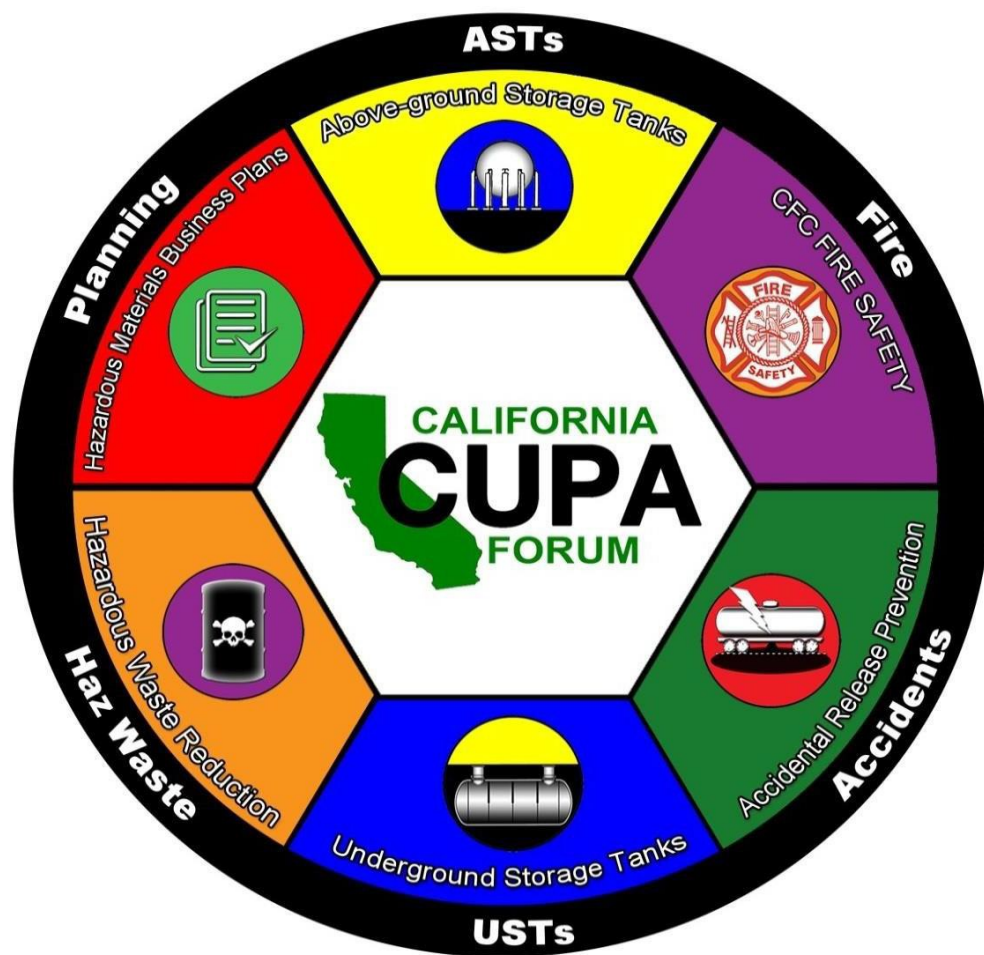


CUPA Manual



Compliance Guidance for Small Businesses Hazardous Wastes and Materials

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The CUPA Compliance Reference Manual provides an overview of the six program elements described below. This manual covers key points of each of the programs and their applicability to businesses. This manual is not considered an exhaustive overview, but as a foundation for determining which programs and regulations hazardous waste business may be subject to.

Senate Bill 1082, passed in 1993, created the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which requires the administrative consolidation of six hazardous materials and waste programs under one agency, a Certified Unified Program Agency (CUPA). The intent has been to simplify the hazardous materials regulatory environment and provide a single point of contact for businesses to address inspection, permitting, billing, and enforcement issues.

The CUPA administers the following six hazardous materials program areas:

1. [Hazardous Waste Generator and Onsite Hazardous Waste Treatment \(tiered permitting\) Programs](#), Health and Safety Code, Division 20, Chapter 6.5, with accompanying regulations in the California Code of Regulations, Title 22.
2. [Hazardous Materials Release Response Plans and Inventories \(HMRRP\) Program](#) (also known as the Hazardous Materials Business Plan), Health and Safety Code, Division 20, Chapter 6.95, Article 1, with supplemental regulations in California Code of Regulations Title 19, Sections 2620-2732.
3. [California Accidental Release Prevention \(CalARP\) Program](#), Health and Safety Code, Division 20, Chapter 6.95, Article 2, with supplemental regulations in California Code of Regulations, Title 19, Sections 2735-2785.
4. [Aboveground Petroleum Storage Act Requirement for Spill Prevention](#), Control and Countermeasure (SPCC) Plans, Health and Safety Code, Division 20, Chapter 6.67, Section 25270-25270.13.
5. [Underground Storage Tank \(UST\) Program](#), Health and Safety Code, Division 20, Chapter 6.7, with accompanying regulations in the California Code of Regulations, Title 23.
6. Hazardous Materials Management Plans and Hazardous Materials Inventory Statements per California Fire Code, [California Code of Regulations](#), Title 27, Division 2, Chapter 4.5.

All of these laws and regulations can be accessed from the following web site: <http://calepa.ca.gov/CUPA/LawsRegs/>

Prepared on behalf of the CUPA Forum by NES, Inc.



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Hazardous Waste Generator Requirements

Hazardous Waste Generator Program

Hazardous waste is a waste that may exhibit characteristics of being hazardous or is listed as such. Hazardous wastes are categorized into different types and descriptions based on the management standards for those wastes. These include Resource Conservation and Recovery Act (RCRA), non-RCRA (wastes regulated at the state level), and Universal Wastes. The specific characteristics used for identifying these wastes and their proper management are summarized in the following sections of this chapter. The summaries include guidance for common waste streams and minimum management requirements.

Hazardous waste is broadly defined as a waste or combination of wastes, which, because of its quantity, concentration, physical, or chemical characteristics, may either:

- Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible illness; or
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise mismanaged.

Hazardous waste can be a solid, semi-solid, liquid, or contained gaseous substance; in California the individual generating the waste must determine if the waste generated is hazardous by determining if it exhibits characteristics of being hazardous, or if it is listed. Federally these are all defined as solid wastes; in California the term *waste* is used. Hazardous wastes will have one or more of the following characteristics:

- Ignitable
- Toxic
- Reactive
- Corrosive



Hazardous waste is classified as either being subject to RCRA, found in Title 40 of the Code of Federal Regulations (CFR), or it is subject to the state Hazardous Waste Control Law (HWCL), found in the California Health and Safety Code (HSC) and under Title 22 of the California Code of Regulations (CCR). The terms used to distinguish which regulatory programs hazardous waste is subject to are RCRA and non-RCRA. Non-RCRA wastes are not to be misinterpreted as being non-hazardous; these wastes are not subject to federal requirements but instead are regulated at the state level. It is important to understand how to appropriately determine and properly classify wastes, as there are substantial differences in the management standards applicable to different types of wastes.

RCRA hazardous wastes are classified within one of these two categories:

- Listed hazardous wastes (F, K, P, and U waste codes); and
- Characteristic hazardous waste (D waste codes).

Listed Hazardous Wastes

These include wastes from general industrial processes, wastes from certain sectors of industry, and unused pure chemical products and formulations. Listed wastes are specified in Title 22 CCR, Chapter 11, Article 4, Sections 66261.31-33. The hazardous waste listings consist of four RCRA lists and an additional non-RCRA list:

Spent (used for an intended purpose)

- F Code Wastes: Multiple-use or non-specific source wastes,
- K Code Wastes: Industry-specific source wastes

Unspent (expired, unused, or off spec)

- U Code Wastes: Hazardous discarded commercial chemical products,
- P Code Wastes: Acutely hazardous discarded commercial chemical products

California M-Listed Wastes

M-listed Wastes (discarded mercury-containing products): This list includes certain wastes known to contain mercury, such as fluorescent lamps, mercury switches and the products that house these switches, and mercury-containing novelties, and are specified Title 22 CCR, Chapter 22, Article 4.1, Section 66261.50

Characteristic Hazardous Wastes

While not every waste is listed, a given waste may still exhibit characteristics of hazardous wastes. There are measurable properties that are associated with these characteristics that may pose a threat to human health or the environment. These are the four characteristics used to determine whether a waste is hazardous (22 CCR Division 4.5, Chapter 11, Article 3, Sections 66261.21-24):

1. Ignitability (D001)
2. Corrosivity (D002)
3. Reactivity (D003)
4. Toxicity (D004-D043)

Ignitability (D001) (22 CCR 66261.21): Ignitable wastes can readily catch fire and sustain combustion. A waste is ignitable if the following apply:

- A liquid that has a flash point less than 140 degrees Fahrenheit; or
- Is a non-liquid solid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns persistently; or
- Is an ignitable compressed gas; or
- Is an oxidizer.



Corrosivity (D002) (22 CCR 66261.22): Corrosive wastes are acidic or alkaline (basic) wastes that can readily corrode or dissolve flesh, metal, or other materials.

- These include aqueous wastes with a pH greater than or equal to 12.5, or less than or equal to 2,
- A waste may also be corrosive if it is a liquid and has the ability to corrode steel at a rate of one quarter inch per year or greater,
- Wastes which are not aqueous or liquids, but exhibit either of these properties when mixed with an equivalent weight of water are considered a California, non-RCRA, hazardous waste.
- The regulations describing corrosivity characteristics are found in 22 CCR 66261.22



Reactivity (D003) (22 CCR 66261.23): Reactive wastes readily explode or undergo violent reactions. Reactive wastes can exhibit one or more of the following properties:

- Are normally unstable and readily undergo violent change without detonating;
- React violently with water;
- Generate toxic gases when mixed with water;
- Are cyanide- or sulfur-bearing wastes that, when exposed to pH conditions between 2 and 12.5, can generate toxic gas;
- Are capable of detonation or explosion if heated or placed under confinement;
- Are readily capable of detonation, explosive decomposition, or reaction at standard temperature and pressure; and/or



- Are forbidden explosives (49 CFR §173.51), Class A explosives (49 CFR §173.51), or Class B explosives (49 CFR §173.88).

Toxicity based on Federal TCLP (D004-D043) (22 CCR 66261.24(a)(1)):

Any waste that, when subject to the Toxicity Characteristic Leaching Procedure (TCLP), produces a leachate that consists of any constituents above the thresholds listed in table I in 22 CCR 66261.24(a)(1).

**Toxicity Criteria**

There are various aspects to the toxic waste criteria. There is also a difference in how the federal and the state regulations address the toxicity characteristic of wastes. The federal regulations are concerned with known toxic constituents that may potentially leach from landfill wastes and impact groundwater, thus potentially affecting human health and the environment. State regulations have the same emphasis, but the state also sets forth criteria for the testing of toxic waste that are not solely dependent on discrete toxic constituents, rather the toxic effects of the waste as a “whole” are evaluated.

Federal Toxicity Characteristic: When waste is disposed of in a municipal solid waste landfill, toxic constituents can potentially leach from the waste and affect groundwater, thus potentially exposing users of the water to the toxic constituents. In order to predict whether any particular waste is likely to leach toxic chemicals into the groundwater at “harmful” concentrations, the U.S. Environmental Protection Agency (EPA) designed a lab procedure to replicate the leaching process and other conditions that occur when wastes are buried in a typical municipal landfill. This lab procedure is known as the TCLP. By applying the TCLP to a hazardous waste sample, a leachate is created that is similar to the leachate generated by a landfill containing a mixture of household and industrial wastes. This leachate is then tested for concentrations of certain hazardous chemicals.

The EPA has specified regulatory levels (concentrations) for 40 toxic chemicals. These regulatory levels are based on groundwater modeling studies and toxicity data that calculate the limit above which these common toxic compounds and elements will threaten human health and the environment.

If a leachate sample from a generator’s hazardous waste contains a concentration that is equal to or above the federal regulatory limit for one of the specified chemicals, the waste exhibits the federal toxicity characteristic and therefore is a RCRA hazardous waste. The federal regulations describing the toxicity characteristic and listing the 40 chemicals and their associated regulatory levels (concentrations) are in 40 CFR 261.24. These same

regulations have also been adopted by California in 22 CCR 66261.24(a)(1).

Non-RCRA Toxicity

Persistent and Bioaccumulative Toxic Substances: The state has identified 20 inorganic constituents and 18 organic constituents as persistent and bioaccumulative toxic substances [22 CCR 66261.24(a)(2)]. The state leachate extraction procedure is different from the federal method, and the state toxic constituents are evaluated on their total concentrations and/or soluble concentrations.

Every persistent and bioaccumulative toxic substance is assigned a Total Threshold Limit Concentration (TTLC) value and a Soluble Threshold Limit Concentration (STLC) value. If a sample of waste has a total concentration that is equal to, or above, the state TTLC value for one of the specified chemicals, the waste is a persistent and bioaccumulative toxic substance which is, at a minimum, a non-RCRA hazardous waste.

If a sample of waste has a soluble concentration that is equal to, or above, the state STLC value for one of the specified chemicals, the waste is a persistent and bioaccumulative toxic substance which is, at a minimum, a non-RCRA hazardous waste.

Depending on the type and concentration of the toxic constituent(s), a waste can be characterized as both a RCRA and a non-RCRA hazardous waste for the characteristic of toxicity. When a hazardous waste meets both the RCRA and the non-RCRA characteristic, it is managed as a RCRA hazardous waste for purposes of both reporting, and treatment and/or disposal.

Acute Toxicity: Acute toxicity is the dose or concentration of a substance or mixture of substances (e.g., waste) that, when administered (exposure testing) to a test population (e.g., laboratory rats) for a predetermined duration of time, produce a percentage of population death.

The state regulations specify criteria for four acute toxicity categories:

- Oral Toxicity (22 CCR 66261.24(a)(3))
- Dermal Toxicity (22 CCR 66261.24(a)(4))
- Inhalation Toxicity (22 CCR 66261.24(a)(5))
- Acute Aquatic Toxicity (22 CCR 66261.24(a)(6))

These four acute toxicity categories are defined as follows:

- **Acute Oral Lethal Dose (LD₅₀)** is the dose of a substance or mixture of substances, in milligrams (mg) per kilogram (kg) of test animal body weight, which, when administered orally as a single dose, produces death within 14 days in half of a group of 10 or more laboratory white

rats. According to state law, waste is hazardous if the oral LD₅₀ <2500 mg/kg (HSC 25141.5).

- **Acute Dermal (LD₅₀)** is the dose of a substance or mixture of substances, in milligrams per kg of test animal body weight, which, when applied continuously to the bare skin for 24 hours, produces death within 14 days in half of a group of 10 or more rabbits. Waste is hazardous if the dermal LD₅₀ <4300 mg/kg.
- **Acute Inhalation Lethal Concentration (LC₅₀)** is the concentration of a substance or waste that, when inhaled, produces death within 14 days in half the group. Waste is hazardous if the inhalation LC₅₀ <10,000 parts per million (ppm).
- **Aquatic Toxicity (LC₅₀)**(a.k.a., Fish Bioassay) is the concentration of a substance or mixture of substances in water that produces death within 96 hours in half of a group of 10 flathead minnows, rainbow trout, or golden shiners. Waste is hazardous if the aquatic exposure LC₅₀ <500 mg/liter.

Carcinogenicity (22 CCR 66261.24(a)(7)): Waste is defined as toxic if it contains constituents that are known carcinogens (i.e., cause cancer). The state regulations list 16 carcinogenic substances. Waste is defined as hazardous if any of the listed carcinogens are present in a single or combined concentration exceeding 0.001 percent (10 ppm).

Acutely and Extremely Hazardous Wastes: Acutely and extremely hazardous wastes are more hazardous than ordinary hazardous wastes by orders of magnitude. Acutely hazardous wastes are federally listed wastes (i.e., P listed waste), and extremely hazardous wastes are defined by state regulations.

The Extremely Hazardous Waste Criteria (22 CCR 66261.110 & 66261.113)

Extremely hazardous wastes are defined as wastes:

- Having an acute oral LD₅₀ less than or equal to 50 mg/kg;
- Having an acute dermal LD₅₀ less than or equal to 43 mg/kg;
- Having an acute inhalation LC₅₀ less than or equal to 100 ppm as a gas or vapor;
- Containing any of the listed carcinogens in section 66261.24(a)(7) at(1,000 ppm) a single or combined concentration equal to or exceeding 0.1 percent by weight;
- Having been shown through experience or testing that human exposure to the waste or material may likely result in death, disabling personal injury, or serious illness because of the carcinogenicity, high acute or chronic toxicity, bioaccumulative properties, or persistence in the environment of the waste or material; and/or

- That are water-reactive.

Persistent and Bioaccumulative Toxic Substances [22 CCR 66261.113]

Wastes that have total concentrations of persistent and bioaccumulative toxic substances that exceed the extremely hazardous waste TTLC values below are defined as extremely hazardous.

<u>Substance</u>	<u>TTLC (Wet-weight in mg/kg)</u>
Aldrin	140
Arsenic and/or arsenic compounds	50,000 (as As)
Beryllium and/or beryllium compounds (FNa1)	7,500 (as Be)
Cadmium and/or cadmium compounds (FNa1)	10,000 (as Cd)
Chlordane	250
2,4-Dichlorophenoxyacetic acid	10,000
Dieldrin	800
Dioxin (2,3,7,8-TCDD)	1
Endrin	20
Heptachlor	470
Kepone	2,100
Lead compounds, organic	1,300 (dry weight basis; as Pb)
Lindane	400
Mercury and/or mercury compounds	2,000 (as Hg)
Mirex	2,100
Polychlorinated biphenyls (PCBs)	5,000
Selenium and/or selenium compounds (FNa1)	10,000 (as Se)
Thallium and/or thallium compounds (FNa1)	70,000 (as Tl)
Toxaphene	500
2,4,5-Trichlorophenoxypropionic acid	1,000

List of Chemical Names and Common Names for Hazardous Wastes and Hazardous Materials

Title 22 CCR Appendix I lists chemicals which create a presumptive waste, or a list of types of wastes that are presumed to be hazardous waste when generated. The list contains more than 780 chemicals and more than 45 common names of wastes. The wastes are listed based on characteristics of being hazardous and generators can determine the wastes are not hazardous if they do not exhibit the characteristic associated with that specific waste stream, it is recommended that testing be complete for presumptive wastes, utilizing state certified labs.

Identifying a Hazardous Waste: How to Begin

The following are four basic methods used to identify hazardous wastes:

- Generator knowledge
- Hazardous waste lists/safety data sheets (SDSs)
- Hazardous waste characteristics
- Laboratory analysis

California regulation states that generators are responsible for determining if their wastes are hazardous. Utilize each of the four criteria to properly characterize and manage wastes.

Using an SDS to Make a Waste Determination

The SDSs supplied by local chemical manufacturer or distributor are the best sources of information concerning the wastes you may produce. Hazardous waste is being produced if the SDSs for the new chemical products show that they:

- Contain ingredients that are listed hazardous wastes;
- Contain ingredients that are likely to exhibit hazardous waste characteristics; and/or
- Contain ingredients that may be ignitable, reactive, corrosive, or toxic as defined by the hazardous waste characteristics.

Things to Know About Laboratory Analysis

Waste may be tested by a state-certified laboratory to determine if it is a hazardous waste. Know that:

- Testing is the best option if the waste cannot be clearly classified by other criteria.
- All laboratory analysis testing results for hazardous waste determinations must be kept for at least three years from the date the waste was last sent to a treatment, storage, disposal facility.

Proving Non-Hazardous by Laboratory Analysis

Wastes that are identified as possible hazardous wastes by their characteristics are sometimes proven to be non-hazardous wastes by laboratory analysis. This may occur if a waste is generally considered hazardous, but the particular use or condition of generation produces a waste with fewer than expected hazardous constituents, or lower concentrations of known constituents.

Making Non-Hazardous Waste Determinations

The waste is not subject to hazardous waste regulation if it meets all of the following:

- It is not listed;
- It does not exhibit any hazardous waste characteristic; and

- It has been proven non-hazardous by laboratory analysis or calculated values based on known constituents.

Who Qualifies as a Hazardous Waste Generator?

Generator Defined

Any business that generates any quantity of a hazardous waste is a hazardous waste generator (22 CCR 66260.10). A generator is a person or business that produces or generates a hazardous waste identified or listed in Title 22 CCR or whose act first causes a hazardous waste to become subject to this regulation. Generators are subject to specific requirements of the hazardous waste regulations, which are found in 22 CCR Division 4.5, Chapter 12.

Generator Responsibilities:

- Make waste determinations;
- Manage hazardous wastes in compliance with laws and regulations;
- Maintain thorough and accurate records and report hazardous waste activities;
- Prevent and prepare for emergencies involving hazardous wastes;
- Prepare hazardous wastes for transportation;
- Select legal and appropriate treatment and disposal options;
- Have a waste reduction program in effect; and
- Obtain any required permits and pay the fees associated with hazardous waste activities.

“Generators” are responsible for the safe and legal handling of all of their hazardous wastes from generation through accumulation, recycling, transportation, storage, treatment, and disposal.

Very Small Quantity Generator (VSQG): A site that generates less than or equal to 100 kg (220 pounds) of hazardous waste per month and less than 1 kg of acutely hazardous waste (RCRA) or 1 kg of extremely hazardous waste (non-RCRA) per month, previously known as a Conditionally Exempt Small Quantity Generator (CESQG). In California VSQG is still identified as CESQG, and *must follow the requirements for Small Quantity Generators*.

Small Quantity Generator (SQG): A site that generates more than 100 kg but less than 1,000 kg (between 220 and 2,200 pounds) of hazardous waste per month and 1 kg or less of acutely hazardous waste (RCRA) or 1 kg or less of extremely hazardous waste (non-RCRA) per month.

Large Quantity Generator (LQG): A site that generates 1,000 kg per month (2,200 pounds) or more of hazardous waste per month or more than 1 kg of acute or extremely hazardous waste.

General Hazardous Waste Management Requirements: EPA ID Number

Generators are required to have an EPA ID number to treat, store, dispose of, transport, or offer for transportation of hazardous waste. This number is site specific and allows the Department of Toxic Substance Control (DTSC) and the EPA to identify each individual generator. *Site specific* means that every address that generates hazardous waste needs its own number. A contiguous property is considered the same site, whereas a secondary location not directly accessible to the first is a separate site. Each facility where hazardous waste is generated is required to have its own generator ID number. A company with more than one site where hazardous waste is generated is required a separate ID number for each site. These ID numbers are specific to each facility. To determine whether a state or federal ID number is needed, first the type and quantity of waste generated must be determined.

