard definition of a sandy loam.

ARTICLE II: GUIDELINES FOR PROTECTION OF SURFACE WATER

1. Animal confinement facilities plus adjacent crop lands under the control of the operator shall have the capacity to retain surface drainage from manure storage areas plus any washwater during a 10-year 24-hour storm. The Regional Board may set waste discharge requirements for discharges exceeding a 10-year 24-hour storm.

2. Surface drainage, including water from roofed areas, shall be prevented from running through manure storage areas.

3. Animal confinement facilities, including retention ponds, shall be protected from overflow from stream channels during 20-year peak streamflows for existing facilities and 100-year peak streamflows for new facilities.

4. Washwater and surface drainage from manure storage areas shall be applied to crop lands,or discharged to treatment systems subject to approval by the appropriate Regional Water Quality Control Board.

5. Animals in confinement shall be prevented from entering surface waters.

6. Lands that have received animal wastes shall be managed to minimize erosion and runoff. Dry manures applied to cultivated crop lands should be incorporated into the soil soon after application.

7. Animal wastes shall be managed to prevent nuisances in manure storage areas.

ARTICLE III: GUIDELINES FOR PROTECTION OF GROUNDWATER

1. Manure storage areas shall be managed to minimize percolation of water into underlying soils.

2. Animal confinement facilities shall have adequate surface drainage to prevent continuous accumulation of surface waters in corrals and feedyards.

3. The use of special sealants for retention ponds is not usually necessary when these ponds are constructed on sandy loams or finer textured soil materials.

4. Application of manures and washwaters to crop lands shall be at rates which are reasonable for the crop, soil, climate, special local situations, management system and type of manure.

5. The salt in animal rations should be limited to that required to maintain animal health and optimum production.

C. REGISTERED HAZARDOUS WASTE HAULERS IN SACOG REGION

HAZARDOUS WASTE HAULERS IN THE SACOG AREA REGISTERED WITH THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES - AUGUST 1981[1/]