- If RCRA hazardous waste is generated in quantities greater than 100 kg (27 gallons or 220 pounds) or 1 kg (2.2 pounds) of acutely hazardous waste per month, a federal ID number must be obtained.
- If less than these amounts of RCRA hazardous waste are generated, or any amount of non-RCRA hazardous waste, a California issued ID number is needed. Only one ID number per site is needed.

All generators, other than VSQGs who generate silver-only wastes from photo developing, must have an EPA ID number in California before a licensed transporter arrives at the generating facility for hazardous waste pickup and off-site transport.

To obtain a permanent California ID Number:

http://www.dtsc.ca.gov/HazardousWaste/upload/GISS_FORM_1358.pdf

The application form must be completed and submitted to DTSC at:

Department of Toxic Substances Control HWMP, 11th Floor PO Box 806
Sacramento, CA 95812-0806

Or via email: ldrumbor@dtsc.ca.gov or Fax: (916) 323-3500

To obtain a federal ID number (for RCRA SQG and LQG), a U.S. EPA Form 8700-12 must be filled out, and submitted with a wet signature to:

California Department of Toxic Substances Control
Attn: RCRA Notifications
P.O. Box 806 Sacramento, CA 95812-0806

Note: State issued permanent generator ID numbers begin with the letters CAL; federally issued permanent generator ID numbers begin with the letters CAR (prior to 1995 federal EPA ID numbers have a prefix of CA, CAD, or CAT).

EPA Numbers must be electronically verified annually.

Accumulating Hazardous Waste in Tanks and Containers

Container means any device that is open or closed and portable in which a material can be stored, handled, treated, transported, recycled, or disposed of (§66260.10).

Tank means a stationary device designed to contain an accumulation of hazardous waste, which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) that provide structural support (§66260.10).

To comply with the container management requirements (22 CCR, Chapter 14 & 15, Article 9), containers need to be:

- In good condition, (structurally sound with appropriate lids) (22 CCR and 40 CFR 262.16(b)(2)(i) §66265.171);
- Either made of a material that is compatible with waste or lined with a waste-compatible material (22 CCR and 40 CFR 262.16(b)(2)(ii) §66265.172);
- Kept closed unless adding or removing hazardous waste (22 CFR §66265.173(a) and 40 CFR 262.16(b)(2)(iii)(A));
- Maintained in a manner to allow for adequate aisle space (22 CCR, Chapter 14, Article 3, §66265.35);
- Safely handled to avoid punctures (22 CCR §66265.1739(b) and 40 CFR 262.16(b)(2)(iii)(B));
- Inspected weekly (22 CCR §66264.174 and 40 CFR 262.16(b)(2)(iv)) (it is recommended that inspections are documented); and
- Properly labeled (22 CCR, Chapter 12, Article 3, §66262.34(f)(1-3)).

Additionally:

- Ignitable or reactive wastes must be kept at least 15 meters (50 feet) from the property line pertaining to LQGs. (22 CCR§66265.176); and
- Incompatible wastes must be stored to prevent commingling, which would cause violent reactions. (22 CCR §66265.177 and 40 CFR 262.16(b)(2)(v)).

Hazardous Waste Accumulation Areas

The area(s) that the facility uses to accumulate hazardous wastes (e.g., wherever hazardous waste containers are located or stored) must also meet certain requirements and be managed in

a safe and environmentally sound manner. These requirements are as follows:



- Maintain enough aisle space between containers or rows of containers to allow for inspections and access by emergency personnel (22 CCR § 66265.35 and 40 CFR 262.16(b)(8)(v));
- For wastes that react with each other, the containers should be physically separated (by curbs, sloping, or in separate containment pallets) during storage (22 CCR 66265.32 and 40 CFR 262.16 (b)(2)(v));
- Accumulate/store the waste containers on a surface that is free of cracks and gaps and resistant to leaks or spills;
- Maintain certain emergency equipment adjacent to the area. This includes fire extinguishers, spill control supplies, safety shower/eyewash, and emergency communication devices (such as a telephone or an alarm) (22 CCR 66265.32 and 40 CFR 262.16 (b)(8)(ii));
- Post appropriate warning signs (such as “Caution – Hazardous Waste Storage Area,” “NO Smoking,” etc.) (§ 66265.14) (LQGs);
- Maintain reasonable area security so that only properly trained personnel have access to hazardous waste containers (§ 66265.14) (LQGs).

Contaminated Container Management (22 CCR §66261.7)

Any container, or inner liner removed from a container, that previously held a hazardous material, including, but not limited to, hazardous waste, that meets the definition of empty is exempt from regulation under Chapter 6.5 of Division 20 of the HSC, if it is managed according to the following requirements outlined in §66261.7(e):

- By reclaiming its scrap value on-site or shipping the container or inner liner to a person who reclaims its scrap value;
- By reconditioning or remanufacturing the container or inner liner on-site for subsequent reuse, or by shipping the container or inner liner to a person who reconditions or remanufactures the container or inner liner; or

- By shipping the container or inner liner to a supplier, or to another intermediate collection location, for accumulation prior to managing the container or inner liner—assuming that the container or inner liner is packaged and transported in accordance with applicable U.S. Department of Transportation regulations.

A container is empty according to the regulations if (§66261.7(b)(1-2)):

- For pourable material, no hazardous material can be poured or drained from the container or inner liner when the container or inner liner is held in any orientation (e.g., tilted, inverted, etc.); or
- For non-pourable material, no hazardous material remains in or on the container or inner liner that can feasibly be removed by physical methods (excluding rinsing). A thin uniform layer of dried material or powder is considered acceptable.

Tank Management

Generators who accumulate hazardous waste in tanks must meet certain requirements, briefly described below.

Labeling: Tanks must be labeled with “Hazardous Waste” and the accumulation start date (22 CCR 66262.34 (f)(2)6(3)).

Inspection of Tank Systems: Generators must perform inspections of the tank systems at least once each operating day and must document these inspections and keep records for three years for LQGs (22 CCR 66765.195 and 40 CFR 262.16(b)(3)(iii)(A)).

Tank Assessment: LQGs must have the tanks certified by a Professional Engineer every five years and prior to beginning use as a hazardous waste tank (22 CCR 66265.192).

Labeling and Marking

Labeling Portable Containers: Each hazardous waste container that is portable and used for hazardous waste accumulation must be properly labeled and marked with:

- The words “Hazardous Waste”;
- Contents of the container (e.g., solvents)
- Name and address of the generator;
- Hazardous properties of the waste (e.g., flammable, toxic, reactive, corrosive);
- Physical state (e.g., liquid, solid, gas); and
- Initial starting date for waste accumulation.

Labeling Containers for Transport: Containers used to transport hazardous waste must include labels with the words “Hazardous Waste” plus the following statement and additional information below:

- “State and federal law prohibit improper disposal. If found, contact the nearest police or public safety authority, the U.S. Environmental Protection Agency, or the California Department of Toxic Substance Control”;
- Name and address of the generator;
- EPA ID number;
- Proper shipping name;
- UN or NA number; and
- Manifest tracking number.

Labeling Recyclable Materials (H&SC §25143.9): Excluded Recyclable Material (as defined by the HSC §25143.2) must be handled, stored, and labeled on the premises in the same manner as hazardous waste with the exception that the words “Hazardous Waste” on the label are replaced with the words “Excluded Recyclable Material.”

Labeling Drained Used Oil Filters (22 CCR §66266.130): Containers of drained used oil filters that are recycled off-site at a scrap metal recycler must be labeled with the words “Drained Used Oil Filters” and the initial date of accumulation.

Labeling Universal Waste: Universal waste is hazardous waste with reduced handling requirements when managed in accordance with 22 CCR, Division 4.5, Chapter 23. The containers, or the areas of the container storage, must be clearly labeled or marked as “Universal Waste” along with the accumulation start date. The type of universal waste must also be included on the label (e.g., “Universal Waste Batteries” or “Lamps,” etc.). Refer to the Universal Waste Management section in this guidance document for additional requirements.

Types of Labels: The use of commercially printed labels is a convenience many generators take. Hazardous waste adhesive labels are available from many sources, such as safety supply companies or industrial label supply companies.

Hazardous Waste Accumulation (22 CCR §66262.34)

The storage time for hazardous waste at generator sites is based upon the quantity of hazardous waste stored and the rate at which the waste is generated. “Point of Generation” storage accumulation may also be used in conjunction with the other options.

Accumulation Time for Small Quantity Generators (SQGs): For businesses that generate more than 100 kg but less than 1,000 kg (between 220 and 2,200 pounds, or between 27 and 270 gallons) of hazardous waste per month, the following applies:

- Hazardous waste may be accumulated on-site for up to 180 days; or
- If the waste must be transported a distance of 200 miles or more, the generator may store the waste for up to 270 days.
- Accumulation time, 180 or 220 days, for businesses that generate 100 kg (220 pounds) or less in a month does not begin until the business has generated 100 kg (220 pounds). These businesses are not allowed to store more than 1,000 kg (2,200 pounds) of hazardous waste on-site.

The preceding storage times apply only if the following conditions are met:

- The quantity of hazardous waste accumulated on-site never exceeds 6,000 kg;
- The generator complies with all emergency procedures (40 CFR 262.16(b)(a)); and
- The generator does not store extremely hazardous or acutely hazardous waste in an amount greater than 1kg (2.2 pounds) for more than 90 days.

Accumulation Time for Large Quantity Generators (LQGs): For businesses that generate more than 1,000 kg (2,200 pounds or approximately 270 gallons) of hazardous waste per month, hazardous waste cannot be stored for more than 90 days. The 90-day period for accumulation STARTS THE FIRST DAY the generator begins accumulating any hazardous waste in a container or tank.

Hazardous Waste Accumulation at the Point of Generation (22 CCR §66262.34(e)(1)): This is commonly referred to as satellite or workplace accumulation which is the accumulation of hazardous waste located at or near the point (i.e., process or piece of equipment) where the waste is generated. The container must be under the control of the operator(s) of the waste generation process.

The general requirements for satellite accumulation consist of the following:

- **Quantity Limits:** No more than 55 gallons of a hazardous waste or one quart of an acutely hazardous or extremely hazardous waste may be accumulated at each satellite accumulation point. If not all the waste streams generated by a single process located within the same area are compatible, a separate 55 gallon or one quart limit shall apply to each group of compatible waste streams (22 CCR §66262.34(e)(2)(A)).
- **Accumulation Time Limits:** A container can be kept in the satellite accumulation area for a maximum of 365 days or until the 55 gallon, or 1 quart for extremely or acutely hazardous waste, limit has been reached. Within three days of reaching the quantity limit, 55 gallons or 1 quart, the container must be marked with the date it became full—this is the accumulation start date. The waste must be removed from the generator's facility within 365 days from the initial accumulation

start date or within the normal accumulation time limits, whichever is shorter.(22 CCR §66262.34(e)(3)).

Speculative Accumulation: A hazardous material becomes a hazardous waste if it is accumulated speculatively.

Speculative accumulation means that a material is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled and that, during the calendar year (commencing on January 1), the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period.

Also, a generator may be considered as a speculative accumulator if retrograde materials are stored on-site for longer than one year after the date the material became a retrograde material.

Retrograde materials are any hazardous materials that are not to be used or sold for use in an originally intended purpose and that meet one or more of the following criteria:

- It has undergone chemical, biochemical, physical, or other changes due to the passage of time or the environmental conditions under which it was stored;
- It has exceeded its shelf life;
- It is a banned substance; and/or
- It cannot be used for reasons of economics, health/safety, or environmental hazards.

Manifesting Hazardous Waste

The Uniform Hazardous Waste Manifest

A Uniform Hazardous Waste manifest must accompany all shipments of hazardous waste transported off-site for treatment, storage, or disposal (unless the hazardous waste is transported under the consolidated manifest, is a universal waste, or transported by a CESQG to a permitted hazardous waste facility).

The manifest is a document that identifies the following information:

- Type of waste being shipped;
- Facility the waste came from;
- Transporter of the hazardous waste;

- Destination of the waste;
- Method of disposal for the waste; and
- Certification and/or notification for the Land Disposal Restrictions.

See Appendix D for manifest and instructions.

Purpose of the Manifest: The purpose of the UHW manifest is to properly identify and track the hazardous waste shipment, its generator, and its destination; this is the “cradle to grave” concept first created by RCRA. The manifest procedure ensures that both the generator and the DTSC are notified that the hazardous waste was disposed of properly.

Completing the Manifest: The generator must properly complete the generator portion of the manifest according to the instructions printed on the back of the manifest. The generator must include the handwritten signature of the transporter and the date of acceptance on the transporter portion of the manifest. If the transporter completes the manifest on behalf of the generator, it is still the generator’s responsibility to ensure the manifest is properly completed.

Distributing the Manifest: The manifest includes six copies so that each person handling the waste will be able to retain a copy. The generator, transporter, and designated facility each retain one or more copies of the manifest (according to the bottom-right corner of the manifest) prior to passing the remaining copies on to the next handler of the waste. The generator should follow this procedure to properly distribute manifests:

- Complete the generator’s portion of the manifest;
- Retain the generator copy of the manifest until a signed copy returned from the designated receiving facility is obtained by the generator, typically referred to as the Treatment, Storage, Disposal Facility (TSDF). This copy must be retained by the generator for three years;
- Mail a copy of the manifest signed by the generator and the first transporter to DTSC within 30 days. (DTSC Generator Manifest PO Box 400 Sacramento, CA 95812-0400)

Manifest Exception Reporting: A generator that does not receive a TSDF-signed manifest copy within 35 days of the waste shipment must contact the transporter and/or TSDF to determine the status of the waste.

If a TSDF-signed manifest copy is still not received within 45 days (60 days for SQGs) of the waste shipment, the generator must submit an exception report to the DTSC that includes the following:

- A legible signed copy of the manifest left by the transporter at the time of shipment; and
- A cover letter signed by the generator or the generator’s authorized representative explaining efforts taken to locate the

waste and the results of those efforts.

A copy of the exception report must be kept by the generator for at least three years.

Manifest Retention: A copy of each manifest must be kept until the generator receives a signed copy from the TSDF designated to receive the waste. Each TSDF-signed manifest copy must be kept for at least three years from the date of waste shipment.

Obtaining Manifests: Generators must purchase their manifests only from a vendor approved by U.S. EPA, though the transporter will typically provide the manifest.

Consolidated Manifests

Consolidated manifesting allows certain registered transporters to combine, on a single manifest, specified wastes from multiple generators. Generators using this procedure are exempt from filling out a manifest.

Qualifying Hazardous Wastes: Consolidated manifesting is currently restricted to the following hazardous wastes:

- Used oil;
- Dry cleaning waste;
- Automotive parts cleaning solvents;
- Ethylene glycol (coolant/antifreeze) from vehicle radiators;
- Spent photographic solutions;
- Sludge containing sodium hydroxide and heavy metals;
- Asbestos;
- Inks from the printing industry; and
- Chemicals and laboratory packs collected from school districts.

Qualifying Generators: Generators are responsible for their wastes from the point they are first produced to the time they are either treated or disposed of (“from cradle to grave”). The consolidated manifesting procedure does not exempt a generator from the requirement to properly characterize, handle, label, manage, and accumulate hazardous wastes.

Generators using the consolidated manifest option must have an EPA ID number. Generators of up to 1,000 kg per month of non-RCRA waste (or RCRA hazardous waste that is not required to be manifested pursuant to the federal act) (SQGs) are allowed to ship any of the authorized waste streams under the consolidated manifesting procedure. Generators of more than 1,000 kg per month can only ship used oil or contents of an oil/water separator on a consolidated manifest (amount of used oil to contents of oil water separator is

not included in the 1,000 kg per month. Generators must keep all copies of each of the consolidated manifest receipts for at least three years from the date of hazardous waste shipment (SQGs).

Consolidated manifest hazardous receipts must contain the following information:

- Generator name, address, telephone number, EPA ID number, contact person, generator representative signature;
- Shipment date;
- Manifest number;
- Waste volume;
- Waste codes;
- Waste type;
- TSDF name, address, and EPA ID number; and
- A statement (signed by the generator) certifying that the generator has established a program to reduce the volume or quantity and toxicity of the hazardous waste to the degree (as determined by the generator) to be economically practicable.

Land Disposal Restrictions

The Land Disposal Restrictions (LDRs) are a set of laws require treatment of hazardous waste to reduce the hazardous characteristic(s) prior to disposal. This applies to all RCRA hazardous waste and the following non-RCRA hazardous waste; metal containing aqueous waste, auto shredder waste, hazardous waste foundry sand, fly ash, bottom as, retort ash, or baghouse waste from foundries containing metals, and asbestos containing waste. Under these regulations, hazardous waste is prohibited from land disposal unless:

- The waste already meets specific treatment standards;
- The waste is otherwise considered treated; and/or
- The waste is exempted from the LDR regulations.

Biennial Report

Submitting a biennial report is required for RCRA LQGs. The report is due by March 1st of each even- numbered year and covers the previous year of hazardous waste activity (22 CCR Section 66262.41). Copies of biennial reports must be retained for three years (22 CCR Section 66262.40). For more information regarding biennial reports, visit:
www.dtsc.ca.gov/hazardouswaste/annualreports/biennial_reports.cfm.

Hazardous Waste Contingency Plan

All generators are required under state and federal hazardous waste regulations to prepare a written hazardous waste contingency plan. This plan is to be implemented in an emergency situation involving hazardous wastes, even though the contingency plan is similar in information and purpose to the Hazardous Materials Business Plan (HMBP).

Contingency Plan Elements

Regardless of what format the plan is in (and whether or not the newest version of the Consolidated Contingency Plan is being used), the required hazardous waste-specific elements for a hazardous waste contingency plan for LQGs include:

- Procedures for evaluating the hazard(s) of the hazardous waste incidents and the need for evacuation of surrounding areas;
- Procedures for inspections or monitoring of critical processes or operations when the facility operation has been stopped during the incident;
- Procedures for cleaning and repairing emergency equipment after the emergency is over;
- Procedures for noting/documenting the incident in the facility's operating record and reporting to Governor's Office of Emergency Services (CalOES) DTSC and/or the CUPA if necessary;
- The home phone numbers of the Emergency Coordinator and the alternates listed in the order in which they shall assume responsibility (the HMBP only requires work and 24-hour phone numbers);
- Description of arrangements made (1) to familiarize fire and police, emergency response teams, and hospitals with the facility and its wastes, and (2) with state and local emergency response teams and contractors to provide emergency services;
- A list of all emergency equipment (e.g., fire extinguishers and spill control equipment) and decontamination equipment located at the facility with a physical description of the equipment, a description of its location, and an outline of its capabilities;
- Emergency and alarm communication and procedures; and
- An evacuation plan for facility personnel. The plan must describe primary and alternate evacuation routes and the current phone number for CalOES: (800) 852-7550.

Copies of the plan must be maintained at the facility.

For VSQGs and SQGs, the requirements for the Contingency Plan are reduced. The generator must post the following information next to the telephone:

- The name and telephone number of the emergency coordinator;
- Location of fire extinguishers and spill control material and, if present, fire alarm; and
- The telephone number of the fire department, unless the facility has a direct alarm.

Contingency Plan Amendments

The Contingency Plan must be reviewed and, if necessary, immediately amended whenever any one of the following occurs:

- Applicable regulations are revised;
- The plan fails in an emergency;
- The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or changes the response necessary in an emergency;
- The list of Emergency Coordinators changes; or
- The list of emergency equipment changes.

Generator Employee Training Requirements

Generators are required to provide training in hazardous waste management for all workers who handle hazardous waste on the job. Training reduces the potential for mistakes that might threaten human health or the environment; it ensures that personnel are thoroughly familiar with proper and safe hazardous waste handling procedures. Training also stresses the roles and responsibilities of personnel in an emergency. See Appendix E for a Training Record example.

Large Quantity Generator Employee Training Requirements (22 CCR 66265.16)

All personnel at an LQG facility involved in the management (i.e., generation, transfer, shipment, etc.) of hazardous waste must receive classroom instruction or on-the-job training in the proper management of hazardous waste. This training must:

- Be directed by a person trained in hazardous waste management procedures;
- Include instruction that teaches personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed;
- Be designed to ensure that personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, equipment, and systems;

- Be provided to personnel within six months after the date of their employment or assignment to a new facility or to a new position at a facility. (Note: personnel who have not yet completed this training must work under the supervision of a properly trained employee);
- Be reviewed annually through refresher training; and
- Be documented by records that include:
 - The job title for each position related to hazardous waste management and the name of each employee filling the job;
 - A written job description for each of the above job positions that describes job duties and the skills, education, or other qualifications required of personnel assigned to each position;
 - A written description of the type and amount of both introductory and continuing training that will be given to each person filling the above job positions; and
 - Documentation that this training has been given to, and completed by, facility personnel.

Training Record Retention Requirements

LQG hazardous waste management training records for current personnel must be kept until closure of the facility. Records for former employees must be kept for at least three years from the date the employee last worked at the facility.

Small Quantity Generator Employee Training Requirements (40 CFR 262.16 (b)(9)(iii))

All employees of SQG facilities must be thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations and emergencies. While SQGs do not have to document the training, it is recommended that training be documented and records maintained on-site.

Emergency Preparedness and Prevention

Planning and preparing for different types of emergencies that can occur at a business site, such as fire, earthquake, or a hazardous waste incident, is mandated by law. According to state hazardous waste laws and regulations, businesses must be maintained and operated to minimize the possibility of a release of hazardous waste into the air, soil, or surface water to prevent a threat to human health or the environment.

Required Emergency Equipment

The site shall be equipped, as applicable, with the following emergency equipment:

- An internal communication alarm system;
- A device (i.e., telephone or two-way radio) for calling outside emergency help;
- Fire control equipment, spill control equipment, and/or decontamination equipment; and
- Water at an adequate volume and pressure to supply water hose streams or foam producing equipment or an automatic sprinkler system.

Access to Communication or Alarm System: Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee. If there is ever just one person on the premises, that employee must have access to a communication device such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio capable of summoning external emergency assistance.

Testing and Maintenance of Equipment: All facility communication or alarm systems, fire protection equipment, spill control equipment, and contamination equipment, that are required must be tested and maintained as necessary to assure its proper operation.

Arrangements with Local Authorities

The facility owner or operator must attempt to make the following arrangements as is appropriate for the types of wastes handled at the facility and the potential need for the services of the response organizations:

- Arrangements to familiarize police, fire departments, emergency response teams, and the local Office of Emergency Services with the layout of the facility, properties of hazardous wastes handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;
- Agreements with emergency response contractors and equipment suppliers; and
- Arrangements to familiarize local hospitals with the properties of hazardous wastes handled at the facility and the types of illnesses that could result from fires, explosions, or releases at the facility.