American Waste Container Service - 12520A Quicksilver Dr., Rancho Cordova

Barton Oil Company - P. O. Box 397, Folsom

California Department of Food & Agriculture - 1220 N St., Rm. A-357, Sacramento

California Department of Food & Agriculture - 3292 Meadowview Rd., Sacramento

Delta Oilfield Services - P. O. Box 1675, Woodland

Independent Disposal Service - 9655 Elk Grove-Florin Rd., #5, Elk Grove

Petroleum Tank Line - 2600 Rice Ave., West Sacramento

Ramos Oil Recyclers - 1515 S. River Rd., West Sacramento

Billington Motor/Armature Works - 11349 Folsom Blvd., Rancho Cordova

Roto Rooter Service - 2551 Albatross Way, Sacramento

SMUD - P. O. Box 15830, Sacramento

Sacramento Waste Disposal Co./SCA Service - 360 N. 10th St., Sacramento

Sanitary Disposal Co./Sozzi Waste Co.- 7100 Bowling Dr., Ste. 220, Sacramento

Weef Thurmon Petroleum - 3015 Bradshaw Rd., Sacramento

California Department of Health Services - 714 P St., Sacramento

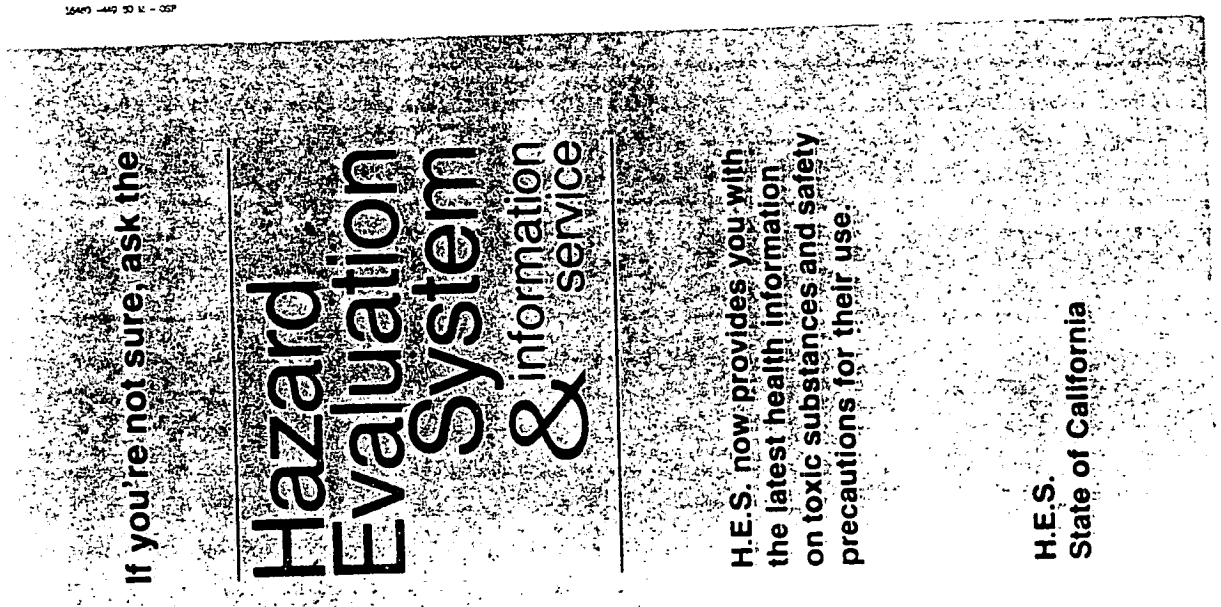
1/ Verification of registration for other haulers can be made by calling the Department of Health Services at (916) 322-2337.

D. BROCHURE: HAZARD EVALUATION SYSTEM

Photo: Don Mengle

Hazard Evaluation System
Departments of Health Services
and Industrial Relations
2151 Berkeley Way
Berkeley, CA 94704

BULK RATE
U.S. POSTAGE PAID
SACRAMENTO, CALIF.
PERMIT NO. 2361

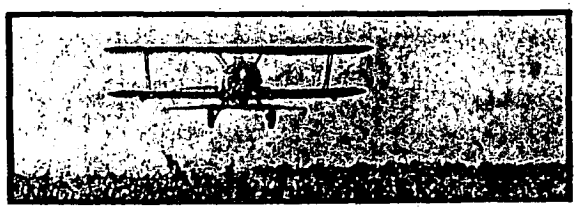


Toxic hazards at work

Toxic substances on the job are too often responsible for injury, illness and fatal disease among California workers. And when a worker's health suffers, employers bear part of the costs in lost work time, legal expenses, and rising insurance rates.

Every year one thousand new chemical and physical agents enter our nation's workplaces. No one knows all the health consequences of exposure to these potentially hazardous materials, or to thousands of others already in use.

But some consequences are all too clear. Doctors' reports show California workers suffer headaches, skin conditions, eye injuries and breathing problems by the thousands, month after month.



Crop duster. Photo: Courtesy of the Center for Creative Photography, University of Arizona

Now a growing body of knowledge points to yet other, hidden aspects of workplace hazards: diseases and conditions that appear long after exposure. These tragic results are often caused by dusts or fumes that people can't see or smell.

It may be weeks after initial contact before a worker develops nervous system disorders, and decades before cancer appears. Entire households risk exposure when substances like asbestos are brought home on clothing. So the risk does not stop at the plant gates or in the fields. Even the rise in some birth defects may be connected to toxic hazards parents encounter at work.

Many workers, unions and employers are already striving to reduce workplace hazards. The Hazard Evaluation System and Information Service (H.E.S.) is designed to make the task easier.

The Hazard Evaluation System: How can it help?

H.E.S. provides employers and workers with the most up-to-date and critical information available on the health effects of toxic substances and methods for using them safely.

☐ If you're an employee, H.E.S. can tell you about the substances you're exposed to at work. You don't have to know their scientific names before calling us. Union representatives can call on behalf of union members.

☐ If you own or manage a business, H.E.S. can provide your organization with facts about new substances you're considering introducing to the workplace and about those you're currently using. We encourage inquiries from health and safety and supervisory personnel.

☐ The H.E.S. staff will discuss health and safety controls with you, as well as methods for monitoring workers' health as a check on exposure. If you'd like specific advice on production or plant design or on developing an ongoing health monitoring program, we can put you in touch with government or private consultation services.

☐ H.E.S. prepares detailed reports available to the public on selected substances of current concern. For these and all substances, H.E.S. will urge that new use practice or exposure standards be set if our staff's research determines that the current ones are inadequate.

Hospital lab technician

Our staff includes physicians, scientists, industrial hygienists and health educators who actively seek out and warn of unrecognized work hazards. They can answer most of your questions quickly, aided in their research by H.E.S.' computer terminal that provides access to 300 data sources worldwide.

Printing press operator. Photo: © Ken Light 1978

What questions can H.E.S. answer?

Here are some examples:

You run a business that's considering adding a chemical to the work process. State law requires you to correct unsafe conditions and give your employees safety instructions regarding job hazards. You need information in confidence: could this new chemical pose a hazard?

You work with a cleaning solvent. You feel a little dizzy after work most days and though you're fine by the time you get home, you're beginning to wonder—could breathing this chemical day after day eventually cause serious health problems?

In talking with some of your co-workers you realize that a high number of pregnancies among workers or workers' wives have ended in miscarriages—more than the usual 25% or so. Several women have had babies with birth defects. Could any substance you work with be responsible?

H.E.S. can help you, your union and your company.

Call or write:
Hazard Evaluation System and Information Service (H.E.S.)
Departments of Health Services & Industrial Relations
2151 Berkeley Way
Berkeley, CA 94704

24-hour phone: (415) 540-3014 (call collect)
All inquiries will be held in confidence.

E. PRESS RELEASE: OFFICE OF GOVERNOR - ANNOUNCING EXECUTIVE ORDER BANNING SIX CATEGORIES OF TOXIC WASTES

OFFICE OF THE GOVERNOR
Sacramento, Ca. 95814
Cari Beauchamp, Press Secretary
916-445-4571 10-13-1981

RELEASE: Immediate

#466

Governor Edmund G. Brown Jr. today signed an Executive Order which marks the beginning of a comprehensive state program to phase out the land disposal of millions of tons of toxic wastes.

"The control of toxic wastes has been one of the most important priorities of my administration," Governor Brown said. "During the past three years, we have expanded our hazardous waste enforcement programs, enacted tougher criminal and civil penalties for those who dispose of wastes illegally and researched safer ways to reduce, recycle and treat the estimated five million tons of hazardous wastes produced each year in California."

"Today we begin a new era in the safe management of hazardous wastes. Cooperative efforts by the state, private industry and local governments can result in the construction of new advanced waste treatment facilities which will enable California to recycle, treat and destroy almost 75% of all the hazardous wastes that would otherwise be deposited in landfills. No longer must we accept the Love Canal, Stringfellow Quarry and other toxic dump sites as inevitable by-products of our industrial productivity."

The governor said six categories of highly toxic and persistent wastes have been singled out "priority attention" by the state's Department of Health Services and will be banned from land disposal, beginning on January 1, 1983. These high priority wastes are 1) PCB's, 2) pesticides, 3) toxic metals, 4) cyanides, 5) halogenated organics and 6) non-halogenated volatile organics.

-more-

"These six categories account for 40% of all the wastes now deposited each year in California's Class I and Class II-1 landfills and represent a serious threat to human health and environmental resources," the governor said.

The Governor's Executive Order commits the Department of Health Services to make a major shift in the direction of the state's Hazardous Waste Management Program toward reducing the risks resultin from land disposal of toxic wastes through the following actions:

1. Exercise its existing regulatory authority to prohibit the land disposal of highly toxic wastes;
2. Encourage the construction of new advanced waste treatment facilities for the recycling, treatment and destruction of hazardous wastes;
3. Increase monitoring and enforcement inspections at all hazardous waste disposal sites; and
4. Actively involving citizens in the state's Hazardous Waste Management Program and protecting their right to know and enlisting their support in the reduction and elimination of toxic wastes.