Emergency Coordinator

At all times there must be at least one employee either on the premises or on call (i.e., available to respond to an emergency at the facility) with the responsibility for coordinating all emergency response and reporting

activities. This Emergency Coordinator must:

- Be thoroughly familiar with the facility;
- Have the authority to commit the resources needed to carry out the Contingency Plan;
- Be familiar with all aspects of the Contingency Plan; and
- Know the locations of all records within the facility.

See Appendix F for full-size document.

Management of Used Oil

In California, used oil is required to be managed as a hazardous waste. Used oil is any oil that has been refined from crude oil, or any synthetic oil that has been used and, as a result of use or as a consequence of extended storage or spillage, has been contaminated with physical or chemical impurities (HSC §25250.1).

Used oil includes, but is not limited to, the following petroleum-based oils:

- Used motor oil
- Vehicle crankcase oil
- Hydraulic oil
- Compressor oil



A state EPA ID number is required for each site where used oil is accumulated or stored, with the exception of households.

Labeling Used Oil: Used oil must be labeled with the words “USED OIL” and “HAZARDOUS WASTE” and the initial date of accumulation. In addition, containers must be labeled with the name and address of the generator.

Used Oil Shipment Record Keeping: Generators must keep the receipts associated with used oil shipments for at least three years from the date of shipment when their used oil is managed using the consolidated manifest process.

Generators can ship up to 55 gallons per shipment of used oil to a recycling facility. Generators who self-transport their used oil, 55 gallons per shipment, should keep a log and maintain records for three years from the date of shipment.

Used Oil Mixing Rule: Mixing used oil with any other hazardous waste is strongly discouraged and usually prohibited. Examples of hazardous wastes that are prohibited to be mixed with used oil include solvents, antifreeze, and fuels. The law does allow for the inadvertent mixture of “minimal amounts of vehicle fuel” with used oil, but be aware that such mixing could contaminate used oil, classifying it as a RCRA rather than a non-RCRA hazardous waste.

Management of Used Oil Filters

Drained used oil filters are generated from automobiles, usually during oil changes. Used oil filters may exhibit hazardous characteristics for lead, other toxic heavy metals, and oil-based compounds. Used oil filters must either be managed as hazardous waste or in accordance with the requirements for drained used oil filters. DTSC adopted special regulations (22 CCR 66266.130) in 1991 to encourage recycling of metal used oil filters and to protect human health and the environment from the potential hazards posed by the disposal of used oil filters. Fuel filters, including fuel dispenser and diesel fuel filters, can be managed in the same manner as used oil filters. Effective January 2005, waste fuel filters that contain residues of gasoline and diesel fuel can be permissibly commingled with used oil filters by following several specific requirements. These requirements are found in California H&SC, Division 20, Chapter 6.5, Article 13, Section 25250.22. Disposal of both used oil filters and fuel filters in trash cans and at sanitary landfills is prohibited. Paper or plastic used oil or fuel filters are not exempt from hazardous waste regulations.

Used oil filters must be managed as hazardous wastes unless all of the following requirements are met:

Drained of All Free-Flowing Oil: The filters must be drained of free-flowing used oil. If the filter is equipped with a device (such as a rubber flap located just inside the filter opening) that impedes the drainage of oil from the filter, that device must be manipulated to allow the oil to exit the filter freely or the filter punctured, crushed, opened, drained, or otherwise handled in a manner that will allow the oil to exit the filter. Recycled by a smelter or scrap metal processor.

Properly Contained, Labeled, and Stored: The drained filters must be contained in rainproof, non-leaking containers with tightly sealed lids. The container must be labeled “Drained Used Oil Filters” and must have the initial date of accumulation or receipt marked on each container. Commingled filters, which include filters that contain residues of gasoline, shall be labeled “Used Oil and Gasoline Filters.” The initial date of accumulation is the date when the first filter is placed in the container or the date when a full or partially full container of filters is received at a second location.

Store without Exceeding Allowed Time Limits: Filters in amounts of less than one ton may be stored for a period of up to one year. Storage of one ton or more of oil filters is limited to 180 days.

Transported to an Allowed Destination for Purpose of Metal Reclamation: Filters must be transported to a smelter or scrap metal processor for recycling or to a municipal solid waste incinerator for energy recovery provided that the residual casings are subsequently transferred to a smelter or scrap metal processor for recycling. A storage or consolidation facility that subsequently transfers filters to a smelter, scrap metal processor, or municipal solid waste incinerator is also acceptable. Filters may also be transported to an authorized hazardous waste facility.

Transported Under a Bill of Lading with a Copy Kept by the Generator

for Three Years: A bill of lading must accompany each shipment and be kept for three years. Bills of lading must include:

- The generator's name, address, and telephone number;
- The transporter's name, address, and telephone number;
- The receiving facility's name, address, and telephone number;
- The quantity and size of each used oil container shipped; and
- The date of transfer.

Contaminated Textiles

Textile materials (e.g., shop towels, uniforms, gloves, linens, etc.) that have become soiled with hazardous waste during commercial or industrial use are exempt from using hazardous waste manifest requirements and paying state hazardous waste fees if ALL of the following requirements are met:

- The materials are made reusable by laundering or comparable methods of cleaning at a facility (i.e., commercial laundry) with a contingency plan for handling both on-site and off-site emergencies involving the materials and that maintains records of the date, type, and quantities by piecework or weight of the materials laundered;
- The materials are not subject to federal regulation as hazardous wastes;
- The materials are not used to clean up or control a spill that is required to be reported to any state or federal agency;
- No hazardous waste has been added after the materials' original use; and
- No free liquids are released during transportation or storage of the materials.

Management of Spent Lead Acid (Automotive) Batteries

Because spent lead acid batteries contain lead, sulfuric acid, and other heavy metals, lead-acid battery disposal is fully regulated as a hazardous waste management activity; but when intact lead-acid batteries are managed for recycling, the handling requirements are relaxed (22 CCR §662266.80 & 66266.81). However, processing lead-acid batteries for recycling by draining the electrolyte, crushing, smelting, or other physical methods is considered hazardous waste treatment and would require a treatment permit.

If a business generates no more than 10 batteries per year, or stores or transports no more than 10 batteries at one time, the handler is not subject to the reporting and record keeping requirements given in the battery regulations as long as the batteries will go to someone who stores, recycles, uses, reuses, or reclaims them. In order for businesses to be exempt from hazardous waste regulations for spent lead-acid battery generation, storage, and transportation, the generator must

manage intact lead-acid batteries as follows:

- As a Best Management Practice (BMP), undamaged batteries should be stored upright on a covered pallet over a non-reactive, sealed surface such as coated concrete or asphalt, and care should be taken to prevent the terminals of the batteries from short-circuiting;
- The batteries must be sent to a permitted hazardous waste recycling facility;
- No electrolytes or acids can be removed from the batteries;
- More than one ton of batteries cannot be stored (accumulated) more than 180 days at one location; and
- If more than 10 batteries at a time are shipped for recycling, a legible hazardous waste manifest or legible bill of lading must accompany the shipment. The generator, transporter, storage, recycling, or disposal facility each must retain their copies of either of those documents for three years.
- Damaged spent lead-acid batteries are batteries that are cracked, broken, or missing one or more of their caps. The generator must manage damaged lead-acid batteries as follows:
 - Damaged batteries must be stored and transported in non-reactive, structurally secure, closed containers such as polyethylene buckets or drums;
 - The container holding damaged batteries must be labeled in ink or paint with the date the batteries were first placed there.; and
 - “Damaged batteries” considered damaged solely on the basis of missing caps (i.e., no other leaks or damage) CAN be managed along with intact batteries once the caps are replaced.

Universal Waste

Universal waste is hazardous waste, meaning it is toxic, ignitable, corrosive, and/or reactive. Some universal wastes are even listed hazardous wastes. However, universal waste is more common and poses a lower risk to people and the environment than other types of hazardous waste. Universal waste is generated by a wide variety of people rather than by the industrial businesses that primarily generate other hazardous waste. New laws adopted since 2000 created California’s Universal Waste Rule to simplify how common hazardous wastes are managed. State laws and



regulations identify universal wastes and provide simpler rules for handling, recycling, and disposing of them. Universal waste regulations are in the California Code of Regulations, Title 22, Division 4.5, Chapter 23. Without the new Universal Waste Rule, all universal waste would have to be managed under the same stringent standards as other hazardous wastes.



Types of Universal Wastes

Universal wastes are common types of hazardous waste generated by almost everybody. The types of universal wastes specified in the state laws and regulations include, but are not limited to the following:

- Batteries (e.g., flashlight batteries)
- Cathode ray tubes (e.g., computer monitors)
- Consumer electronic devices (e.g., cell phones)
- Dental amalgam
- Lamps (e.g., fluorescent lights)
- Mercury gauges
- Mercury novelties (e.g., singing greeting cards)
- Mercury thermostats and thermometers
- Mercury switches
- Non-empty aerosol cans
- Solar panels

Notification Requirements

Notification Requirements for Large Quantity Handlers of Universal

Waste: Large quantity handlers of universal waste (LQHUW) must obtain an EPA ID number before meeting or exceeding 5,000 kgs (5.5 tons) of universal waste at one place and at one time (22 CCR 66273.32[a][1]). They must also follow more stringent standards for handling their universal waste. Generally, only a universal waste collection center that accepts universal waste from other (off-site) businesses will accumulate large quantities of universal waste exceeding 5.5 tons at one time.

Notification Requirements for Cathode Ray Tube Generators

(CRTs): Businesses that generate more than 5,000 kgs (5.5 tons) per year with the use of their own CRT

- Financial responsibility demonstration;
- Copies of air permits;
- Records of CRT glass production and disposition;
- Annual report; and
- Process closure and notification.

If you want to process CRT universal waste at your business, you must first notify the DTSC of your proposed activities.

Notification Requirements for Processors of Non-Empty Aerosol Cans:

Businesses that generate universal waste with non-empty aerosol cans have the option to process (puncture and drain) their own cans, but they must first notify the responsible local agency (i.e., the responsible CUPA) (HSC 25201.16). It is illegal for businesses to process other (off-site) businesses' non-empty aerosol cans unless they are permitted to do so (e.g., TSDF or household hazardous waste collection centers). The CUPA notification must be made in person or by certified mail no later than beginning the processing of aerosol cans and include, but is not limited to, the following:

- Facility identification and location information;
- Type and number of cans to be processed; and
- Process equipment specifications.

Liquids drained from the cans can no longer be managed as universal waste; such liquids must be managed as hazardous waste.

Management Requirements

Management Requirements for Handlers of Universal Waste:

- Do not dispose of universal waste to the trash.
- Do not accumulate more than 5,000 kgs (5.5 tons) of universal waste at anyone time. Otherwise, an EPA ID number will need to be acquired.
- Do not store universal waste for longer than one year after generating or receiving the waste (22 CCR 66273.35 (a)).
- Document the length of time universal waste has accumulated on-site from the date of its generation or its acceptance from someone else (22 CCR 66273.35 (b)).
- Label or mark universal wastes, or containers or packages of universal waste, to identify their types (22 CCR 66273.34). The purpose of labeling is to ensure that emergency response personnel or an

inspector can identify the universal waste.

- Generally, universal waste cannot be treated on-site except when cleaning up releases or managing specific wastes as specified in 22 CCR 66273.33 and 66773.33.5 and 66273.37 (a). Treatment includes any activity that changes the characteristics of the waste. Releases (e.g., leaking batteries or broken fluorescent tubes) must be cleaned up. Damaged universal waste must be repackaged and managed as universal waste. Manage any other materials generated, such as cleanup supplies and contaminated soil, as hazardous wastes if they are identified as hazardous wastes (22 CCR 66273.37 (b)).
- Train employees in proper universal waste management including handling, packaging, storing, and labeling the universal waste as well as how to respond to releases (22 CCR 66273.63). This training may be accomplished by simply giving employees written instructions or posting these instructions in the universal waste management areas of the building.
- For transportation purposes, determine whether the universal waste is a hazardous material under the United States Department of Transportation (U.S. DOT) rules. For U.S. DOT hazardous materials, properly mark the packaging and placard the transportation vehicle. The applicable U.S. DOT regulations are in Title 49 Code of Federal Regulations, Parts 171 through 180.
- For transportation documentation purposes, proper shipping papers must be prepared, such as a bill of lading. However, a state uniform hazardous waste manifest is not necessary for universal waste shipments (22 CCR 66273.38).
- Universal waste can be transported in personal vehicles or by any common carrier allowed by U.S. DOT and California law to transport non-hazardous waste. Universal waste handlers are not required to use a registered hazardous waste hauler to transport universal waste (22 CCR 66273.38).
- Send all universal waste to a facility authorized to collect, recycle, or dispose of universal waste. All universal waste must eventually be treated, recycled, or disposed at a final destination facility which must be a permitted treatment, storage, and/or disposal facility (TSDF).
- When exporting universal waste outside the country, comply with regulations addressing universal waste export (22 CCR 66273.40).
- Keep records of all shipments and receipts of universal waste for at least three years (22 CCR 66273.39).

Management Requirements for Cathode Ray Tube Handlers: Cathode Ray Tubes (CRTs) must be managed in a manner to prevent a release to the environment. CRTs must be packaged in a container that is structurally sound,

adequate to prevent breakage, compatible with CRTs and has no signs of leakage or damage.

Management Requirements for Cathode Ray Tube Processors: Facilities that process (e.g., treat or recycle) CRT materials must notify the DTSC prior to beginning processing activities as described in the previous section. Notification and management requirements for CRT material processing are addressed in the state regulations (22 CCR Division 4.5, Chapter 23, Article 7). The DTSC currently implements the CRT material-processing program. If you want to process CRT universal waste at your business, you must first notify the DTSC of your proposed activities.

Management Requirements for Processors of Non-Empty Aerosol Cans:

Businesses that generate universal waste non-empty aerosol cans have the option to process (puncture and drain) their own cans, but they must first notify the responsible local agency (i.e., the responsible CUPA) (HSC 25201.16) as described in the previous section. The rules for on-site processing of non-empty aerosol cans are specified in state Health and Safety Code (HSC 25201.16(h-j)). Liquids drained from the cans cannot longer be managed as universal waste; such liquids must be managed as “other” hazardous waste. Specific draining requirements for non-empty aerosol cans include, but are not limited to, the following:

- Design specifications and operation guidelines for processing equipment;
- Written procedures for management of drained contents;
- Specifications for proposed area where cans are to be drained (i.e., processed); and
- Written operation procedures and employee training documentation requirements.

Management Requirements for Very Small Quantity Universal Waste

Generators: A very small quantity universal waste generator (VSQUWG) is a generator of universal wastes who:

- Generates no more than 100 kgs (220 pounds) of RCRA hazardous wastes and no more than 1 kg (2.2 pounds) of acutely hazardous waste in any calendar month (when making this quantity determination, the generator must include all universal waste except CRT materials);
- Generates a total of five or less CRT devices in a calendar year; and
- Remains in compliance with the federal EPA’s special requirements for hazardous waste generated by very small quantity generators (40 CFR 261.5).

A business that qualifies as a VSQUWG is exempt from most universal waste management requirements (e.g., labeling and training). However, VSQUWGs are prohibited from disposing any universal waste in the trash.

Recycling Exclusions and Exemptions

Definitions of Key Recycling Terms

Before summarizing laws and regulations, be sure to know the definitions of the following key terms:

Recyclable Materials: Hazardous wastes that can be recycled.

Recycled: A recyclable material that has been used, reused, or reclaimed.

Used or Reused: A material is used or reused if it is either employed as an ingredient in a process to make a product or as a substitute for a commercial product.

Reclaimed: A material is reclaimed if it is processed to recover a usable product or if it is regenerated. Essentially, reclamation is using a waste stream after applying treatment to it.

Exclusion: This term is used to designate a provision in state statute HSC 25143.2 that “excludes” a recyclable material from classification as a waste. If a recyclable material is no longer regulated as a waste, it is not regulated under the hazardous waste laws (unless otherwise specified). Therefore, if the exclusion criteria are met, what is being handled is no longer a waste; it is an “Excluded Recyclable Material.”

Exemption: This term is used to designate a provision in state statute HSC that relieves a person from certain requirements, specifically hazardous waste facility permit requirements. Therefore, if the exemption criteria are met, such operations do not need a permit, but what is being handled is still a waste and has to be handled like one in all other ways.

State statute HSC 25143.2 contains regulations that exclude qualifying recyclable materials from being classified as waste and that exempt qualifying activities from requiring hazardous waste facility permits if certain conditions are met. Exclusions are addressed in HSC 25143.2 subdivisions (b) and (d). Exemptions are addressed in HSC 25143.2 subdivision (c).

Exclusions

Subdivision (b) of HSC 25143.2 contains the following three exclusions and both RCRA and non- RCRA recyclable materials may qualify. It states that a recyclable material that is, or will be, recycled by any of the following methods shall be excluded from classification as a waste:

- Used or reused as an ingredient in an industrial process to make a product if the material is not being reclaimed;
- Used or reused as a safe and effective substitute for commercial products if the material is not being reclaimed; or
- Returned to the original process from which the material was generated, without first being reclaimed, if the material is returned as a

substitute for raw material feedstock and the process uses raw materials as principal feedstock.

Subdivision (d) of HSC 25143.2 contains six exclusions, and only non-RCRA recyclable materials may qualify. These exclusions are complex and some of them pertain solely to refineries or other businesses engaged in uncommon recycling activities. The exclusions, or portions thereof, relating to uncommon recycling activities will not be addressed in this guidance document.

Recyclable material that meets or will meet the requirements outlined in the HSC 25143.2 are excluded from classification as a waste.

Recyclable Excluded Materials are Still Hazardous Substances: Recyclable materials excluded from classification as a waste are not excluded from the definition of hazardous substances. Therefore, if a generator has quantities of excluded recyclable materials that exceed reportable quantities for hazardous materials as specified by the Hazardous Materials Management Program, the generator will have to acquire the associated permit and disclose recyclable materials as hazardous substances.

Exemptions

Subdivision (c) of HSC 25143.9 contains two exemptions. Both RCRA and non-RCRA wastes qualify. The first exemption is specific to petroleum refinery waste and is not addressed in this guidance document. The second exemption specifies conditions that have to be met.

The material must meet all of the following conditions:

- The material is recycled and used at the same facility at which the material was generated;
- The material is recycled within the applicable generator accumulation time limits; and
- The material is managed in accordance with all applicable requirements for generators of hazardous waste.

Exceptions to Exclusions and Exemptions

HSC 25143.2 subdivision (e) contains seven exceptions to the exclusions and exemptions. If a recyclable material is captured by one of the following exceptions, it will not qualify for the exclusion or exemption:

- Materials that are a RCRA hazardous waste and are used in a manner constituting disposal or are used to produce products that are applied to the land (e.g., fertilizer);
- Materials that are a non-RCRA hazardous waste and are used in a manner constituting disposal or are used to produce products that are applied to the land (e.g., fertilizer);

- Materials burned for energy recovery, used to produce a fuel, or contained in fuels (there are exemptions and exclusions);
- Materials accumulated speculatively (if greater than one year, use the less than 75 percent rule);
- Materials determined to be inherently waste-like pursuant to regulations adopted by DTSC;
- Used oil; or
- Used or spent etchants, stripping solutions, and plating solutions that are transported to an off-site facility operated by a person other than the generator and either of the following applies:
 - The etchants or solutions are no longer fit for their originally purchased or manufactured purpose, or
 - If the etchants or solutions are reused, the generator and the user cannot document that they are used for their originally purchased or manufactured purpose without prior treatment.

Record Keeping Requirements for Exclusions and Exemptions

HSC 25143.2 subdivision (f) contains the record keeping requirements that must be met as a condition to the exclusions and exemptions.

Any person who manages a recyclable material under a claim that the material qualifies for exclusion or exemption shall provide, upon request, all of the following information:

- The name, street, mailing address, and telephone number of the owner or operator of any facility that manages the material; and
- Any other information requested by the authorized agency (i.e. CUPA) related to the management by that person of the material.

Any person claiming advantage of an exclusion or an exemption shall maintain adequate records to demonstrate to the satisfaction of the requesting agency, or official, that there is a known market or disposition for the material and that the requirements of any exemption or exclusion pursuant to section HSC 25143.2 are met.

For purposes of determining that the conditions for exclusion from classification as a waste are met, any person, facility, site, or vehicle engaged in the management of a material under a claim that the local CUPA or the DTSC excludes the material from classification as a waste shall be subject to inspection.

Recyclable Materials Biennial Report

Recyclable Materials Biennial Reports (required per HSC 25143.10) are completed by businesses and public agencies that recycle more than 100 kgs per month of recyclable material under a claim that the material qualifies for an exclusion or exemption pursuant to HSC 25143.2. The directions for the Recyclable Materials Biennial Report instruct facilities that recycle at the same location at which the material was generated (on-site recyclers) and facilities that recycle materials generated at an off-site location (off-site recyclers) to complete a report. Persons who send materials to another location to be recycled, and who do not recycle materials on-site under a claim to an exclusion or exemption, need not complete a report. Off-site recyclers must complete one report for each generator from whom they receive recyclable materials. The Recyclable Materials Biennial Report must be submitted to the local CUPA every two calendar years and is due by July 1st of every even-numbered year. This form is completed as part of the HMBP CERS or the local reporting portal submittal.

Sham Recycling

Generators engaged in “sham recycling” activities do not qualify for recycling exclusions or exemptions. To determine whether legitimate recycling is occurring, rather than sham recycling, consider the following guidelines:

- If the material is only marginally effective for the claimed reuse, it is less likely to be legitimate recycling.
- If the material is similar to an analogous raw material or product, it is more likely to be legitimate recycling.
- If the material adds significant value to the final product, it is more likely to be legitimate recycling.
- If the secondary material has economic value comparable to that of the raw materials normally used, it is more likely to be legitimate recycling.

Hazardous Waste Source Reduction and Management Review Act (SB 14)

The state of California considers source reduction of wastes as the preferred method of managing hazardous wastes. In order to reduce wastes at the source, a business must look at the processes that creates the wastes and implement actions that will either cause a net reduction in the amount of hazardous waste generated or result in the generation of a waste that is less hazardous.

The term *hazardous waste minimization* includes source reduction and recycling.