Specific actions to implement the Executive Order will include:

- banning the land disposal of the above mentioned high priority wastes beginning January 1, 1983
- establishing special fees on the land dispoal of all hazardous wastes, especially those included in the high priority list
- streamlining the state permit process to encourage the construction of advanced waste treatment facilities
- increasing inspections of all hazardous waste facilities
- increasing public involvement in the state's programs

The Governor also reasserted his support for pending legislation that will:

- provide financial incentives for industry to invest in advanced waste treatment technologies (SB 810, Garamendi)
- reward citizens who provide information on illegal disposal (AB 2075, Robinson)
- require operators of waste disposal facilities to be insured for personal injury and propoerty damage resulting from the release of toxic materials (SB 95, Presley)

The governor's new hazardous waste program is the result of a ten-month research project by his Office of Appropriate Technology (OAT) on a contract to the Department of Health Services to identify safe methods of handling hazardous wastes. The OAT report, Alternative to the Land Disposal of Hazardous Wastes: An Assessment for Californi, evaluated over 40 advanced waste treatment technologies and concluded that many of these technologies are feasible, affordable and safe.

"We encourage the cooperation of private industry, academic specialists and environmental groups in assessing the technologies," Governor Brown said. "Everyone we talked to expressed concerns about the continued use of land disposal sites for highly toxic substances and many were willing to share information they had developed on alternative methods of treatment and destruction. I am confident that with the continued cooperation of industry we can stop dumping poisonous wastes in the ground and ensure that advanced waste treatment technologies become the centerpiece of California's program for the management of hazardous wastes."

Governor Brown was joined at the signing of the Executive Order by Kay Ceniceros, Riverside County Supervisor and Chairwoman of the Hazardous Waste Committee of the Southern California Association of

Governments; Robert L. Judd, Director of the Governor's Office of Appropriate Technology and Beverlee Myers, Director of the Department of Health Services.

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F. GUIDELINES: HAZARDOUS WASTE ELEMENT OF COUNTY SOLID WASTE MANAGEMENT PLAN

STATE OF CALIFORNIA - HEALTH AND WELFARE AGENCY EDMUND G. BROWN JR., Gov.

DEPARTMENT OF HEALTH SERVICES
714/744 P STREET
SACRAMENTO, CA 95814
(916) 322-2337

April, 1979

TO: Agencies Involved in the Preparation or Review of County Solid Waste Management Plans

FROM: Hazardous Materials Management Section
Department of Health Services

SUBJECT: Hazardous Waste Element of the County Solid Waste Management Plan

The attached guidelines have been prepared by the Department of Health Services to assist county government in the preparation or review of the hazardous waste portion of the County Solid Waste Management Plans. It is our understanding that plans prepared in 1976 will be undergoing county review, and a report of the plan review will be submitted as a part of the planning process required by Section 66780 of the Government Code. Due to changes in State law which are described in the guidelines, the Department of Health Services will review and approve the portion of the plan review report and the portion of county solid waste management plans which deal with hazardous wastes.

It is expected that there will be gaps in available information on hazardous waste generators, waste trends, problems, needs and activities. Hazardous waste management is a relatively new program and county government has been involved to different degrees. Some of the basic planning information has not been developed and some of the information is gradually being generated at the State level. It is not the intent of the Department to have county government undertake new studies in order to provide the information recommended in the guidelines for the hazardous waste element. Rather, the county should provide presently available information and as additional information becomes available through either State or local programs, the hazardous waste element of the plan can be expanded and can be made more specific. The guidelines indicate the content of the hazardous waste portion of the plan which ultimately should be achieved in this manner.

As a part of the permitting process for hazardous waste facilities, other than facilities that serve a single producer, the Department of Health Services will make a determination as to the "consistency" of a facility with the hazardous waste element of the county solid waste management plan. It may be difficult with currently available information to include specific facility needs, locations, scheduling dates and other details in the plans. Consequently, the determination of consistency will be based on: (1) consistency of the facility with State policy and the principles and objectives of the hazardous waste element of the county plan; and (2) consistency of the facility in meeting the

waste management needs and addressing the problems expressed in the plan. The advice and counsel of the county authorities responsible for the development of the plan will be sought in determining the matter of consistency for specific facilities. Facilities permitted under this procedure could be added to the plan at the next scheduled review. When the report of the plan review has been completed, please send a copy of the report, or the portion of the report dealing with hazardous waste management, to this office for review.