Source Reduction

Hazardous waste source reduction includes any action that reduces the generation of hazardous waste. Source reduction takes place before the hazardous waste is generated and results in lower quantities of hazardous waste

or the lessening of the properties that cause it to be classified as a hazardous waste (HSC section 25244.12 - 25244.73).

Examples of Source Reduction Include: Good operating practices, good housekeeping, waste minimization training, conscientious purchasing, waste segregation, and preventive maintenance.

Changes in Technology: Equipment layout, automation, process efficiencies, and closed loop recycling.

Input Material Substitution: Utilize less toxic alternatives.

Product Material Substitution: Changes in design, composition, or specifications of end product, including product substitution.

Source Reduction Does Not Include:

- Treatment
- Storage
- Off-site disposal
- Off-site recycling

Senate Bill 14: Source Reduction Requirements

Passed in 1989, Senate Bill (SB) 14 is the first piece of legislation in the state of California to require that hazardous waste generators take a serious look at source reduction as the preferred method of managing waste. Generators covered under SB 14 are those who routinely generate more than 12,000 kgs (26,400 pounds or 13 tons) of hazardous waste or more than 12 kgs (26 pounds) of extremely hazardous waste during a reporting year at a single site. Businesses generating over 3,100 gallons of aqueous hazardous waste entering a pretreatment unit prior to sewer discharge are also included.

Source Reduction Evaluation Review and Plan: Every four years, generators are required to prepare three documents. The first is a Source Reduction Evaluation Review and Plan (Plan). The Plan must identify all major hazardous waste streams at the generator site. For each identified stream greater than 5 percent of the total waste generated, the generator must evaluate any and all potentially viable source reduction approaches and implement those the generator has determined are feasible. A timetable for implementation must be included, and a technical and management representative of the facility must certify the Plan. The Plan is intended to cover activities to be taken during the subsequent 4-year period.

At a glance, the Plan should include:

- Name and address of site;
- Description of site and business activities;

- Quantity of hazardous waste generated;
- Evaluation of source reduction options;
- Implementation schedule; and
- Certifications.

There are incentives for businesses to reduce their waste. The incentives for source reduction include:

- Reduction in the liability associated with the handling, storage, and disposal of hazardous waste;
- Reduction in hazardous waste disposal costs and hazardous materials costs;
- Reduction in employee exposures to hazardous materials and wastes; and
- Reduction in regulatory requirements.

Hazardous Waste Management Performance Report: The second document the generator has to prepare is a Hazardous Waste Management Performance Report (Report). The Report assesses the effectiveness of the hazardous waste management procedures previously implemented by the generator, including recycling and treatment activities.

At a glance, the Report should include:

- Name and address of site;
- Description of current waste management practices;
- Quantity of hazardous waste managed both on-site and off-site; and
- Assessment of implemented measures.

Both the Plan and the Report must be certified by a registered professional engineer or a person familiar with the processes that generated the waste as well as the owner (or an authorized representative responsible for the processes/operations of the site). Plans and Reports are not required to be submitted to any agency, but must be made available to agencies and the public upon request. Furthermore, CUPAs will also usually request to review generators' Plans and Reports during routine hazardous waste inspections.

Summary Progress Report: The third document the generator has to prepare is the Summary Progress Report. Unlike the Plan and the Report, this must be maintained on-site. The Summary Progress Report is done on DTSC Form 1262.

At a glance, the Summary Progress Report should include:

- Data on source reduction accomplishments; and

- Information on projected source reduction projects.

Compliance Deadlines

When generation of hazardous waste exceeds applicable thresholds during a reporting year,

SB 14 requires generators to prepare and retain the above required documents every four years following the original date of September 1, 1991. Here is an example: using the most recent reporting year, 2014, the required SB 14 documents (the Plan, the Report, and the Summary Progress Report) are to have been completed for the 2014 reporting year by September 1, 2015; the next reporting year is 2018.

Any questions regarding the SB 14 Source Reduction Program, or additional needed information, guidance manuals, or forms (e.g., DTSC Form 1262, Summary Progress Report), please contact the California program administrator:

Department of Toxic Substances Control
Office of Pollution Prevention and Green Technology
P.O. Box 806
Sacramento, CA 95812-0806
(916) 322-3670

Source Reduction Compliance Checklist Option for Small Businesses: If a business qualifies as a “small business” (as defined in the California Government Code section 11342.610) (but not necessarily a small quantity generator), the small business has the option of completing a Source Reduction Compliance Checklist (Checklist) instead of a full Plan. The Checklist is a simple, understandable way for small businesses to comply with the requirements of the source reduction law in an inexpensive, convenient manner. Checklists can be generic or industry-specific; regardless, a Checklist must contain an implementation schedule and certifications.

Exempted Hazardous Wastes: Not all hazardous wastes are subject to the source reduction requirements. Some hazardous wastes are exempt, including, but not limited to, the following:

- | | |
|-----------------------------|-------------------------|
| ▪ Automotive fluids | ▪ Lead-acid batteries |
| ▪ Household hazardous waste | ▪ Pesticides containers |
| ▪ Site cleanup waste | ▪ Asbestos |
| ▪ Lighting waste | ▪ PCBs |
| ▪ Lab-scale research waste | ▪ Medical waste |

Tiered Permitting: On-Site Hazardous Waste Treatment Program

Generators who want to treat their hazardous waste on-site (i.e., at their facility) are required to obtain the necessary permits before they begin treatment activities. The type of treatment permit required is dependent on the source, composition, concentration, and volume of the hazardous waste to be treated; it is also dependent on the treatment process to be used. Currently, the state has a five-tiered program for permitting the treatment of hazardous waste.

Hazardous Waste Treatment

Hazardous waste treatment is any method, technique, or process that changes, or is designed to change, the physical, chemical, or biological character or composition of any hazardous waste, or any material contained therein, or removes or reduces its harmful properties or characteristics for any purpose including, but not limited to, energy recovery, material recovery, or reduction in volume. Examples of treatment include the following processes:

Grinding	Crushing	Shredding	Mixing
Evaporating	Filtering	Compacting	Drying
Absorbing	Ion Exchange	Gravity Settling	Reducing
Separating	Adjusting pH	Electro-Winning	Biological Degradation

On-Site Hazardous Waste Treatment Management Requirements

Generators who want to treat their hazardous waste on-site must characterize their waste stream(s) to determine whether it is eligible for the lower tiers of DTSC's hazardous waste treatment program, meaning the generators will have to conduct hazardous waste determination and waste analysis activities in order to sufficiently characterize their hazardous waste. In addition, the generators need to determine how many hazardous waste treatment units need to be employed and under what tier the units are going to operate. Once the generators 1) adequately characterize their hazardous waste streams, 2) determine the amounts and types of treatment units required to sufficiently treat their waste, and 3) verify that one or more of the lower tiers are appropriate for their treatment activities, the generators can begin the notification process.

On-Site Hazardous Waste Treatment Notification

Generators must complete and submit a notification to the local CUPA at least 60 days before starting any on-site hazardous waste treatment activities. Depending on the number of treatment units and associated treatment tiers, the notification process can be very extensive and time consuming.

The required notification forms generators must submit to their local CUPA through CERS or local reporting portal include the following:

- On-Site Hazardous Waste Treatment Notification – Facility Page;
- On-Site Hazardous Waste Treatment Notification – Unit Page;
- On-Site Hazardous Waste Treatment – Waste and Treatment Process Combinations Page;
- Certification of Financial Assurance: The submittal of the certification of financial assurance is only required for Permit by Rule (PBR) and Conditionally Authorized (CA) on-site treaters; and
- PBR and CA tiers must submit a renewal notification annually.

General Requirements for All On-Site Treatment Units (PBR, CA, and CE)

All on-site treaters of hazardous waste must manage their waste in accordance with applicable requirements for a generator of hazardous waste. Additionally, businesses that treat hazardous waste must meet the requirements, based on treatment tier, outlined in the HSC 25200.3, 25201.5, 25201.14, and 25144.6.

Tank Management: Tanks of hazardous waste must be in good condition, labeled, and inspected daily. Storage time limits must be followed. Tanks must either have secondary containment or be subjected to integrity assessments.

Container Management: Containers of hazardous waste must be in good condition, closed, labeled, and inspected weekly. Storage time limits must be followed.

Proper Closure Activities: Upon closure of the treatment unit, the generator must remove or decontaminate any residue, equipment, or soil.

Specific Requirements for CA and PBR Treatment Units

The CA and PBR tiers allow for the treatment of larger quantities of hazardous waste with usually higher concentrations of contaminants when compared to the lower Conditional Exemption (CE) tier options. Because of the higher associated risks of treatment, these tiers have additional management requirements.

The PBR tier has the most stringent requirement management requirements outlined in 22 CCR 67450.11.

02

Hazardous Materials Business Plans

Introduction

The Hazardous Materials Business Plan (HMBP) program was established to prevent or minimize the damage to public health and safety and the environment from a release or threatened release of hazardous materials. It also satisfies community right-to-know laws. The plan requires businesses that handle hazardous materials in quantities equal to or greater than 55 gallons of a liquid, 500 pounds of a solid, 200 cubic feet of compressed gas, or extremely hazardous substances above the threshold planning quantity (40 CFR, Part 355, Appendix A) to:

- Inventory their hazardous materials;
- Develop a site map;
- Develop an emergency plan; and
- Implement a training program for employees.

Businesses must submit this information electronically to the statewide information management system (California Environmental Reporting System, CERS, or local reporting portal). Businesses should contact their local implementing agency (Certified Unified Program Agency or CUPA). Once the submittal has been made, the CUPA will verify the information and provide it to the appropriate response agencies. These agencies include:

- Fire Departments;
- Hazardous Materials Response Teams; and
- Local Environmental Regulatory Agencies.



The Public has a right to review most of this information. However, the release of confidential and trade secret information to the public is regulated by state and federal law. This satisfies community right-to-know laws and facilitates local land use decisions. For public requests of information, contact the CUPAs directly.

The federal equivalent to the HMBP is the Emergency Planning and Community Right-to-Know Act (EPCRA) 311/312 reporting requirements. Owners and operators are required to prepare and have available Safety Data Sheets (SDS) under the Federal Occupational Safety and Health Administration (OSHA) Hazard Communication Standard and must submit an inventory of their hazardous chemicals to the State Emergency Response Commission (SERC), Local Emergency Preparedness Committee (LEPC), and the local fire department annually on March 1st. This requirement is achieved through compliance with the Business Plan program. Contact the local CUPA for compliance assistance and questions.

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Hazardous Materials

California Health and Safety Code Definition (HSC), Section 25501, defines a “hazardous material” as any material that, because of its quantity, concentration, physical, or chemical characteristics poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. “Hazardous materials” include, but are not limited to, products which the manufacturer or producer is required to prepare a Safety Data Sheet (SDS), a radioactive material, a Department of Transportation (DOT) regulated hazardous material, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Common types of hazardous materials handled by businesses may include the following materials and wastes:

Petroleum Lubricating Oil	Hydraulic Oil	Cutting Oil
Used Oil	Gasoline	Diesel Fuel
Propane	Paint	Antifreeze (ethylene glycol)
Acetylene	Compressed Oxygen	Compressed Argon
Compressed Helium	Compressed Nitrogen	Compressed Carbon Dioxide
Freon	Chlorine	Ammonia

Physical Hazards Classifications of Hazardous Materials

Materials that exhibit physical hazardous are within the following categories of hazardous materials.

Blasting Agent is any material or mixture consisting of a fuel and oxidizer intended for blasting, not otherwise classified as an explosive, in which none of the ingredients are classified as explosives, provided that the finished product as mixed and packaged for use or shipment cannot be detonated by means of a Number 8 test blasting cap when unconfined. Materials or mixtures classified as nitrocarbonitrates by the DOT regulations shall be included in this definition.

Explosive is (1) a chemical that causes a sudden, almost instantaneous release of pressure, gas and heat when subjected to sudden shock, pressure, or high temperatures; or (2) any chemical other than a blasting agent, commonly used or intended to be used for the purpose of producing an explosive effect.

Flammable Gas is a gas that is flammable in a mixture of 13 percent or less (by volume) with air, or the flammable range with air is greater than 12 percent, regardless of the lower limit.

Flammable Liquid is any liquid having a flash point below 140 degrees F and having a vapor pressure not exceeding 40 psi at 100 degrees F. If the liquid is a waste and it has a flash point of 140.

Combustible Liquid is a liquid having a flash point at or above 140 degrees F and less than 200 degrees F.

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Flammable Solid is a solid substance, other than one which is defined as a blasting agent or explosive, that is (1) liable to cause fire through friction, or as a result of retained heat from manufacture, or which (2) has an ignition temperature below 212 degrees F, or which (3) burns so vigorously or persistently when ignited so as to create a serious hazard. This includes finely divided solid materials which, when dispersed in air as a cloud, may be ignited and cause an explosion.



Compressed Gas is (1) a gas or mixture of gases in a container having an absolute pressure exceeding 40 psi at 70 degrees F; or (2) a gas or mixture of gases in a container having an absolute pressure exceeding 104 psi at 130 degrees F regardless of the pressure at 70 degrees F. The term "inert gas" has been applied to some compressed gases such as nitrogen, helium, argon, and carbon dioxide. Compressed gases are to be identified by their common chemical names and/or proper chemical name.

Cryogenic Fluids are those fluids that have a normal boiling point below -150 degrees F.

Oxidizer is a chemical other than a blasting agent or explosive that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.

Pyrophoric is a chemical that will spontaneously ignite in air at a temperature of 130 degrees F or below.

Unstable (reactive) is a chemical which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shock, pressure, or temperature.

Water-Reactive Material is a material that explodes, violently reacts, produces flammable, toxic or other hazardous gases; or evolves enough heat to cause self-ignition or ignition of nearby combustibles upon exposure to water or moisture.

Health Hazards

Materials are considered to be health hazards when there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed persons. Materials that exhibit health hazardous are categorized in the categories outlined below.

Carcinogen is a material known to cause cancer. A material is considered to be a carcinogen if (1) it has been evaluated by the International Agency for Research on Cancer (IARC) and found to be a carcinogen or potential carcinogen; or (2) it is listed as a carcinogen or potential carcinogen in the latest edition of the Annual Report of Carcinogens published by the national Toxicology Program (NTP); or (3) it is regulated by OSHA as a carcinogen.

Corrosive is a chemical that causes visible destruction of, or irreversible lacerations in, living tissue or corrodes steel at a rate of 1/4 inch per year.

Etiological Agent is a microorganism, or is a toxin, which causes or may cause human disease, and is limited to those agents listed in Code of Federal Regulations (CFR) 42, part 72.3.

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Highly Toxic Materials are chemicals or substances classified as “Poison A or B” under CFR 49, or which have been assigned a health hazard rating of 3 or 4 when rated in accordance with Uniform Fire Code (UFC) Standard Number 79.3. Irritant is a substance other than a corrosive that causes a reversible inflammatory effect on living tissue by chemical action at the site of contact.

Radioactive Material is any material or combination of materials that spontaneously emits ionizing radiation.

Target Organ Toxin is a substance that causes damage (target organ effects) to particular organs or systems.

Listed Hazardous Materials

There are numerous listings of hazardous materials in the laws and regulations. Two such listings include regulated substances and extremely hazardous substances. These lists are included in Appendix X.

A list of chemical names and common names for hazardous wastes and hazardous materials is included in California Code of Regulations (CCR) Title 22, Division 4.5, Chapter 11, Article 5.

Management of Hazardous Materials

Separation of Incompatible Chemicals

California Fire Code (CFC) requires that incompatible materials be stored separately. Mixing incompatible chemicals may result in:

- Heat or pressure;
- Fire or explosion;
- Violent reaction;
- Toxic dust, mists, fumes or gases; or
- Flammable fume or gases.



Incompatible chemicals are typically separated from one another by the following methods:

- Distance – separate by a distance of not less than 20 feet
- Partition – isolate using partitions, berms, or spill pallets
- Cabinets – enclose in prefabricated structures specifically for chemical storage

Chemicals can usually be grouped into generic hazard groups, with the more common groups being flammable/combustible, acid, alkaline, oxidizer and reactive. These groups are incompatible with each other and must be stored separately. The best way to determine incompatibility of the designated chemicals is to consult the SDS. Section 1 of the SDS will identify the product name and Section 7 (Handling & Storage) will identify incompatible

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materials. Hazardous waste may be harder to categorize, as it may have undergone chemical changes in the process of becoming a waste. If the waste has not retained the same chemical properties as the material, consult the waste profile (for disposal) or a professional to help determine in what hazard group the waste belongs.

Hazardous Materials Labeling

If hazardous materials are not properly labeled they may be deemed “discarded” and subject to hazardous waste regulations (refer to section 1 for hazardous waste labeling and management requirements).

California Occupational Safety and Health Administration (Cal OSHA) regulations (8 CCR 5194) require manufacturers and importers to label containers of hazardous materials. Hazardous materials in the workplace must be labeled, tagged or marked, at a minimum with the following information:

- Identity of the hazardous chemical(s)
- Appropriate hazard warnings

HMBP Reporting Requirements Reporting Criteria

HSC section 25507 and 19 CCR section 2729.1 requires businesses that handle a hazardous material or a mixture containing a hazardous material at or above the reportable quantity (55 gallons, 500 pounds, or 200 cubic feet) at any one time during the reporting year to prepare and submit a HMBP, unless one of the following exemptions apply.

State and Local Exemptions to HMBP Reporting The following materials are exempt from reporting if certain conditions are met:

- Propane for heating, cooking, or cooling in quantities up to and including 1000 gallons
- New lubricating oils: up to 55 gallons of any specific grade of oil, not to exceed 275 gallons total combined
- Carbon dioxide for beverage carbonation: cryogenic less than or equal to 3500 cubic feet, non-cryogenic less than or equal to 6000 cubic feet
- Portable breathing air and oxygen for emergency response by government agencies (including fire)
- Medical gases (oxygen, nitrogen and nitrous oxide) in a medical office: less than or equal to 1000 cubic feet
- Gases used in Closed Fire Suppression Systems
- Nonflammable gases used in closed refrigeration systems (except anhydrous ammonia)
- Materials classified solely as an irritant or sensitizer: solids less than 5000 pounds and liquids less than 550 gallons
- Inert, compressed, refrigerated or cryogenic gases (nitrogen, helium, argon, xenon, krypton, neon and non-enriched air) classified hazardous solely for pressure release or simple asphyxiation: less than 1000 cf

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- Compressed, refrigerated or cryogenic carbon dioxide: less than 1000 cubic feet
- Refrigerant gases other than ammonia or flammable gas in a closed cooling system that are used for comfort or space cooling for computer rooms
- Oil filled electrical equipment that is not contiguous to an electrical facility if the aggregate capacity does not exceed 1,320 gallons
- Fluid in a hydraulic system if the aggregate capacity does not exceed 1,320 gallons
- Hazardous materials contained solely in consumer products for direct distribution and use by the general public. These materials are typically packaged and available to the public in a retail outlet in small packages (e.g., supermarket, nursery or hardware store).

HMBP Requirements

General Requirements

Most businesses that handle reportable quantities of hazardous materials are required by state law and regulation to prepare, submit, and implement HMBPs for emergency response to releases or threatened releases of hazardous materials. The HMBP must include the following elements:

- Business Activities;
- Business Owner/Operator;
- Chemical Inventory (only for those chemicals equaling or exceeding reporting threshold);
- Contingency & Employee Training Plan (see Appendix I for these documents); and
- Annotated Site Map (see Appendix G for site map template).

HMBPs must be prepared and submitted electronically at CalEPA's California Environmental Reporting System (CERS): <http://cers.calepa.ca.gov/>.

Chemical inventories must be updated and re-certified annually (check with CUPA for annual recertification deadlines). If there are any substantial operational changes the HMBP must be updated and re-submitted within 30 days of the changes. Following are examples which would require updating and re-submittal of the HMBP:

- 100 percent or more increase in a previously disclosed hazardous material;
- A previously undisclosed hazardous material is handled at or above the reporting threshold; or
- Facility address, business owner, or business name changes.

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Site Maps Must Include

- North Orientation
- Adjacent Streets
- Emergency Response Equipment
- Loading Areas
- Storm & Sewer Drains
- Evacuation Staging Areas
- Internal Roads
- Access & Exit Points
- Emergency Shutoffs
- Hazardous Materials Handling & Storage Areas



Hazardous Materials Updates

All sections within California Code of Regulations (CCR), Title 19, Division 2, Chapter 4, Hazardous Material Release Reporting, Inventory, and Response Plans have been renumbered. This change was necessary because Senate Bill 84 (2015) added Article 3.9 (commencing with Section 8574.30) to Government Code Title 2, Division 1, Chapter 7, Regional Railroad Accident Preparedness and Immediate Response. Cal OES is required to implement regulations under Article 3.9. Those new regulations will be added to CCR, Title 19, Division 2 as Chapter 4.1, immediately following the renumbered Chapter 4. The Chapter 4 section renumbering does not materially alter any requirement, right, responsibility, condition, prescription, or other regulatory element of any California Code of Regulations provision.

03

California Accident Release Prevention Program (CalARP)

Introduction

The California Accident Release Prevention (CalARP) program's main objective is to prevent accidental releases to ambient air of those regulated substances (RS) determined to potentially pose the greatest risk of immediate harm to the public and the environment. The planning activities required by the program are intended to minimize the possibility of an accidental release by encouraging engineering and administrative controls. It is further intended to mitigate the effects of an accidental release, by requiring owners or operators of facilities to develop and implement an accident prevention program. Subsequently, the owner or operator may be required to develop and submit a risk management plan (RMP) to the administering agency (i.e. CUPA).

The Cal-ARP program encompasses both the federal "Risk Management Program", established in the Code of Federal Regulations, Title 40, Part 68, and the State of California program, in accordance with the California Health and Safety Code, Chapter 6.95, Article 2.

The purpose of the CalARP program is to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws.

General Duty for Accidental Release Prevention

Even if the company is not required to comply with the CalARP regulation, the company has a general duty under Section 112(r)(1) of the federal Clean Air Act Amendments to prevent and mitigate the consequences of releases of extremely hazardous substances. The federal EPA retains authority for enforcement of the General Duty Clause.

GENERAL DUTY CLAUSE

Section 112(r)(1) of the CAA, the "general duty clause", requires owners and operators of stationary sources producing, processing, handling or storing extremely hazardous substances to do the following:

- Identify hazards which may result from releases using appropriate hazard assessment techniques;
- Design and maintain a safe facility taking such steps as are necessary to prevent releases; and,
- Minimize the consequences of accidental releases that do occur.

03 California Accidental Release Program (CalARP)

Selected Definitions in the CalARP Program

Administering Agency – is the local agency responsible to implement the CalARP Program. The local agency can either be a CUPA or a Participating Agency (PA), depending on where the facility is located.

Owner or operator – any person, who owns, leases, operates, controls, or supervises a stationary source.

Person – an individual, corporation, partnership, association, state, municipality, political subdivision of state, and any agency, department, or instrumentality of the United States and any officer, agency, or employee thereof.

Regulated Substance – any substance listed in California Code of Regulations, Title 19, Section 2770.5.

Risk Management Plan (RMP) – a document that must be a true and accurate reflection of a facility's compliance with all of the risk reduction elements of the CalARP program. It includes the implementation aspects of accidental release prevention program for that facility.

Stationary Source – any buildings, structures, equipment, installations, or substance emitting stationary activities which belongs to the same industrial group, which are located on one or more contiguous properties, which are under a control of the same person, and from which an accidental release may occur.

Who is Covered Under the CalARP Program?

Any owner or operator of a stationary source that has more than a threshold quantity of a regulated substance (RS) in a process would be covered under CalARP Program. (See Appendix I for the list of RS and threshold quantity limits).

What is Considered a Process?

Process means any activity involving a regulated substance including any use, storage, manufacturing, handling, or on-site movement of such substances, or combination of these activities. A process can involve one or more storage containers, tank farms, plating tanks, reactor vessels, distillation columns, receivers, pumps, waste treatment process, etc.

What to Do First?

Before developing an accidental release prevention program, do these five things:

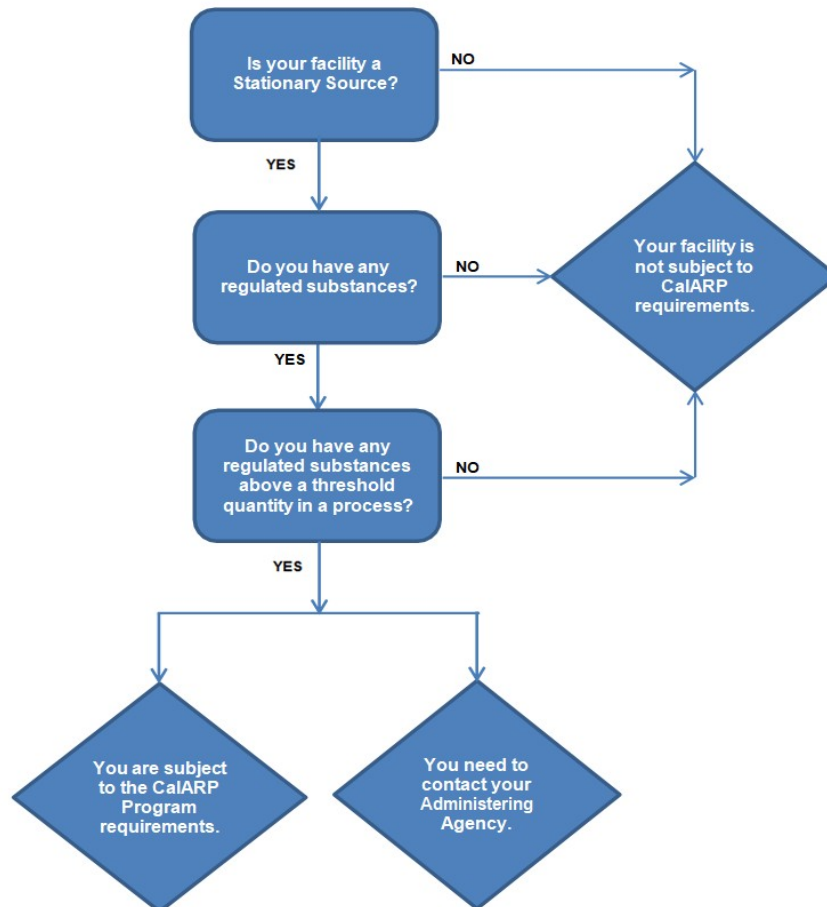
1. Determine how many of the processes are covered by this program. Only sources with a quantity of a regulated substance in excess of the threshold quantity in a process need to comply with the CalARP regulation. All the CalARP regulation applicability requirements apply only to covered processes.
2. Determine the appropriate program level for each covered process. Depending on specific characteristics of the operations and the results of the offsite consequence analysis for a worst-case release scenario, the covered process may be subject to one of three different sets of requirements.

03 California Accidental Release Program (CalARP)

3. Determine the CalARP regulatory requirements for the stationary source and each covered process. Certain requirements apply to the stationary source as a whole, while others are process specific.
4. **Assess the operations to identify current accidental release prevention activities.** Because some accidental release prevention activities are conducted in this facility (e.g., employee training, equipment maintenance, and emergency planning), the current operations should be reviewed in order to determine if this facility is already in compliance with certain provisions of the CalARP regulation. Contra Costa County Health Services (CCCHSD) does not expect employers to redo these activities if they already meet the CalARP regulation requirements.
5. **Review the regulations to develop a strategy for conducting the additional actions needed to take for each covered process. Discuss the requirements with management and staff.**

The accidental release prevention program is an integrated approach to assessing and managing risks and will involve most of the operations of covered processes. Early involvement of both management and staff will help develop an effective program.

Identifying a Covered Process



03 California Accidental Release Program (CalARP)

Once it is Determined the Process is Under Cal-ARP Program, What is the Next Step?

Owners or operators of stationary sources must disclose this information in the Business Activities portion of the HMBP.

If the RS exceeds the quantity in Table 1 or Table 2 found in Appendix X, the facility is subject to Federal ARP requirements and must submit a copy of the RMP to USEPA. In addition, the facility must provide a copy of the RMP with a completed RS registration to the administering agency.

However, if a facility has an RS that exceeds the quantity in Table 3 but less than Table 1, the facility may be required to submit an RMP along with RS registration to the administering agency. The administering agency will make a preliminary determination as to whether the handling of an RS has significant likelihood to pose an accident risk. If the administering agency finds an RMP is required, the owner or operator of a facility would work closely with administering agency to determine the appropriate level of documentation required for an RMP.

Three Program Levels

The regulations define three program levels depending upon the complexity, accident history, and potential offsite consequence of covered processes. Each process is assigned to a program level, which indicates the risk management measures necessary to comply with the regulation for that process, not the facility as a whole.

Program Level 1 covers processes that pose comparatively low risks to the public, with no public receptors within the distance to an endpoint from a worst-case release scenario. In addition, the facility must not have had a release of the RS from the process during the past five years.

Program Level 2 covers processes that do not meet the Program Level 1 and Program Level 3 requirements. The processes typically have less complex processes than program Level 3.

Program Level 3 typically covers the more complex chemical processes. The process is subject to the OSHA Process Safety Management (PSM) standard, or the stationary source has an accident history, or the process is in Standard Industrial Classification (SIC) Codes 2611, 2812, 2812, 2819, 2865, 2869, 2873, 2879, or 2911. Program Level 3 processes are primarily located at medium to large manufacturing facilities, petroleum refineries, facilities with large refrigeration systems, utilities, and publicly owned drinking water or wastewater treatment plants, refineries, facilities with large refrigeration systems, utilities, and publicly owned drinking water or wastewater treatment plants.

03 California Accidental Release Program (CalARP)

Program Level Assignment

Once the program level is identified, determine the level of documentation required. The five year accident history and the worst-case release scenario are required, regardless of the program levels of the processes. Furthermore, only one RMP needs to be submitted for all the processes. Requirements for each program level are summarized in the following table.

Program Requirements

PROGRAM I	PROGRAM II	PROGRAM III
Worst-Case Release Analysis	Worst-Case Release Analysis	Worst-Case Release Analysis
	Alternative Release Analysis	Alternative Release Analysis
5-Year Accident History	5-Year Accident History	5-Year Accident History
	Document Management System	Document Management System
PREVENTION PROGRAM		
Certify No Additional Prevention Steps Needed	Safety Information	Process Safety Information
	Hazard Review	Process Hazard Analysis
	Operating Procedures	Operating Procedures
	Training	Training
	Maintenance	Mechanical Integrity
	Incident Investigation	Incident Investigation
	Compliance Audit	Compliance Audit
		Management Of Change
		Pre-Startup Review
		Contractors
		Employee Participation
		Hot Work Permits
EMERGENCY RESPONSE PROGRAM		
Coordinate with local emergency responders	Develop plan and program (if applicable) and coordinate with local emergency responders	Develop plan and program (if applicable) and coordinate with local emergency responders

Guide on Submission Requirements

Exceed Table 1 or 2 Threshold Quantity	Exceed Table 3 Threshold Quantity	Type of Facility	Submission To	Timeframe
Yes	Yes or No	Existing	U.S. EPA and AA	RMP was due by 6/21/99.
Yes	Yes or No	New or Modified	U.S. EPA and AA	Before the threshold quantity of the chemical is in the process.
No	Yes	Updates	AA only	12-36 months after the AA determines if an RMP is required.
No	Yes	New or Modified	AA only	Before the exceeded chemical is used in the process.

See Appendix H for thresholds for specific compounds.

03 **California Accidental Release Program (CalARP)**

Components in RMPs are extensively discussed in U.S. EPA Guidance Document for Risk Management Program. The following resources are tools on how to develop and implement the RMP:

Federal Code of Regulations, Title 40, Part 68

http://www.access.gpo.gov/nara/cfr/cfrhtml_00/Title_40/40cfr68_00.html

California Health and Safety Code, Sections 25531-25543.3

California Code of Regulations, Title 19, Sections 2735.1-2785.1

U.S. EPA Guidance <https://www.epa.gov/rmp/guidance-facilities-risk-management-programs-rmp>

Governor 's Office of Emergency Services

<http://www.caloes.ca.gov/FireRescueSite/Documents/CalARP%20Guidance%20Jan2005.pdf>

04

Aboveground Petroleum Storage Act (APSA)

Aboveground Storage Tank Program

The Aboveground Storage Tank (AST) Program is regulated by the California Aboveground Petroleum Storage Act (APSA). This Act is currently enforced and administered by the CUPA to the extent provided by Chapter 6.67 and Sections 25270-25270.13 of the California Health and Safety Code. The local CUPA also has the authority to verify whether AST facilities are in compliance with the Federal Spill Prevention, Control and Countermeasure Plan requirements. This authority became effective on January 1, 2008 with the passage of AB1130 amending the APSA. Prior to the Passage of this law, the State Water Resource Control Board and the Regional Water Quality Control Board administered this program.



Aboveground Petroleum Storage Act

APSA

HSC 25270-25270.13

The APSA was enacted in 1990 and later amended on October 13, 2007, in response to petroleum spills and releases from aboveground tanks and associated piping. The APSA was enacted in direct response to the 1988 spill of 400,000 gallons from the Shell Oil Refinery in the City of Martinez. The goal of the AST program is to protect navigable waters from the damaging effects of petroleum releases by ensuring the safe operation of aboveground petroleum storage facilities. The APSA refers to federal oil pollution prevention regulations.

Facilities Subject to the AST Program

SPCC Requirements 40

CFR112

The AST Program applies to aboveground storage facilities containing petroleum subject to Spill Prevention, Control, and Countermeasure (SPCC) requirements specified in Part 112 of Title 40 of the Federal Code of Regulations.

A facility is subject to the AST program if it meets all the following criteria:

- The facility stores petroleum-based products that are liquids at 60 degrees F and 14.7 psi. Some examples include aviation and automotive fuels, lubricating oils, heating oils, and some solvents. Biofuels that contain E85, B20, and B99 are also included. The above definition of petroleum-based product does not include propane.

04 Aboveground Petroleum Storage Act (APSA)

- The cumulative aboveground storage capacity of petroleum-based products at the facility is greater than 1,320 gallons. However, only ASTs or containers of oil with a capacity of 55 gallons or greater are counted. The aboveground storage capacity of a facility does not include the capacity of containers that is designated as permanently closed, completely buried tanks or storage containers used exclusively for waste water treatment. The 1,320 gallon for SPCC threshold applies to storage capacity contained in operating equipment as well as to storage capacity in containers.
- The facility could reasonably be expected to discharge oil into or upon the navigable waters of the United States or adjoining shorelines during a release incident. The Water Board's general position is that all petroleum AST facilities in California that meet the 1,320-gallon threshold requirement have a reasonable probability of discharging into the navigable waters of the state. The U.S. EPA concurs with this determination.

AST Program Requirements

Notification

On or before January 1, 2009, and annually thereafter, owners and operators of petroleum AST facilities with a cumulative storage capacity of greater than 10,000 gallons must file a tank facility statement with the CUPA with the following information:

- Name and address of tank facility;
- Name of a designated contact person for the facility;
- The total storage capacity of the tank facility; and
- For each tank that exceeds 10,000 gallons in capacity and which holds substances containing at least five percent petroleum, the following information has to be documented:
 - Location (on facility);
 - Size (in gallons);
 - Age (in years); and
 - Contents (type of petroleum product).

Most AST facilities that are subject to the AST program must prepare and implement an SPCC Plan in accordance with the oil pollution prevention guidelines contained in Part 112 of Title 40 of the Code of Federal Regulations. These plans must include procedures, methods, and equipment at the facility to prevent discharges of petroleum from reaching navigable waters. The SPCC Plan may be self-certified for 10,000 gallons or less aggregate above ground oil storage capacity or must be professional engineer for more than 10,000 gallons aggregate aboveground oil storage capacity. Once completed, the plan must be kept at the facility.

▪

04 **Aboveground Petroleum Storage Act (APSA)**

- Petroleum ASTs Pose A Risk To California's Navigable Waters
- Got ASTs? The local AA or CUPA Must be Notified
- SPCC Plan Requirements 40 CFR 112
- Prevent Oil Spills
- AST Facilities Should Be Secured
- Most Farms are Exempt From Federal SPPC Requirements

The requirements in APSA require the completion and implementation of an SPPC for regulated facilities. The SPPC plan requirements are outlined below.

Spill Prevention, Control and Countermeasure Plan (SPCC)

The SPCC Plan Must Include:

- Name and correspondence address of the person responsible for the facility;
- Facility Location; and
- Spill Prevention Information:
 - Name and title of person accountable for spill prevention.
 - List of possible equipment failure sources and types of failures to be expected.
 - Predicted rate and direction of spill flow.
 - Spill prevention procedures developed for facility.
 - Documentation of personnel training in spill prevention, pollution control, and other pertinent training.
 - Facility drainage information
 - Procedures to remove water and rainwater without subsequent contamination by oil.
 - Drainage for assessing water quality of water released from diked areas and discharged to storm drains or watercourses, if applicable.
- Bulk Storage Tank Information:
 - Description of tank materials and design.
 - Secondary containment design.
 - Tank inspection methods and record keeping practices.

04 Aboveground Petroleum Storage Act (APSA)

- Security:
 - Facility fences, gates, and entrance ways managed to prevent unauthorized entry.
 - Locked valves and locked pump controls to prevent tampering or accidental releases.
 - Adequate lighting.

The above list is just an example of what is usually addressed in SPCC Plans. Please refer to the guidelines contained in Part 112 of Title 40 of the Code of Federal Regulations for SPCC Plan requirements applicable to your AST facility. For additional information, visit U.S. EPA Website at <http://epa.gov/oilspill/spcc.htm>.

Exemptions from APSA Requirements (May Still be Subject to SPCC)

The following do not meet the definition of an AST under the APSA:

- Boilers and Pressure vessels;
- Oil production tanks;
- Hazardous waste tanks and at DTSC permitted facilities.

The following are exempt from APSA applicability.

- Nursery & farms and logging & construction sites with:
 - Single AST capacities of less than 20,000 gallons.
 - Cumulative AST capacity of less than 1000,000 gallons.
- Most Oil Filled Electrical Equipment.

AST Program Fees

Each year, commencing in calendar year 2010, each owner or operator of a tank facility who is subject to the requirements of 25270.6 (a) shall pay a fee to the CUPA on, or before, a date specified by the CUPA (H&SC § 25270.6(b)).

For additional information, visit U.S. Environmental Protection Agency's Web site at:
www.calepa.ca.gov/CUPA/Aboveground/Fact-SheetSPCC.pdf.
<http://www.epa.gov/oilspill/spcc.htm>.

Underground Storage Tank Program

Underground Storage Tank Program

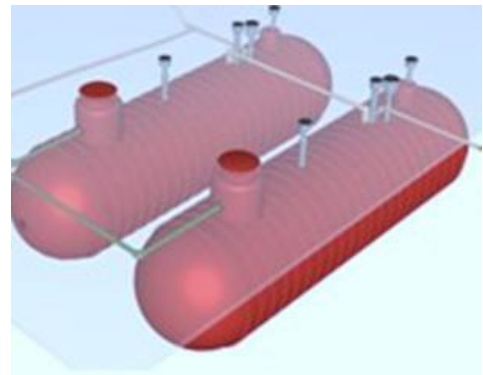
Purpose: To protect public health and safety and the environment from releases of petroleum and other hazardous substances from tanks.

“The greatest potential hazard from a leaking UST is that the petroleum or other hazardous substance can seep into the soil and contaminate groundwater, the source of drinking water for nearly half of all Americans. A leaking UST can present other health and environmental risks, including the potential for fire and explosion” (US Environmental Protection Agency).

Underground Storage Tank (UST)

“Any one or combination of tanks, including pipes connected thereto, that is used for the storage of hazardous substances and that is substantially or totally beneath the surface of the ground”

California’s Health and Safety Code, Division 20, Chapter 6.7, Section 25281(y)(2)



Regulations & Guidance Documents

The Underground Storage Tank (UST) Program was established in 1984 when the United States Congress amended the RCRA. The Code of Federal Regulations, Title 40 codified federal regulations to protect the environment and set national standards for the UST Program in Subtitle I. Federal requirements can be found on the U.S. Environmental Protection Agency’s Office of Underground Storage Tanks at the following link: <http://www.epa.gov/oust/>

The state of California has further defined the federal laws and regulations related to the UST Program. The State Water Board is the authorized state agency to implement the UST Program. Any California business that stores hazardous substances in a UST must follow the law in the [California’s Health and Safety Code, Division 20, Chapter 6.7](#), and the UST regulations in the [California Code of Regulations \(CCR\), Title 23, Division 3, Chapter 16](#). California requirements, along with guidance documents, can be found on the Water Board’s certified website at <https://www.waterboards.ca.gov/>. Check with the local Unified Program Agency (CUPA) for local ordinances that apply to UST’s. To determine which local agency implements the UST Program in your area, use the CALEPA Unified Program Directory at the following link: <http://cersapps.calepa.ca.gov/Public/Directory/>

05 **Underground Storage Tank Program**

California Environmental Reporting System (CERS)

Facilities installing new UST's do not have a legal requirement to report to CERS until hazardous materials are deposited within a UST but will need to obtain an installation permit from the CUPA (prior to beginning any installation). However, prior to authorizing the addition of hazardous materials into the UST, the CUPA may require the business to report Facility Information, Hazardous Materials Inventory, and UST submittal elements to CERS or local reporting portal.

Facilities with USTs are required to report the following submittal elements in CERS annually (by March 1st of every year unless another annual due date has been set by the CUPA):

- Facility Information (including Business Activities and Business Owner/Operator subsections);
- Hazardous Materials Inventory; and
- Emergency Response and Employee Training Plan

The Underground Tanks section and Facility Information must be reported when the UST permit is due for renewal or when any information has changed.

For additional CERS or the local reporting portal related guidance, see "UST FAQ: General Reporting Requirements for UST Sites" and "UST FAQ: Reporting Requirements for Repairs or New UST's" and "UST FAQ: Which Forms Require Uploading in CERS?" in CERS Business Portal Help:

<http://www.waterboards.ca.gov/ust/cers/faqs.shtml>

Permits and Contractor Requirements

Permits from the CUPA are required prior to installation of new UST's for transfer of ownership, for modifications or addendums to existing permits, and for temporary or permanent closure of any UST. The following is the information that should be available and provided prior to permit application (if applicable based on specific requirements):



- Completed Hazardous Materials Underground Storage Permit (HMUSP) application;
- Completed New Construction Plan Clearance/Addendum application;
- Completed Unified Program Forms BUSINESS, FACILITY, and TANK forms;
- Completed Certification of Financial Responsibility form;
- Work plan to perform enhanced leak detection or other approved method;
- Monitoring proposal/response plan;

05 Underground Storage Tank Program

- At least four sets of plans need to be submitted. Submitted plans should include the following:

Site plan to scale depicting:

- The tank(s) and fill and piping sumps;
- Type of hazardous material to be stored;
- Piping layout (product/waste, vapor recovery (gasoline), tank vent, remote fill), and dispensers (if any);
- Location of monitoring system panel, audible/visual alarms (if any); and
- Building structures, streets (and cross street), utilities, and north arrow.

A detailed parts list which includes the manufacturer name, model number, and third party approval of equipment is to be installed. The parts list should include, but not be limited to:

- Double-walled tank, size and product to be stored;
- Sumps (fill and piping);
- Phase I Enhanced Vapor Recovery equipment;
- Spill buckets;
- Drop tube;
- Overfill protection device(s);
- Double-walled piping (product, vent, vapor recovery, remote fill, flex) and sizes;
- Penetration/bullhead fittings/test boots;
- Turbine (for pressurized systems);
- Automatic Line Leak Detector (for pressurized systems);
- Under dispenser containment (UDCS);
- Monitoring panel and alarm; and
- Monitoring sensors: tank interstitial, automatic tank gage/high level alarm (if any), fill and piping sump sensors, UDC sensors, and any vapor sensors.

Detailed Drawing of Each: All primary and secondary containment equipment which is designed to hold hazardous substances (tanks, sumps, penetration fittings, piping, UDC) must be labeled as being product tight. Tank details should show the parts listed above at a minimum.

All construction must conform to the requirements of the HSC and CCR as well as local fire, building, and safety codes. When construction is completed, by the Unified Program Tank Installation form (Form C), monitoring system certification, line test results, secondary

05 **Underground Storage Tank Program**

containment testing results, and results of enhanced leak detection, or other approved method to satisfy requirements of the HSC, must be submitted to the CUPA before the UST is put into service.

Contractor Requirements

Contractors hired to install, upgrade, test, maintain, and remove UST's must possess the proper licensing, certification, and manufacturer training as applicable to the scope of work or testing performed.

Transfers of the Hazardous Materials Underground Storage Permit (HMUSP)

The CUPA must be notified within 30 days of any change in ownership or in the event of a change of operator of an underground storage tank. When a transfer of ownership occurs, the HMUSP may be transferred to the new owner by completing the Application of Transfer, submitting the applicable fee, submitting a Unified Program Facility form, submitting a Certification of Financial Responsibility, and paying applicable fees.