Please contact the Hazardous Materials Management Section at (916) 322-2337 for any additional information regarding the hazardous waste element of the plan.

Harvey P. Collins

Harvey P. Collins, Ph.D.
Acting Chief

Attachments

GUIDELINES

- Hazardous Waste Element -

County Solid Waste Management Plan

State law (Section 66780 et seq., Government Code) provides for the development of county solid waste management plans and presents requirements and procedures relative to the plans. Recent legislation which became effective January 1, 1979, has modified review and approval procedures. Specifically, Section 66780.7 of the Government Code provides that the portion of the county solid waste plan which deals with hazardous waste disposal shall be submitted to the Department of Health Services for review and approval. Section 76780.5 requires the county to review the plan every three years and submit a report of the results of the plan review to the Solid Waste Management Board and to the Department of Health Services. (A copy of the statues is attached).

The following guidelines have been prepared by the Department of Health Services in order to assist the county in the plan review process and to indicate the type of information which should ultimately be incorporated in the hazardous waste element of the county solid waste management plan. The guidelines are reasonably consistent with the guidelines for solid waste management which have been prepared in regulation form by the State Solid Waste Management Board.

It is suggested that the hazardous waste element be prepared as a separate element of the overall county plan rather than be prepared by incorporating coverage of hazardous waste management considerations within a number of solid waste elements.

I. Principles

The element should express county principles and objectives with regard to hazardous waste management. State law indicates the following State direction. Although county principles need not address the same issues or the issues in the same manner, substantial conflicts with the State policy direction would be subject to careful review.

A. The management of hazardous wastes shall conform to State hazardous waste control laws and regulations.

The Legislature has found that, without adequate and reasonable safeguards for handling, storage, use, processing and disposal, hazardous wastes can create hazards to health and the environment. In recognition of this, the Legislature has declared that it is in the public interest to establish regulations and maintain a program to provide for the safe handling, storage, use, processing, and disposal of, and recovery of resources from, hazardous wastes.

B. Provisions for adequate facilities to meet present and future hazardous waste management needs should be encouraged.

A lack of sufficient facilities to meet the needs for the safe management of hazardous wastes can cause increased incidents of illegal disposal, accidental discharges and spills, and can increase the hazards to health and the environment.

C. Recycling and recovery of resources from hazardous wastes is to be encouraged.

The recovery of resources from hazardous wastes will: reduce demands on natural resources, extend the life-span of hazardous waste disposal sites, and reduce the accumulation rate of hazardous wastes in the environment.

D. Methods for the reduction of hazardous waste generation and alternatives to land disposal of hazardous wastes should be promoted.

Alternatives such as treatment to render a waste non-hazardous can reduce hazards to health and the environment. Use of processes and procedures to reduce hazardous waste generation can result in more manageable waste streams and more efficient use of disposal sites.

E. The movement of hazardous wastes should not be restricted by institutional or legal restraints in a manner which would impede the logical use of facilities for regional management of hazardous waste.

II. Hazardous Waste Activity

The plan should contain available information regarding current activities in the county. (It is recognized that the available information will differ greatly from county to county, and local government may be involved to different degrees in the planning and management of hazardous wastes.)

A. Types and Amounts of Waste

The plan should present available information on the types and amounts of wastes which are generated within the county. If a survey of hazardous waste producers has been conducted, this information should be cited and summarized. If survey information is not available, concentrations of industries which are generally associated with hazardous waste production should be indicated. (See Appendix A for a suggested list.) Certain land uses may be associated with particular hazardous wastes, i.e., agriculture and pesticide wastes, oil production and petroleum residues. Such uses should be given as indicators of hazardous waste sources.

B. Transportation of Hazardous Wastes

Available information on facilities for the transportation of hazardous waste should be presented, or the type of information which is maintained in county records should be indicated. In particular, the county may have information on facilities available for the transportation of chemical toilet wastes and infectious wastes. The County Agricultural Commissioner may have information on practices regarding the movement of pesticide waste and waste pesticide containers. It is recognized that the county may have limited information with regard to those regional waste haulers which may serve producers of industrial hazardous wastes in a number of counties.