UST Closure by Removal, Closure In-Place, and Temporary Closure

Closure of an underground storage tank is permitted by the local AA or CUPA. Closure activities including removal of any regulated UST component, closure in-place and temporary closure of a UST, require a permit from the local CUPA and must be conducted in compliance with HSC Chapter 6.7. Section 25298, CCR Title 23, Division 3, Chapter 16 Sections 2670 through 2672, as well as any local requirements. Closure permit applications shall include at a minimum:

- Site plan to scale which shows the tanks, piping, dispensers, structures, property lines and overhead and underground utilities; and
- CERS or the local reporting portal Information (FACILITY and TANK forms).

UST Monitoring & Testing

Title 23 requires that all UST systems be equipped with a monitoring system capable of detecting a release from primary containment at the earliest possible opportunity. The system must alert the owner, operator, or employee of a potential leak or failure of the monitoring system with an audio and/or visual alarm. All monitoring system alarms must be documented, along with the appropriate follow-up action. These records must be maintained on-site and will be reviewed annually by the CUPA.

To ensure proper functioning of the system, the monitoring system, including each individual sensor, as well as the monitoring panel, is required to be tested annually by an ICC certified technician. The technician performing the test must also possess manufacturer certifications for all equipment to be tested, as well as certification for any specialized testing equipment. For more information about UST contractor certifications, licensing, and training requirements refer to the following link:

https://www.waterboards.ca.gov/ust/leak_prevention/lgs/48_5.shtml

For UST systems designed with secondary containment structures, including double-walled tanks and piping, sumps, and under-dispenser containment, secondary containment system testing is

required every three years for all secondary containment components that are not liquid-filled or under vacuum. One exception to this is spill buckets, which are required to be tested annually. Similar to the annual monitoring system certification, the secondary containment test must be conducted by an appropriately certified technician and the local CUPA must be notified 48 hours in advance.

While annual monitoring system certification and secondary containment testing are the most common types of required UST testing, additional testing may be required based on the design and the year the UST was installed. Regardless of the type of testing to be conducted, if the testing is required by Title 23 or California Health and Safety Code, the local CUPA must be notified 48 hours prior to the testing and the testing results must be reported to the CUPA within 30 days. For further information on a specific UST's testing requirements, please consult with the local CUPA.

UST Designated Operator (DO)

UST facilities are required to identify, to the local CUPA, an individual who is familiar with the UST system at that location, performs monthly inspections of the system, conducts employee training, and assists the owner and operator with compliance. This individual is known as the designated operator (DO) and must possess a current "California UST System Operator" certification issued by the ICC. In order to obtain and maintain this certification, a DO must demonstrate knowledge of the regulations through a written exam taken every 24 months.

DO requirements (Title 23 Section 2715(b)):

1. Conduct monthly inspections of the UST system. At least once every calendar month, the DO must visit the UST site, review the alarm history and any related actions, check spill buckets and under dispenser containment for liquid and debris, verify the dates of any required system tests and document the inspection on a report that is provided to the owner or operator.
2. Conduct initial and annual basic on-the-job training for facility employees to ensure their understanding of proper maintenance of the UST system. Additional training information can be found at:
https://www.waterboards.ca.gov/ust/leak_prevention/faq8.shtml

Although these are requirements of the DO, it is the UST owner/operator's responsibility to ensure these requirements are met, that all testing is performed on time, and that any alarms or system failures have been properly addressed.

The designated operator(s) used for your UST system must be disclosed in CERS, or a local reporting Portal, and kept current. A sample form to disclose your facility's designated operator is available at: <http://www.unidocs.org/hazmat/ust/misc/vn-602.pdf>

For additional information regarding DO requirements, refer to the following link:
https://www.waterboards.ca.gov/ust/training/designated_operators.shtml

Record Retention

The owner or operator is responsible for maintaining records associated with UST. Retention time for UST related documentation varies based on the type of document. Monitoring records must be kept available for review for three years, cathodic protection records for six and a half years, and

05 **Underground Storage Tank Program**

written performance claims for release detection systems and the calibration and maintenance records must be kept for five years.

Designated operator monthly inspection reports shall be retained for one year (for inspections complete prior to January 1, 2018). Records produced after January 1, 2018 are required to be maintained for three years.

Records of repairs, lining, and upgrades must be available for the remaining life of the tank system.

Electronic records are acceptable as long as the documents can be “readily assessed onsite by facility staff and CUPA inspectors.” However, hard copies are required to be kept onsite if the documents are not readily available for review through electronic means.

Recordable and Reportable Release Reporting

As specified in the California Health and Safety Code Division 20, Chapter 6.7, Sections 25294, 25295 and 25295.5, an unauthorized release must be reported to the CUPA by the owner or operator within 24 hours after the release has been detected or should have been detected. Within five days, a form titled “UST Unauthorized Release (Leak)/Contamination Site” must be completed and provided to the CUPA along with being uploaded into CERS, or the local postal under the Miscellaneous Documents section. Refer to the following link to access the aforementioned release reporting form: http://www.swrcb.ca.gov/ust/forms/docs/unauth_release.pdf

Recordable Releases: Any unauthorized release from primary containment which the UST operator is able to clean up within eight hours after the release was detected or should reasonably have been detected, and which does not escape from secondary containment, does not increase the hazard of fire or explosion, and does not cause any deterioration of secondary containment, must be recorded in the facility's monitoring records. Monitoring records must include:

- The UST operator's name and telephone number;
- A list of the types, quantities, and concentrations of hazardous substances released;
- A description of the actions taken to control and clean up the release;
- The method and location of disposal of the released hazardous substances, and whether a hazardous waste manifest was or will be used;
- A description of actions taken to repair the UST and to prevent future releases; and
- A description of the method used to reactivate interstitial monitoring after replacement or repair of primary containment.

Reportable Releases: Any overfill, spill, or unauthorized release which escapes from secondary containment (or primary containment if no secondary containment exists), increases the hazard of fire or explosion, or causes any deterioration of secondary containment, is a reportable release. Reportable releases are also recordable.

Within 24 hours after a reportable release has been detected, or should have been detected, a facility must notify the local agency administering the UST program of the release, investigate the release, and take immediate measures to stop the release.

05 **Underground Storage Tank Program**

Within five working days of a reportable release, a facility shall submit to the local agency a full written report containing all of the following information to the extent that the information is known at the time of filing the report:

- The UST owner or operator name and telephone number;
- A list of the types, quantities, and concentrations of hazardous materials released;
- The approximate date of the release;
- The date on which the release was discovered;
- The date on which the release was stopped;
- A description of actions taken to control and/or stop the release;
- A description of corrective and remedial actions, including investigations which were undertaken and will be conducted to determine the nature and extent of soil, ground water or surface water contamination due to the release;
- The method(s) of cleanup implemented to date, proposed cleanup actions, and a schedule for implementing the proposed actions;
- The method(s) and location(s) of disposal of released hazardous materials and any contaminated soils, groundwater, or surface water;
- Copies of any hazardous waste manifests used for off-site transport of hazardous wastes associated with clean-up activity;
- A description of proposed methods for any repair or replacement of UST system primary/secondary containment systems; and
- A description of additional actions taken to prevent future releases.

Inspection and Enforcement

UST require, at minimum, annual inspection by the CUPA to determine compliance with design, construction, monitoring, testing, maintenance, record-keeping, and to verify functionality of the UST leak detection system. The CUPA inspector will review and provide the results of the inspection on an inspection report to the owner or operator.

Inspectors may request access to complete visual inspections of substance components,, access to review facility records, and discussions with facility personnel including designated operators. The inspections include physical reviews of the system in addition to the review of compliance documentation. The inspections are typically completed during the annual monitoring system certifications.

Failure to comply with the laws, codes, regulations, and local ordinances applicable to UST's for your jurisdiction may result in fines, administrative enforcement orders, criminal charges, and/or red-tagging of the UST to prevent the deposit of fuel into the UST system.

Additional Resources

- Preliminary Endangerment Assessment Guidance Manual
- RWQCB Interim Site Assessment and Cleanup Guide Book
- Advisory - Active Soil Gas Investigations
- Interim Final - Guidance for the Evaluation and Migration of Subsurface Vapor Intrusion to Indoor Air
- Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846
- Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA
- DTSC Site Specific Health and Safety Plan Guidance Document
- Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities
- Superfund Exposure Assessment Manual (USEPA)
- Methodology for Characterization of Uncertainty in Exposure Assessment (USEPA)
- Community Relations in Superfund-A Handbook (USEPA)
- Ecological Assessment of Hazardous Waste Sites (USEPA)
- Technical Guidance for Hazard Analysis (USEPA)
- RCRA Groundwater Monitoring Technical Enforcement Document (USEPA)
- Protection of Water Supplies from Groundwater Contamination (USEPA)
- Handbook on In-Situ Treatment of Hazardous Waste Contaminated Soils (USEPA)
- DTSC Public Participation Manual
- California Environmental Quality Act – State Office of Planning and Research
- California Environmental Quality Act – Title 14
- DTSC California Environmental Quality Act Guidelines and Policies
- DTSC Scope of Work for Corrective Measure Implementation
- DTSC Removal Action Work plan Sample
- EPA Screening Levels for Chemical Contaminants

Hazardous Waste Tank Label

Abstract

Hazardous Waste Inspection Log

[illegible]

Appendix C

Hazardous Waste Labeling Requirements

Hazardous Waste Labeling Minimum Requirements

HAZARDOUS WASTE

STATE & FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE OR FIRE DEPARTMENT, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL.

1 **HAZARDOUS WASTE**

2 **GENERATOR INFORMATION:** NAME _____ ADDRESS _____ CITY _____ STATE _____ ZIP _____ TELEPHONE _____

3 **ACCUMULATION START DATE** _____

MANIFEST TRACKING NO. _____

EPA WASTE NO(S) _____ EPA ID NO. _____ CA WASTE NO. _____

4 **CONTENTS, COMPOSITION:** _____

5 **PHYSICAL STATE:** ☐ SOLID ☐ LIQUID ☐ GASEOUS ☐ OTHER _____

6 **HAZARDOUS PROPERTIES:** ☐ FLAMMABLE ☐ TOXIC ☐ CORROSIVE ☐ REACTIVE ☐ OTHER _____

PROPER D.O.T. SHIPPING NAME _____

UN or NA# _____

HANDLE WITH CARE!
CONTAINS HAZARDOUS OR TOXIC WASTES

COMPLETE FOR TRANSPORT COMPLETE FOR STORAGE

PRINTED BY: MESA LABEL EXPRESS, INC. POWAY, CA (858) 668-2820 FAX: (858) 668-2858 www.mesalabel.com

1. Words "Hazardous Waste" [CCR, Title 22, 66262.34(f)(3)]
2. Generator name and address [CCR, Title 22, 66262.34(f)(3)(C)]
3. Accumulation start date [CCR, Title 22, 66262.34(f)(1)]
4. Composition (contents) [CCR, Title 22, 66262.34(f)(3)(A)]
5. Physical state [CCR, Title 22, 66262.34(f)(3)(A)]
6. Hazardous properties [CCR, Title 22, 66262.34(f)(3)(B)]

*Above labeling requirements also apply to "portable" tanks (tanks designed to be moved when full).

Appendix D

Hazardous Waste Manifest

Hazardous Waste Manifest

Please print or type. (Form designed for use on elite (12-pitch) typewriter) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number		2. Page 1 of		3. Emergency Response Phone		4. Manifest Tracking Number		
5. Generator's Name and Mailing Address		Generator's Site Address (if different than mailing address)								
Generator's Phone:										
6. Transporter 1 Company Name		U.S. EPA ID Number								
7. Transporter 2 Company Name		U.S. EPA ID Number								
8. Designated Facility Name and Site Address		U.S. EPA ID Number								
Facility's Phone:										
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes			
			No.	Type						
	1.									
	2.									
	3.									
	4.									
14. Special Handling Instructions and Additional Information										
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.										
Generator's/Officer's Printed/Typed Name		Signature				Month Day Year				
TRANSPORTER INT'L	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.		Port of entry/exit: _____ Date leaving U.S.: _____							
	17. Transporter Acknowledgment of Receipt of Materials									
	Transporter 1 Printed/Typed Name		Signature				Month Day Year			
DESIGNATED FACILITY	Transporter 2 Printed/Typed Name		Signature				Month Day Year			
	18. Discrepancy									
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection									
	18b. Alternate Facility (or Generator)		Manifest Reference Number: _____ U.S. EPA ID Number: _____							
	Facility's Phone:									
18c. Signature of Alternate Facility (or Generator)		Signature				Month Day Year				
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)										
1.		2.		3.		4.				
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a										
Printed/Typed Name		Signature				Month Day Year				

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)**

Appendix D

Hazardous Waste Manifest

Instructions for Completing the Hazardous Waste Manifest

What are the instructions for completing the manifest form (EPA Form 8700-22)?

Read all instructions before completing the form.

1. **The form has been designed for use on a 12-pitch (elite) typewriter which is also compatible with standard computer printers; a firm point pen may also be used—press down hard.**
2. **Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, and disposal facilities to complete the manifest form (EPA Form 8700-22) and, if necessary, the continuation sheet (EPA Form 8700-22A) for both inter- and intrastate transportation of hazardous waste.**

I. Instructions for Generators

Item 1. Generator's U.S. EPA Identification Number

Enter the generator's U.S. EPA twelve-digit identification number, or the state generator identification number if the generator site does not have an EPA identification number.

Item 2. Page 1 of ____

Enter the total number of pages used to complete the manifest (*i.e.*, the first page (EPA Form 8700-22) plus the number of continuation sheets (EPA Form 8700-22A), if any).

Item 3. Emergency Response Phone Number

Enter a phone number for which emergency response information can be obtained in the event of an incident during transportation. The emergency response phone number must:

1. **Be the number of the generator or the number of an agency or organization who is capable of and accepts responsibility for providing detailed information about the shipment;**
2. **Reach a phone that is monitored 24 hours a day at all times the waste is in transportation (including transportation related storage); and**
3. **Reach someone who is either knowledgeable of the hazardous waste being shipped and has comprehensive emergency response and spill cleanup/incident mitigation information for the material being shipped or has immediate access to a person who has that knowledge and information about the shipment.**

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Hazardous Waste Manifest

Note: Emergency Response phone number information should only be entered in Item 3 when there is one phone number that applies to all the waste materials described in Item 9b. If a situation (*e.g.*, consolidated shipments) arises where more than one Emergency Response phone number applies to the various wastes listed on the manifest, the phone numbers associated with each specific material should be entered after its description in Item 9b.

Item 4. Manifest Tracking Number

This unique tracking number must be pre-printed on the manifest by the forms printer.

Item 5. Generator's Mailing Address, Phone Number, and Site Address

Enter the name of the generator, the mailing address to which the completed manifest signed by the designated facility should be mailed, and the generator's telephone number. Note, the telephone number (including area code) should be the normal business number for the generator, or the number where the generator or his authorized agent may be reached to provide instructions in the event the designated and/or alternate (if any) facility rejects some or all of the shipment. Also enter the physical site address from which the shipment originates only if this address is different than the mailing address.

Item 6. Transporter 1 Company Name, and U. S. EPA ID Number

Enter the company name and U.S. EPA ID number of the first transporter who will transport the waste. Vehicle or driver information may not be entered here.

Item 7. Transporter 2 Company Name and U.S. EPA ID Number

If applicable, enter the company name and U.S. EPA ID number of the second transporter who will transport the waste. Vehicle or driver information may not be entered here.

If more than two transporters are needed, use a continuation sheet(s) (EPA Form 8700-22A).

Item 8. Designated Facility Name, Site Address, and U.S. EPA ID Number

Enter the company name and site address of the facility designated to receive the waste listed on the manifest. Also enter the facility's phone number and the U.S. EPA twelve-digit identification number of the facility.

Item 9. U.S. DOT Description (Including Proper Shipping Name, Hazard Class or Division, Identification Number, and Packing Group)

Item 9a. If the wastes identified in Item 9b consist of both hazardous and non-hazardous materials, then identify the hazardous materials by entering an "X" in this Item next to the corresponding hazardous material identified in Item 9b.

Item 9b. Enter the US DOT Proper Shipping Name, Hazard Class or Division,

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Hazardous Waste Manifest

Identification Number (UN/NA) and Packing Group for each waste as identified in 49 CFR 172. Include technical name(s) and reportable quantity references, if applicable.

Note: If additional space is needed for waste descriptions, enter these additional descriptions in Item 27 on the continuation sheet (EPA Form 8700-22A). Also, if more than one Emergency Response phone number applies to the various wastes described in either Item 9b or Item 27, enter applicable Emergency Response phone numbers immediately following the shipping descriptions for those Items.

Item 10. Containers (Number and Type)

Enter the number of containers for each waste and the appropriate abbreviation from Table I (below) for the type of container.

Table I - Types of Containers

BA = Burlap, cloth, paper, or plastic bags.	DT = Dump truck.
CF = Fiber or plastic boxes, cartons, cases.	DW = Wooden drums, barrels, kegs.
CM = Metal boxes, cartons, cases (including roll-offs).	HG = Hopper or gondola cars.
CW = Wooden boxes, cartons, cases.	TC = Tank cars.
CY = Cylinders.	TP = Portable tanks.
DF = Fiberboard or plastic drums, barrels, kegs.	TT = Cargo tanks (tank trucks).
DM = Metal drums, barrels, kegs.	

Item 11. Total Quantity

Enter, in designated boxes, the total quantity of waste. Round partial units to the nearest whole unit, do not enter decimals or fractions. To the extent practical, report quantities using appropriate units of measure that will allow reporting quantities with precision. Waste quantities entered should be based on actual measurements or reasonably accurate estimates of actual quantities shipped. Container capacities are not acceptable as estimates.

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Hazardous Waste Manifest

Item 12. Units of Measure (Weight/Volume)

Enter, in designated boxes, the appropriate abbreviation from Table II (below) for the unit of measure.

Table II - Units of Measure

G = Gallons (liquids only)	N = Cubic Meters
K = Kilograms	P = Pounds
L = Liters (liquids only)	T = Tons (2000 Pounds)
M = Metric Tons (1000 Kilograms)	Y = Cubic Yards

Note: Tons, Metric Tons, Cubic Meters, and Cubic Yards should only be reported in connection with very large bulk shipments, such as rail cars, tank trucks, or barges.

Item 13. Waste Codes

Enter up to six federal and state waste codes to describe each waste stream identified in Item 9b. State waste codes that are not redundant with federal codes must be entered here in addition to the federal waste codes which are most representative of the properties of the waste.

Item 14. Special Handling Instructions and Additional Information

1. Generators may enter any special handling or shipment-specific information necessary for the proper management or tracking of the materials under the generator's or other handler's business processes, such as waste profile numbers, container codes, bar codes, or response guide numbers. Generators also may use this space to enter additional descriptive information about their shipped materials, such as chemical names, constituent percentages, physical state, or specific gravity of wastes identified with volume units in Item 12.
2. This space may be used to record limited types of federally required information for which there is no specific space provided on the manifest, including any alternate facility designations, the manifest tracking number of the original manifest for rejected wastes and residues that are re-shipped under a second manifest, and the specification of PCB waste descriptions and PCB out-of-service dates required under 40 CFR 761.207. Generators, however, cannot be required to enter information in this space to meet state regulatory requirements.

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Item 15. Generator's/Offeree's Certifications

1. The generator must read, sign, and date the waste minimization certification statement. In signing the waste minimization certification statement, those generators who have not been exempted by statute or regulation from the duty to make a waste minimization certification under section 3002(b) of RCRA are also certifying that they have complied with the waste minimization requirements. The Generator's Certification also contains the required attestation that the shipment has been properly prepared and is in proper condition for transportation (the shipper's certification). The content of the shipper's certification statement is as follows, "I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent." When a party other than the generator prepares the shipment for transportation, this party may also sign the shipper's certification statement as the offeror of the shipment.
2. Generator or offeror personnel may preprint the words, "On behalf of" in the signature block or hand write "On behalf of" in the signature block prior to signing the generator/offeror certification, to indicate that the individual signs as the employee or agent of the named principal.

Note: All of the above information—except the handwritten signature required in Item 15—may be pre-printed.

II. Instructions for International Shipment Block

Item 16. International Shipments

For export shipments, the primary exporter must check the export box and enter the point of exit (city and state) from the United States. For import shipments, the importer must check the import box and enter the point of entry (city and state) into the United States. For exports, the transporter must sign and date the manifest to indicate the day the shipment left the United States. Transporters of hazardous waste shipments must deliver a copy of the manifest to the U.S. Customs when exporting the waste across U.S. borders.

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III. Instructions for Transporters

Item 17. Transporters' Acknowledgments of Receipt

Enter the name of the person accepting the waste on behalf of the first transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt. Only one signature per transportation company is required. Signatures are not required to track the movement of wastes in and out of transfer facilities unless there is a change of custody between transporters.

If applicable, enter the name of the person accepting the waste on behalf of the second transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Note: Transporters carrying imports, who are acting as importers, may have responsibilities to enter information in the International Shipments Block. Transporters carrying exports may also have responsibilities to enter information in the International Shipments Block. See above instructions for Item 16.

IV. Instructions for Owners and Operators of Treatment, Storage, and Disposal Facilities

Item 18a. Discrepancy Indication Space

1. The authorized representative of the designated (or alternate) facility's owner or operator must note in this space any discrepancies between the waste described on the manifest and the waste actually received at the facility. Manifest discrepancies are significant differences (as defined by §§ 264.72[b] and 265.72[b]) between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity and type of hazardous waste a facility actually receives rejected wastes, which may be a full or partial shipment of hazardous waste that the TSDF cannot accept, or container residues, which are residues that exceed the quantity limits for "empty" containers set forth in 40 CFR 261.7(b).
2. For rejected loads and residues (40 CFR 264.72(d), (e), and (f), or 40 CFR 265.72(d), (e), or (f)), check the appropriate box stating that the shipment is a rejected load (*i.e.*, rejected by the designated and/or alternate facility and is sent to an alternate facility or returned to the generator) or a regulated residue that cannot be removed from a container. Enter the reason for the rejection, or the inability to remove the residue, and a description of the waste. Reference the manifest tracking number for any additional manifests being used to track the rejected waste or residue shipment on the original manifest. Indicate the original manifest tracking number in Item 14, the Special Handling Block and Additional Information Block of the additional manifests.

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Hazardous Waste Manifest

3. Owners or operators of facilities located in unauthorized states (*i.e.*, states in which the U.S. EPA administers the hazardous waste management program) who cannot resolve significant differences in quantity or type within 15 days of receiving the waste must submit to their Regional Administrator a letter with a copy of the manifest at issue describing the discrepancy and attempts to reconcile it (40 CFR 264.72(c) and 265.72(c)).
4. Owners or operators of facilities located in authorized states (*i.e.*, those states that have received authorization from the U.S. EPA to administer the hazardous waste management program) should contact their state agency for information on where to report discrepancies involving “significant differences” to state officials.

Item 18b. Alternate Facility (or Generator) for Receipt of Full Load Rejections

Enter the name, address, phone number, and EPA ID Number of the alternate facility which the rejecting TSDF has designated, after consulting with the generator, to receive a fully rejected waste shipment. In the event that a fully rejected shipment is being returned to the generator, the rejecting TSDF may enter the generator’s site information in this space. This field is not to be used to forward partially rejected loads or residue waste shipments.

Item 18c. Alternate Facility (or Generator) Signature

The authorized representative of the alternate facility (or the generator in the event of a returned shipment) must sign and date this field of the form to acknowledge receipt of the fully rejected wastes or residues identified by the initial TSDF.

Item 19. Hazardous Waste Report Management Method Codes

Enter the most appropriate Hazardous Waste Report Management Method code for each waste listed in Item 9. The Hazardous Waste Report Management Method code is to be entered by the first treatment, storage, or disposal facility (TSDF) that receives the waste and is the code that best describes the way in which the waste is to be managed when received by the TSDF.

Item 20. Designated Facility Owner or Operator Certification of Receipt (Except as Noted in Item 18a)

Enter the name of the person receiving the waste on behalf of the owner or operator of the facility. That person must acknowledge receipt or rejection of the waste described on the manifest by signing and entering the date of receipt or rejection where indicated. Since the Facility Certification acknowledges receipt of the waste except as noted in the Discrepancy Space in Item 18a, the certification should be signed for both waste receipt and waste rejection, with the rejection being noted and described in the space provided in Item 18a. Fully rejected wastes may be forwarded or returned using Item 18b after consultation with the generator. Enter the name of the person accepting the waste on behalf of the owner or operator of the alternate facility or the original generator. That person must acknowledge receipt or rejection of the waste

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Hazardous Waste Manifest

described

on the manifest by signing and entering the date they received or rejected the waste in Item 18c. Partially rejected wastes and residues must be re-shipped under a new manifest, to be initiated and signed by the rejecting TSDF as offeror of the shipment.

What are the instructions for completing the continuation sheet (EPA Form 8700-22A)?

Read all instructions before completing the form.

The form has been designed for use on a 12-pitch (elite) typewriter; a firm point pen may also be used—press down hard.

The form must be used as a continuation sheet to U.S. EPA Form 8700-22 if:

- More than two transporters are to be used to transport the waste; or
- More space is required for the U.S. DOT descriptions and related information in Item 9 of U.S. EPA Form 8700-22.

Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, or disposal facilities to use the uniform hazardous waste manifest (EPA Form 8700-22) and, if necessary, the continuation sheet (EPA Form 8700-22A) for both interstate and intrastate transportation.

I. Generators

Item 21. Generator's ID Number

Enter the generator's U.S. EPA twelve-digit identification number or the state generator ID number if the generator site does not have an EPA identification number.

Item 22. Page _____

Enter the page number of the continuation sheet.

Item 23. Manifest Tracking Number

Enter the Manifest Tracking Number from Item 4 of the manifest form to which the continuation sheet is attached.

Item 24. Generator's Name

Enter the generator's name as it appears in Item 5 on the first page of the manifest.

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Item 25. Transporter—Company Name

If additional transporters are used to transport the waste described on the manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word “Transporter” the order of the transporter. For example, Transporter 3 Company Name. Also enter the U.S. EPA twelve-digit identification number of the transporter described in Item 25.

Item 26. Transporter—Company Name

If additional transporters are used to transport the waste described on the manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word “Transporter” the order of the transporter. For example, Transporter 4 Company Name. Each continuation sheet can record the names of two additional transporters. Also enter the U.S. EPA twelve-digit identification number of the transporter named in Item 26.

Item 27. U.S. D.O.T. Description Including Proper Shipping Name, Hazardous Class, and ID Number (UN/NA)

For each row enter a sequential number under Item 27b that corresponds to the order of waste codes from one continuation sheet to the next, to reflect the total number of wastes being shipped. Refer to instructions for Item 9 of the manifest for the information to be entered.

Item 28. Containers (No. And Type)

Refer to the instructions for Item 10 of the manifest form.

Item 29. Total Quantity

Refer to the instructions for Item 11 of the manifest form.

Item 30. Units of Measure (Weight/Volume)

Refer to the instructions for Item 12 of the manifest form.

Item 31. Waste Codes

Refer to the instructions for Item 13 of the manifest form.

Item 32. Special Handling Instructions and Additional Information

Refer to the instructions for Item 14 of the manifest form.

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Hazardous Waste Manifest

II. Transporters

Item 33. Transporter—Acknowledgment of Receipt of Materials

Enter the same number of the Transporter as identified in Item 25. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in Item 25. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Item 34. Transporter—Acknowledgment of Receipt of Materials

Enter the same number of the Transporter as identified in Item 26. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in Item 26. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

III. Owner and Operators of Treatment, Storage, or Disposal Facilities

Item 35. Discrepancy Indication Space

Refer to Item 18. This space may be used to more fully describe information on discrepancies identified in Item 18a of the manifest form.

Item 36. Hazardous Waste Report Management Method Codes

For each field in Item 36, enter the sequential number that corresponds to the waste materials described under Item 27, and enter the appropriate process code that describes how the materials will be processed when received. If additional continuation sheets are attached, continue numbering the waste materials and process code fields sequentially, and enter on each sheet the process codes corresponding to the waste materials identified on that sheet.

What is the public reporting burden associated with the manifest?

Public reporting burden for this collection of information is estimated to average: 30 minutes for generators, 10 minutes for transporters, and 25 minutes for owners or operators of treatment, storage, and disposal facilities. This includes time for reviewing instructions, gathering data, completing, reviewing and transmitting the form. Any correspondence regarding the Paperwork Reduction Act burden statement for the manifest must be sent to the Director of the Collection Strategies Division in EPA's Office of Information Collection at the following address: U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW., Washington, DC 20460. Do not send the completed form to this address.

Appendix D

Supplemental Instructions

California Environmental Protection Agency

Department of Toxic Substances Control

Effective
09/05/2006

Supplemental California Manifest Instructions

Revised June 2007

Federal and State hazardous waste manifest regulations changed on **September 5, 2006**.

Detailed manifest instructions are printed on the back of the new federal manifest. These Supplemental California Instructions cover additional California requirements. Please use the instructions printed on the new manifest for item by item directions. Materials are available at www.dtsc.ca.gov (under ID numbers, Manifests, & Fees, Hazardous Waste Manifests), including fact sheets and California's manifest regulations, sample manifests, and federal instructions. For load rejections and consolidated manifesting, refer to the regulations and fact sheets.

IMPORTANT MANIFEST CHANGES - PLEASE READ AND SAVE AS A REFERENCE

The U.S. Environmental Protection Agency (EPA) revised the Uniform Hazardous Waste Manifest and requires the use of only the new version nationally after September 4, 2006. **States are no longer allowed to modify the form or the instructions.** Old versions of the California manifest, or manifests from other states, **may not be used after September 4, 2006.** The new manifest form is no longer color coded, and the new six-part form does not include a copy for generators to submit to their state, although California requires the generator to submit a copy.

Additional Information and Instruction Changes:

- **Adds** space for emergency response number;
- **Adds** Generator's site address;
- Allows up to six waste codes for each waste stream;
- **Adds** a box to indicate if waste stream is U.S. DOT regulated;
- **Adds** space for import/export information;
- **Adds** room for destination facilities to note discrepancies or if container residues exceed empty levels;
- **Adds** a new field for a manifest reference number when waste is rejected or if container residues are shipped on a new manifest;
- **Adds** a separate field for alternative facility information and signatures;
- Uses HW Report Management Codes to replace handling codes;
- **Prohibits** the use of fractions or decimal points in waste quantities in Item 10; and
- Discourages use of large quantity units in Item 11 (e.g. tons or cubic yards) when other units, i.e.

Where Do I Get Manifests?

California does not sell the new manifest forms. Forms are available only from private printers approved by EPA. EPA posts approved printers at www.epa.gov/epaoswer/hazwaste/gener/manifest/registry/index.htm.

Generators Must Submit Manifest Copies!

California requires generators and permitted transfer, treatment, storage, and disposal Facilities (Facilities) to submit manifests. The federal manifest form does not include a Generator-to-State submittal page, like the old manifest did (the blue page). Within 30 days of shipping the waste, **generators must submit a copy of each manifest to DTSC. This copy can either be a legible photocopy or the "Generator Retains" copy, if the generators receive a signed facility copy back within 30 days.** Generators may submit a copy of the "Generator Retains" copy (page 6), the top page (the most legible one - page 1), or any other page, as long as it is **legible**.

What About Submitting Manifests for Rejected Loads?

Generators should send copies of manifests they sign when **receiving** rejected waste or container residues to the Department of Toxic Substances Control's (DTSC) Facility Manifests at P.O. Box 3000. Facilities **signing** new manifests for rejected loads should submit the generator copy to DTSC Generator Manifests at P.O. Box 400. See the rejected load fact sheet on DTSC's web site.

How Are California Manifest Requirements Different from Federal?

- California requires conditionally exempt small quantity generators to use manifests and regulates more waste as hazardous.
- DTSC uses the submitted generator and facility manifest copies for cradle-to-grave tracking of waste.
- California's definition of an "empty" container is more stringent. Non-empty containers must be manifested, including bulk containers, whether the waste is federal RCRA or non-RCRA.
- Facilities in other states are required to submit copies to DTSC when waste generated in California is received out of state. Out-of-state generators sending waste to California facilities, or that will be exported through California, are encouraged to submit manifest copies.

Where Do I Mail Manifests? Same P.O. Boxes - No Change

GENERATORS SEND TO:

DTSC Generator Manifests
P.O. Box 400
Sacramento, CA 95812-0400

TSDFs/DESIGNATED FACILITIES SEND TO:

DTSC Facility Manifests
P.O. Box 3000
Sacramento, CA 95812-3000

Where Do I Find California Waste Codes?

The new manifest has six blank boxes for waste codes for each waste stream.

If the waste is RCRA regulated, at least one box must include a RCRA waste code. For waste generated in or shipped to California, a CA state waste code is also required. The additional boxes are for other states' codes when the waste is sent out of state to a state with codes, or for extra RCRA codes. California Waste Codes are printed on the reverse side of these instructions only, not on the instructions printed on the manifest. They are also found in Title 22, California Code of Regulations, Appendix XII to Chapter 11 of Division 4.5.

What are Hazardous Waste Report Management Method Codes (HWRMM Codes)?

Previously, California's manifest instructions required Designated Facilities to use one of 10 handling codes to report how the waste was handled at that facility. The new manifest uses 28 Management Method Codes. These are the same codes used in Biennial Reports. One of the HWRMM codes shown on the other side must be added on the manifest by the **Facilities only**. **Generators and transporters do not add these codes.**

Contact Information:

First, visit the DTSC web page at www.dtsc.ca.gov/IDManifest for training information and review the basic instructions printed on the manifest. This document includes Supplemental Instructions only for use in California. For more information, contact your transporter or facility, or call DTSC's Regulatory Assistance Officer at 800-72-TOXIC.

Appendix D

Supplemental Instructions

CALIFORNIA WASTE CODES

California Restricted Wastes – Use First , if applicable	
711	Liquids with cyanides > 1000 mg/l
721	Liquids with arsenic > 500 mg/l
722	Liquids with cadmium > 100 mg/l
723	Liquids with chromium (VI) > 500 mg/l
724	Liquids with lead > 500 mg/l
725	Liquids with mercury > 20 mg/l
726	Liquids with nickel > 134 mg/l
727	Liquids with selenium > 100 mg/l
728	Liquids with thallium > 130 mg/l
731	Liquids with polychlorinated biphenyls > 50 mg/l
741	Liquids with halogenated organic compounds > 1000 mg/l
751	Solids or sludge with halogenated organic comp. > 1000 mg/kg
791	Liquids with pH < 2
792	Liquids with pH < 2 with metals
801	Waste potentially containing dioxins
CALIFORNIA NON-RESTRICTED WASTES	
Inorganics	
121	Alkaline solution (pH ≥12.5) with metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc)
122	Alkaline solution without metals (pH > 12.5)
123	Unspecified alkaline solution
131	Aqueous solution (2 < pH < 12.5) containing reactive anions (azide, bromate, chlorate, cyanide, fluoride, hypochlorite, nitrite, perchlorate, and sulfide anions)
132	Aqueous solution w/metals (< restricted levels and see waste code 121 for a list of metals)
133	Aqueous solution with 10% or more total organic residues
134	Aqueous solution with <10% total organic residues
135	Unspecified aqueous solution
141	Off-specification, aged, or surplus inorganics
151	Asbestos-containing waste
161	Fluid-cracking catalyst (FCC) waste
162	Other spent catalyst
171	Metal sludge (see 121)
172	Metal dust (see 121) and machining waste
181	Other inorganic solid waste
Organics	
211	Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
212	Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)
213	Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)
214	Unspecified solvent mixture
221	Waste oil and mixed oil
222	Oil/water separation sludge
223	Unspecified oil-containing waste
231	Pesticide rinse water
232	Pesticides and other waste associated with pesticide production
241	Tank bottom waste
251	Still bottoms with halogenated organics
252	Other still bottom waste
261	Polychlorinated biphenyls and material containing PCB's
271	Organic monomer waste (includes unreacted resins)
272	Polymeric resin waste
281	Adhesives
291	Latex waste
311	Pharmaceutical waste
321	Sewage sludge
322	Biological waste other than sewage sludge
331	Off-specification, aged, or surplus organics
341	Organic liquids (nonsolvents) with halogens
342	Organic liquids with metals (see 121)
343	Unspecified organic liquid mixture
351	Organic solids with halogens
352	Other organic solids

Sludge	
411	Alum and gypsum sludge
421	Lime sludge
431	Phosphate sludge
441	Sulfur sludge
451	Degreasing sludge
461	Paint sludge
471	Paper sludge/pulp
481	Tetraethyl lead sludge
491	Unspecified sludge waste
Miscellaneous	
511	Empty pesticide containers 30 gallons or more
512	Other empty containers 30 gallons or more
513	Empty containers less than 30 gallons
521	Drilling mud
531	Chemical toilet waste
541	Photochemicals/photo processing waste
551	Laboratory waste chemicals
561	Detergent and soap
571	Fly ash, bottom ash, and retort ash
581	Gas scrubber waste
591	Baghouse waste
611	Contaminated soil from site clean-ups
612	Household waste
613	Auto shredder waste
614	Treated wood waste (new in 2007)
HW REPORT MANAGEMENT METHOD CODES	
New Codes	Descriptions
H010	Metals recovery including retorting, smelting, chemicals, etc.
H020	Solvents recovery
H039	Other recovery or reclamation for reuse including acid regeneration, organics recovery, etc.
H050	Energy recovery at this site -- use as fuel (includes on-site fuel blending)
H061	Fuel blending prior to energy recovery at another site
H040	Incineration--thermal destruction other than use as a fuel
H071	Chemical reduction with or without precipitation
H073	Cyanide destruction with or without precipitation
H075	Chemical oxidation
H076	Wet air oxidation
H077	Other chemical precipitation with or without pre-treatment
H081	Biological treatment with or without precipitation
H082	Adsorption
H083	Air or steam stripping
H101	Sludge treatment and/or dewatering
H103	Absorption
H111	Stabilization or chemical fixation prior to disposal at another site
H112	Macro-encapsulation prior to disposal at another site
H121	Neutralization only
H122	Evaporation
H123	Settling or clarification
H124	Phase separation
H129	Other treatment
H131	Land treatment or application (to include on-site treatment and/or stabilization)
H132	Landfill or surface impoundment that will be closed as landfill (to include on-site treatment and/or stabilization)
H134	Deepwell or underground injection (with or without treatment)
H135	Discharge to sewer/POTW or NPDES (with prior storage--with or without treatment)
H141	Storage, bulking, and/or transfer off site--no treatment/recovery (H010-H129), fuel blending (H061), or disposal (H131-H135) at this site

Appendix E

Training Record

Training Record

Employee Name: _____

Job Title: _____ Start Date: _____ Transfer Date: _____ Termination Date: _____

[illegible]

**Purpose
of This
Form**

This form has been designed to assist hazardous waste generators in documenting the training of persons handling hazardous waste as required by 22 CCR, Sections 66262.34(a)(3) and 66262.34(d)(2). The reverse side of this form may be used to address other training (e.g., OSHA-mandated Right-to-Know training, etc.) laws or regulations require you to provide to facility personnel.

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Training Record

Employee Name: _____

Job Title: _____ Start Date: _____ Transfer Date: _____ Termination Date: _____

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Appendix F

Emergency Procedures - SQG-ER Contact Sheet

EMERGENCY PROCEDURES

Post near telephones and as appropriate

In case of a fire, spill, or other emergency involving hazardous chemicals or wastes, do the following:

Major Emergency

- ::::> Evacuate the affected areas per the facility Evacuation Plan
- ::::> Call 911 and report the emergency
- ::::> Report the emergency to the facility Emergency Coordinator

Minor Emergency

- ::::> Try to control the emergency if you are trained to do so and can do it safely
- ::::> Report the emergency to the facility Emergency Coordinator

Facility Emergency Coordinators

	Name	Work Phone	24 Hour Phone
Primary EC:	_____	_____	_____
1st Alternate EC:	_____	_____	_____
2nd Alternate EC:	_____	_____	_____
3rd Alternate EC:	_____	_____	_____

Emergency Agencies

Agency	Phone No.
Fire Dept., Ambulance, Police	911
Governor's Office of Emergency Services	(800) 852-7550
	()

Emergency Equipment

Locations of fire extinguishers, fire alarms (if any), and equipment for controlling chemical spills are shown on the facility site plan posted with this notice.

This document is only a summary of emergency procedures. Refer to this facility's written emergency response plan for detailed procedures.

Appendix G

Annotated Site Map

Unified Program (CUPA) Agency
CONSOLIDATED CONTINGENCY PLAN
SECTION I and SECTION II: SITE MAP

SITE MAP

A site plan and storage map must be included with your Contingency Plan. For relatively small facilities, these documents may be combined into one drawing. Since these drawings are intended for use in emergency response situations, larger facilities (*generally those with complex and/or multiple buildings*) should provide an overall site plan and a separate storage map for each building/storage area. A blank Facility Site Map has been provided on the reverse side of this page. You may complete that page or attach any other drawing(s) which contain(s) the information required below.

Please utilize the standard and hazardous materials map symbols attached that apply to your facility.

1. **Site Plan:** This drawing shall contain, at a minimum, the following information:
 - a. Site Orientation (north, south, etc.);
 - b. Approximate scale (*e.g. "1 inch = 10 feet".*);
 - c. Date the map was drawn;
 - d. Locations of all buildings and other structures;
 - e. Parking lots and internal roads;
 - f. Hazardous materials loading/unloading areas;
 - g. Outside hazardous materials storage or use areas;
 - h. Storm drain and sanitary sewer drain inlets;
 - i. Wells for monitoring of underground tank systems;
 - j. Primary and alternate evacuation routes, emergency exits, and primary and alternate staging areas;
 - k. Adjacent property use;
 - l. Locations and names of adjacent streets and alleys;
 - m. Access and egress points and roads.
2. **Storage Map(s):** The map(s) shall contain, at a minimum, the following information:
 - a. General purpose of each section/area within each building (*e.g. "Office Area", "Manufacturing Area", etc.*);
 - b. Location of each hazardous material/waste storage, dispensing, use, or handling area (*e.g. individual underground tanks, aboveground tanks, storage rooms, paint booths, etc.*). Each area shall be identified by a unique location code number, letter, or name (*e.g. "1", "2", "3"; "A", "B", "C", etc.*);
 - c. Entrances to and exits from each building and hazardous material/waste room/area;
 - d. Location of each utility emergency shut-off point (*i.e. gas, water, electric.*);
 - e. Location of each monitoring system control panel (*e.g. underground tank monitoring, toxic gas monitoring, etc.*).