C. Storage, Treatment and Disposal Facilities

Available information should be provided on existing off-site storage (including transfer stations), treatment and disposal facilities for

hazardous waste within the county. This may include:

- location and type of facility;
- size of facility;
- amounts and types of wastes received;
- operations carried out at the facility; and
- estimated remaining life-span of the facility.

Known on-site storage, treatment and disposal facilities should be identified as well as known planned or proposed facilities.

D. Resource Recovery

Known corporations or organizations involved in the recovery of materials from hazardous wastes or firms serving as brokers or clearinghouses for hazardous waste reuse markets should be identified along with the waste streams involved. Re-refiners of waste oils should be identified.

III. Program for Hazardous Waste Control

The plan should indicate the present and possible future program of hazardous waste control carried out in the county by government entities. This may include:

- public agency operation of hazardous waste facilities;
- enforcement activities over hazardous wastes, including infectious wastes;
- planning functions, including evaluation of waste trends and site needs;
- site and facility approval processes; and
- emergency response activities.

IV. General Needs and Special Problems

The plan should identify the general hazardous waste management needs as well as problems associated with hazardous waste in the county. The needs and problems may be associated with such factors as:

- the nature or volume of wastes generated in the county;
- special handing needs;
- institutional barriers;
- costs;
- environmental factors;
- lack of facilities; and
- transportation distances.

V. Future Operations

The hazardous waste element of the plan should indicate alternative solutions to special problems which have been identified as being associated with hazardous waste management in the county. A description and discussion of alternative facilities or operations to meet future hazardous waste management needs is appropriate. The provision for regional treatment, recovery or disposal facilities should be considered in determining future options.

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SEC. 3. Section 66780.5 of the Government Code, as amended by Chapter 429 of the Statutes of 1978, is amended to read:

66780.5. In addition to the other requirements of this title, the county solid waste management plan prepared pursuant to Section 66780 shall:

(a) Include in the first revision as required in Section 66780.7 an amendment delineating an enforcement program in accordance with the provisions of Chapter 3 (commencing with Section 66795), which has been reviewed by the board and the State Department of Health Services.

(b) Be reviewed, and revised, if appropriate, at least every three years and revised where necessary to be consistent with state policy. A report of the results of the plan review shall be submitted to the board and to the department beginning on the third anniversary of the date of board approval of the plan submitted pursuant to Section 66780 with subsequent reviews and reports at least every three years thereafter.

(c) Any amendment to the plan shall be approved by a majority of the cities within the county which contain a majority of the population of the incorporated area of the county. Each proposed amendment shall be submitted to each city within the county. Each city shall act upon the proposed amendment within 90 days after the city has received the amendment. If a city fails to act upon the proposed amendment within 90 days after receiving the amendment, the city shall be deemed to have approved the amendment as submitted. Each amendment shall be submitted to the board for approval as to its compliance with state policy.

SEC. 4. Section 66780.7 is added to the Government Code, to read:

66780.7. Each plan prepared pursuant to the Section 66780 shall be submitted to the board no later than January 1, 1976, for review and approval as to compliance with state solid waste management policy. That portion of the county solid waste plan which deals with hazardous waste disposal shall be submitted to the department for review and approval and shall be in compliance with state hazardous waste standards adopted by the department pursuant to Section 25150 of the Health and Safety Code. In reviewing the hazardous waste portion of the plan, the department shall specifically consider the rural or urban nature of a county, the volumes and type of hazardous waste produced, and the need for hazardous waste facilities in a county. Once the department has approved the hazardous waste portion of a plan, that portion of the plan shall not be subject to further review or alteration by the board.

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Charles Charlton, Sacramento County Environmental Health Branch
Al Ferrari, Chief, Environmental Health Department of Yolo County
Robert J. Kuntz, Professional Engineering & Research Consultants (PERC)
Alan Livingston, Director, Environmental Health-Sutter/Yuba Health Dept.
George Lynch, Sacramento County Public Works Dept.-Solid Waste Planning Div.
Lt. Bob Mitchell, California Highway Patrol
Mark Nelson, Facilities Engineering Manager, Hewlett-Packard
Bob Parks, Sacramento County Water Quality-Industrial Waste Section
Tom Pinkos, Senior Engineer, Central Valley Regional Water Quality Control Board
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