3. Map Legend

[illegible]

Appendix H

Cal ARP Chemical List

CalARP Program Combined¹ List of Chemicals and Threshold Quantities (TQ)

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2 ² TQs in (lbs)	Table 3 TQs in (lbs)
Acetaldehyde	75-07-0		10,000	
Acetone cyanohydrin ³	75-86-5			1,000
Acetone thiosemicarbazide	1752-30-3			1,000/10,000 ⁴
Acetylene [Ethyne]	74-86-2		10,000	
Acrolein [2-Propenal]	107-02-8	5,000		500
Acrylamide	79-06-1			1,000/10,000 ⁴
Acrylonitrile [2-Propenenitrile]	107-13-1	20,000		10,000
Acrylyl chloride [2-Propenoyl chloride]	814-68-6	5,000		100
Aldicarb	116-06-3			100/10,000 ⁴
Aldrin	309-00-2			500/10,000 ⁴
Allyl alcohol [2-Propen-1-ol]	107-18-6	15,000		1,000
Allylamine [2-Propen-1-amine]	107-11-9	10,000		500
Aluminum phosphide ⁵	20859-73-8			500
Aminopterin	54-62-6			500/10,000 ⁴
Amiton oxalate	3734-97-2			100/10,000 ⁴
Ammonia (conc 1% or greater) ⁶	7664-41-7			500
Ammonia (anhydrous) ⁶	7664-41-7	10,000		500
Ammonia (conc 20% or greater) ⁶	7664-41-7	20,000		
Ammonium hydroxide (ammonia conc 1% or greater) ⁶	1336-21-6			500
Ammonium hydroxide (ammonia conc 20% or greater) ⁶	1336-21-6	20,000		
Aniline ³	62-53-3			1,000
Antimycin A	1397-94-0			1,000/10,000 ⁴
ANTU	86-88-4			500/10,000 ⁴
Arsenic pentoxide	1303-28-2			100/10,000 ⁴
Arsenous oxide	1327-53-3			100/10,000 ⁴
Arsenous trichloride	7784-34-1	15,000		500
Arsine	7784-42-1	1,000		100
Azinphos-ethyl	2642-71-9			100/10,000 ⁴
Azinphos-methyl	86-50-0			10/10,000 ⁴
Benzene, 1-(chloromethyl)-4-nitro-	100-14-1			500/10,000 ⁴
Benzeneearsonic acid	98-05-5			10/10,000 ⁴
Benzimidazole, 4,5-dichloro-2-(trifluoromethyl)-	3615-21-2			500/10,000 ⁴
Benzotrithloride ³	98-07-7			100
Bicyclo[2.2.1] heptane-2-carbonitrile, 5-chloro- 6-(((methylamino) carbonyl)oxy)lmino)-, (1s-(1-alpha, 2-beta, 4-alpha, 5-alpha, 6E))-.	15271-41-7			500/10,000 ⁴
Bis(Chloromethyl) ketone	534-07-6			10/10,000 ⁴
Bitoscanate	4044-65-9			500/10,000 ⁴
Boron trichloride [Borane, trichloro-]	10294-34-5	5,000		500
Boron trifluoride [Borane, trifluoro-]	7637-07-2	5,000		500
Boron trifluoride compound with methyl ether (1:1) [Boron, trifluoro [oxybis[metane]]]-, T-4-	353-42-4	15,000		1,000
Bromadiolone	28772-56-7			100/10,000 ⁴
Bromine	7726-95-6	10,000		500
Bromotrifluorethylene [Ethene, bromotrifluoro-]	598-73-2		10,000	
1,3-Butadiene	106-99-0		10,000	
Butane	106-97-8		10,000	
1-Butene	106-98-9		10,000	
2-Butene	107-01-7		10,000	
Butene	25167-67-3		10,000	

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Cal ARP Chemical List

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2 ² TQs in (lbs)	Table 3 TQs in (lbs)
2-Butene-cis	590-18-1		10,000	
2-Butene-trans [2-Butene, (E)]	624-64-6		10,000	
Cadmium oxide	1306-19-0			100/10,000 ⁴
Cadmium stearate	2223-93-0			1,000/10,000 ⁴
Calcium arsenate	7778-44-1			500/10,000 ⁴
Camphechlor	8001-35-2			500/10,000 ⁴
Cantharidin	56-25-7			100/10,000 ⁴
Carbachol chloride	51-83-2			500/10,000 ⁴
Carbamic acid, methyl-,o-(((2,4-dimethyl-1,3-dithiolan-2-yl)methylene)amino)-.	26419-73-8			100/10,000 ⁴
Carbofuran	1563-66-2			10/10,000 ⁴
Carbon disulfide	75-15-0	20,000		10,000
Carbon oxysulfide [Carbon oxide sulfide (COS)]	463-58-1		10,000	
Chlorine	7782-50-5	2,500		100
Chlorine dioxide [Chlorine oxide (ClO ₂)]	10049-04-4	1,000		
Chlorine monoxide [Chlorine oxide]	7791-21-1		10,000	
Chlormequat chloride	999-81-5			100/10,000 ⁴
Chloroacetic acid	79-11-8			100/10,000 ⁴
Chloroform [Methane, trichloro-]	67-66-3	20,000		10,000
Chloromethyl ether [Methane, oxybis[chloro-]]	542-88-1	1,000		100
Chloromethyl methyl ether [Methane, chloromethoxy-]	107-30-2	5,000		100
Chlorophacinone	3691-35-8			100/10,000 ⁴
1-Chloropropylene [1-Propene, 1-chloro-]	590-21-6		10,000	
2-Chloropropylene [1-Propene, 2-chloro-]	557-98-2		10,000	
Chloroxuron	1982-47-4			500/10,000 ⁴
Chromic chloride	10025-73-7			1/10,000 ⁴
Cobalt carbonyl	10210-68-1			10/10,000 ⁴
Cobalt, ((2,2'-(1,2-ethanediyldis (nitrilomethylidyne)) bis(6-fluorophenolato))(2-)-N,N',O,O')-.	62207-76-5			100/10,000 ⁴
Colchicine	64-86-8			10/10,000 ⁴
Coumaphos	56-72-4			100/10,000 ⁴
Coumatetralyl	5836-29-3			500/10,000 ⁴
Cresol, o-	95-48-7			1,000/10,000 ⁴
Crimidine	535-89-7			100/10,000 ⁴
Crotonaldehyde [2-Butenal]	4170-30-3	20,000		1,000
Crotonaldehyde, (E)- [2-Butenal, (E)-]	123-73-9	20,000		1,000
Cyanogen bromide	506-68-3			500/10,000 ⁴
Cyanogen iodide	506-78-5			1,000/10,000 ⁴
Cyanogen [Ethanedinitrile]	460-19-5		10,000	
Cyanogen chloride	506-77-4	10,000		
Cyanuric fluoride	675-14-9			100
Cycloheximide	66-81-9			100/10,000 ⁴
Cyclohexylamine [Cyclohexanamine]	108-91-8	15,000		10,000
Cyclopropane	75-19-4		10,000	
Decaborane(14)	17702-41-9			500/10,000 ⁴
Dialifor	10311-84-9			100/10,000 ⁴
Diborane	19287-45-7	2,500		100
Dichlorosilane [Silane, dichloro-]	4109-96-0		10,000	
Diepoxybutane ³	1464-53-5			500
Difluoroethane [Ethane, 1,1-difluoro-]	75-37-6		10,000	
Digitoxin	71-63-6			100/10,000 ⁴
Digoxin	20830-75-5			10/10,000 ⁴
Dimethoate	60-51-5			500/10,000 ⁴
Dimethylamine [Methanamine, N-methyl-]	124-40-3		10,000	
Dimethyldichlorosilane [Silane, dichlorodimethyl-]	75-78-5	5,000		500

Appendix H
Cal ARP Chemical List

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2 ² TQs in (lbs)	Table 3 TQs in (lbs)
1,1-Dimethylhydrazine [Hydrazine,1,1-dimethyl-]	57-14-7	15,000		1,000
Dimethyl-p-phenylenediamine	99-98-9			10/10,000 ⁴
Dimethyl sulfate ³	77-78-1			500
2,2-Dimethylpropane [Propane, 2,2-dimethyl-]	463-82-1		10,000	
Dimetilan	644-64-4			500/10,000 ⁴
Dinitroresol	534-52-1			10/10,000 ⁴
Dinoseb	88-85-7			100/10,000 ⁴
Dinoterb	1420-07-1			500/10,000 ⁴
Diphacinone	82-66-6			10/10,000 ⁴
Disulfoton ³	298-04-4			500
Dithiazanine iodide	514-73-8			500/10,000 ⁴
Dithiobiuret	541-53-7			100/10,000 ⁴
Emetine, dihydrochloride	316-42-7			1/10,000 ⁴
Endosulfan	115-29-7			10/10,000 ⁴
Endothion	2778-04-3			500/10,000 ⁴
Endrin	72-20-8			500/10,000 ⁴
Epichlorohydrin [Oxirane, (chloromethyl)-]	106-89-8	20,000		1,000
EPN	2104-64-5			100/10,000 ⁴
Ergocalciferol	50-14-6			1,000/10,000 ⁴
Ergotamine tartrate	379-79-3			500/10,000 ⁴
Ethane	74-84-0		10,000	
Ethyl acetylene [1-Butyne]	107-00-6		10,000	
Ethylamine [Ethanamine]	75-04-7		10,000	
Ethyl chloride [Ethane, chloro-]	75-00-3		10,000	
Ethylene [Ethene]	74-85-1		10,000	
Ethylenediamine [1,2-Ethanediamine]	107-15-3	20,000		10,000
Ethylene fluorohydrin	371-62-0			10
Ethyleneimine [Aziridine]	151-56-4	10,000		500
Ethylene oxide [Oxirane]	75-21-8	10,000		1,000
Ethyl ether [Ethane, 1,1'-oxybis-]	60-29-7		10,000	
Ethyl mercaptan [Ethanethiol]	75-08-1		10,000	
Ethyl nitrite [Nitrous acid, ethyl ester]	109-95-5		10,000	
Fenamiphos	22224-92-6			10/10,000 ⁴
Fluometil	4301-50-2			100/10,000 ⁴
Fluorine	7782-41-4	1,000		500
Fluoroacetamide	640-19-7			100/10,000 ⁴
Fluoroacetic acid	144-49-0			10/10,000 ⁴
Fluoroacetyl chloride	359-06-8			10
Fluorouracil	51-21-8			500/10,000 ⁴
Formaldehyde (including solutions) ⁶	50-00-0	15,000		500
Formetanate hydrochloride	23422-53-9			500/10,000 ⁴
Formparanate	17702-57-7			100/10,000 ⁴
Fuberidazole	3878-19-1			100/10,000 ⁴
Furan	110-00-9	5,000		500
Gallium trichloride	13450-90-3			500/10,000 ⁴
Hydrazine	302-01-2	15,000		1,000
Hydrochloric acid (conc 37% or greater)	7647-01-0	15,000		
Hydrocyanic acid	74-90-8	2,500		100
Hydrogen chloride (gas / anhydrous)	7647-01-0	5,000		500
Hydrogen fluoride	7664-39-3	1,000		100
Hydrofluoric acid (conc 1% or greater) ⁶	7664-39-3			100
Hydrofluoric acid (conc 50% or greater)	7664-39-3	1,000		
Hydrogen selenide	7783-07-5	500		10
Hydrogen	1333-74-0		10,000	

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Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2 ² TQs in (lbs)	Table 3 TQs in (lbs)
Hydrogen sulfide	7783-06-4	10,000		500
Hydroquinone ⁷	123-31-9			500/10,000 ⁴
Iron, pentacarbonyl- [Iron carbonyl (Fe(CO) ₅), (TB-5-11)-]	13463-40-6	2,500		100
Isobenzan	297-78-9			100/10,000 ⁴
Isobutane [Propane, 2-methyl]	75-28-5		10,000	
Isobutyronitrile [Propanenitrile, 2-methyl-]	78-82-0	20,000		1,000
Isocyanic acid, 3,4-dichlorophenyl ester	102-36-3			500/10,000 ⁴
Isodrin	465-73-6			100/10,000 ⁴
Isopentane [Butane, 2-methyl-]	78-78-4		10,000	
Isophorone diisocyanate	4098-71-9			100
Isoprene [1,3-Butadiene, 2-methyl-]	78-79-5		10,000	
Isopropylamine [2-Propanamine]	75-31-0		10,000	
Isopropyl chloride [Propane, 2-chloro-]	75-29-6		10,000	
Isopropyl chloroformate [Carbonochloridic acid, 1-methylethyl ester]	108-23-6	15,000		1,000
Leptophos	21609-90-5			500/10,000 ⁴
Lewisite ⁵	541-25-3			10
Lindane	58-89-9			1,000/10,000 ⁴
Lithium hydride ⁵	7580-67-8			100
Malononitrile	109-77-3			500/10,000 ⁴
Manganese, tricarbonyl methylcyclopentadienyl ³	12108-13-3			100
Mechlorethamine ³	51-75-2			10
Mercuric acetate	1600-27-7			500/10,000 ⁴
Mercuric chloride	7487-94-7			500/10,000 ⁴
Mercuric oxide	21908-53-2			500/10,000 ⁴
Methacrylonitrile [2-Propenenitrile, 2-methyl-]	126-98-7	10,000		500
Methacryloyl chloride	920-46-7			100
Methacryloyloxyethyl isocyanate	30674-80-7			100
Methamidophos	10265-92-6			100/10,000 ⁴
Methane	74-82-8		10,000	
Methanesulfonyl fluoride	558-25-8			1,000
Methidathion	950-37-8			500/10,000 ⁴
Methiocarb	2032-65-7			500/10,000 ⁴
Methomyl	16752-77-5			500/10,000 ⁴
Methoxyethylmercuric acetate	151-38-2			500/10,000 ⁴
Methylamine [Methanamine]	74-89-5		10,000	
Methyl bromide	74-83-9			1,000
2-Methyl-1-butene	563-46-2		10,000	
3-Methyl-1-butene	563-45-1		10,000	
Methyl chloride [Methane, chloro-]	74-87-3	10,000		
Methyl 2-chloroacrylate	80-63-7			500
Methyl chloroformate [Carbonochloridic acid, methylester]	79-22-1	5,000		500
Methyl ether [Methane, oxybis-]	115-10-6		10,000	
Methyl formate [Formic acid, methyl ester]	107-31-3		10,000	
Methyl hydrazine [Hydrazine, methyl-]	60-34-4	15,000		500
Methyl isocyanate [Methane, isocyanato-]	624-83-9	10,000		500
Methyl isothiocyanate ⁵	556-61-6			500
Methyl mercaptan [Methanethiol]	74-93-1	10,000		500
Methylmercuric Dicyanamide	502-39-6			500/10,000 ⁴
Methyl phosphonic dichloride ⁵	676-97-1			100
2-Methylpropene [1-Propene, 2-methyl-]	115-11-7		10,000	
Methyl thiocyanate [Thiocyanic acid, methyl ester]	556-64-9	20,000		10,000
Methyltrichlorosilane [Silane, trichloromethyl-]	75-79-6	5,000		500
Methyl vinyl ketone	78-94-4			10
Metolcarb	1129-41-5			100/10,000 ⁴

Appendix H
Cal ARP Chemical List

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2 ² TQs in (lbs)	Table 3 TQs in (lbs)
Mexacarbate	315-18-4			500/10,000 ⁴
Mitomycin C	50-07-7			500/10,000 ⁴
Monocrotophos	6923-22-4			10/10,000 ⁴
Muscimol	2763-96-4			500/10,000 ⁴
Mustard gas ³	505-60-2			500
Nickel carbonyl	13463-39-3	1,000		1
Nicotine sulfate	65-30-5			100/10,000 ⁴
Nitric acid ¹ (conc 1% or greater)	7697-37-2			1,000
Nitric acid (conc 80% or greater)	7697-37-2	15,000		
Nitric oxide [Nitrogen oxide (NO)]	10102-43-9	10,000		100
Nitrobenzene ³	98-95-3			10,000
Nitrogen dioxide	10102-44-0			100
Norbormide	991-42-4			100/10,000 ⁴
Oleum (Fuming H ₂ SO ₄) [Sulfuric acid, mixture with SO ₃] ³	8014-95-7	10,000		
Organorhodium complex (PMN-82-147)	MIXTURE			10/10,000 ⁴
Ouabain	630-60-4			100/10,000 ⁴
Oxamyl	23135-22-0			100/10,000 ⁴
Ozone	10028-15-6			100
Paraquat dichloride	1910-42-5			10/10,000 ⁴
Paraquat methosulfate	2074-50-2			10/10,000 ⁴
Parathion-methyl	298-00-0			100/10,000 ⁴
Paris Green	12002-03-8			500/10,000 ⁴
Pentaborane	19624-22-7			500
Pentadecylamine	2570-26-5			100/10,000 ⁴
1,3-Pentadinene	504-60-9		10,000	
Pentane	109-66-0		10,000	
1-Pentene	109-67-1		10,000	
2-Pentene, (E)-	646-04-8		10,000	
2-Pentene, (Z)-	627-20-3		10,000	
Peracetic acid [Ethaneperoxoic acid]	79-21-0	10,000		500
Perchloromethylmercaptan [Methanesulfonyl chloride, trichloro-]	594-42-3	10,000		500
Phenol	108-95-2			500/10,000 ⁴
Phenol, 2,2'-thiobis(4-chloro-6-methyl)-	4418-66-0			100/10,000 ⁴
Phenol, 3-(1-methylethyl)-, methylcarbamate	64-00-6			500/10,000 ⁴
Phenoxarsine, 10, 10' - oxydi-	58-36-6			500/10,000 ⁴
Phenyl dichloroarsine ³	696-28-6			500
Phenylhydrazine hydrochloride	59-88-1			1,000/10,000 ⁴
Phenylmercury acetate	62-38-4			500/10,000 ⁴
Phenylsilatrane	2097-19-0			100/10,000 ⁴
Phenylthiourea	103-85-5			100/10,000 ⁴
Phorate ³	298-02-2			10
Phosacetim	4104-14-7			100/10,000 ⁴
Phosfolan	947-02-4			100/10,000 ⁴
Phosgene [Carbonic dichloride]	75-44-5	500		10
Phosmet	732-11-6			10/10,000 ⁴
Phosphine	7803-51-2	5,000		500
Phosphonothioic acid, methyl-, S-(2-(bis(1-methylethyl)amino)ethyl) O-ethyl ester. ³	50782-69-9			100
Phosphorus ⁵	7723-14-0			100
Phosphorus oxychloride [Phosphoryl chloride]	10025-87-3	5,000		500
Phosphorus pentachloride ⁵	10026-13-8			500
Phosphorus trichloride [Phosphorous trichloride]	7719-12-2	15,000		1,000
Physostigmine	57-47-6			100/10,000 ⁴
Physostigmine, salicylate (1:1)	57-64-7			100/10,000 ⁴

Appendix H
Cal ARP Chemical List

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2 ² TQs in (lbs)	Table 3 TQs in (lbs)
Picrotoxin	124-87-8			500/10,000 ⁴
Piperidine	110-89-4	15,000		1,000
Potassium arsenite	10124-50-2			500/10,000 ⁴
Potassium cyanide ⁵	151-50-8			100
Potassium silver cyanide ⁵	506-61-6			500
Promecarb	2631-37-0			500/10,000 ⁴
Propadiene [1,2-Propadiene]	463-49-0		10,000	
Propane	74-98-6		10,000	
Propargyl bromide	106-96-7			10
Propiolactone, beta- ³	57-57-8			500
Propionitrile [Propanenitrile]	107-12-0	10,000		500
Propiophenone, 4-amino-	70-69-9			100/10,000 ⁴
Propyl chloroformate [Carbonochloridic acid, propylester]	109-61-5	15,000		500
Propylene [1-Propene]	115-07-1		10,000	
Propylene oxide [Oxirane, methyl-]	75-56-9	10,000		10,000
Propyleneimine [Aziridine, 2-methyl-]	75-55-8	10,000		10,000
Propyne [1-Propyne]	74-99-7		10,000	
Prothoate	2275-18-5			100/10,000 ⁴
Pyrene	129-00-0			1,000/10,000 ⁴
Pyridine, 4-amino-	504-24-5			500/10,000 ⁴
Pyridine, 4-nitro-, 1-oxide	1124-33-0			500/10,000 ⁴
Pyriminil	53558-25-1			100/10,000 ⁴
Salcomine	14167-18-1			500/10,000 ⁴
Sarin ³	107-44-8			10
Selenious acid	7783-00-8			1,000/10,000 ⁴
Semicarbazide hydrochloride	563-41-7			1,000/10,000 ⁴
Silane	7803-62-5		10,000	
Sodium arsenate	7631-89-2			1,000/10,000 ⁴
Sodium arsenite	7784-46-5			500/10,000 ⁴
Sodium azide (Na (N3)) ⁵	26628-22-8			500
Sodium cacodylate	124-65-2			100/10,000 ⁴
Sodium cyanide (Na (CN)) ⁵	143-33-9			100
Sodium fluoroacetate	62-74-8			10/10,000 ⁴
Sodium selenate	13410-01-0			100/10,000 ⁴
Sodium selenite	10102-18-8			100/10,000 ⁴
Sodium tellurite	10102-20-2			500/10,000 ⁴
Stannane, acetoxytriphenyl-	900-95-8			500/10,000 ⁴
Strychnine	57-24-9			100/10,000 ⁴
Strychnine sulfate	60-41-3			100/10,000 ⁴
Sulfur dioxide	7446-09-5			500
Sulfur dioxide (anhydrous)	7446-09-5	5,000		
Sulfuric acid ⁸	7664-93-9			1,000
Sulfur tetrafluoride [Sulfur fluoride (SF4), (T-4)-]	7783-60-0	2,500		100
Sulfur trioxide ⁵	7446-11-9	10,000		100
Tabun ³	77-81-6			10
Tellurium hexafluoride	7783-80-4			100
Tetrafluoroethylene [Ethene, tetrafluoro-]	116-14-3		10,000	
Tetramethyllead [Plumbane, tetramethyl-]	75-74-1	10,000		100
Tetramethylsilane [Silane, tetramethyl-]	75-76-3		10,000	
Tetranitromethane [Methane, tetranitro-]	509-14-8	10,000		500
Thallium sulfate	10031-59-1			100/10,000 ⁴
Thallos carbonate	6533-73-9			100/10,000 ⁴
Thallos chloride	7791-12-0			100/10,000 ⁴
Thallos malonate	2757-18-8			100/10,000 ⁴

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Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2 ² TQs in (lbs)	Table 3 TQs in (lbs)
Thallosulfate	7446-18-6			100/10,000 ⁴
Thiocarbazine	2231-57-4			1,000/10,000 ⁴
Thiofanox	39196-18-4			100/10,000 ⁴
Thiosemicarbazide	79-19-6			100/10,000 ⁴
Thiourea, (2-Chlorophenyl)-	5344-82-1			100/10,000 ⁴
Thiourea, (2-Methylphenyl)-	614-78-8			500/10,000 ⁴
Titanium tetrachloride [Titanium chloride (TiCl ₄) (T-4)-]	7550-45-0	2,500		100
Toluene 2,4-diisocyanate [Benzene, 2,4-diisocyanato-1-methyl-] ³	584-84-9	10,000		500
Toluene 2,6-diisocyanate [Benzene, 1,3-diisocyanato-2-methyl-] ³	91-08-7	10,000		100
Toluene diisocyanate (unspecified isomer) [Benzene, 1,3-diisocyanatomethyl-] ³	26471-62-5	10,000		
Triamphos	1031-47-6			500/10,000 ⁴
Trichloro(chloromethyl)silane	1558-25-4			100
Trichloro(dichlorophenyl)silane	27137-85-5			500
Trichlorosilane [Silane, trichloro-]	10025-78-2		10,000	
Triethoxysilane	998-30-1			500
Trifluorochloroethylene [Ethene, chlorotrifluoro-]	79-38-9		10,000	
Trimethylamine [Methanamine, N,N-dimethyl-]	75-50-3		10,000	
Trimethylchlorosilane [Silane, chlorotrimethyl-]	75-77-4	10,000		1,000
Trimethylolpropane phosphite	824-11-3			100/10,000 ⁴
Trimethyltin chloride	1066-45-1			500/10,000 ⁴
Triphenyltin chloride	639-58-7			500/10,000 ⁴
Tris(2-chloroethyl)amine ³	555-77-1			100
Valinomycin	2001-95-8			1,000/10,000 ⁴
Vanadium pentoxide	1314-62-1			100/10,000 ⁴
Vinyl acetate monomer [Acetic acid ethenyl ester]	108-05-4	15,000		1,000
Vinyl acetylene [1-Buten-3-yne]	689-97-4		10,000	
Vinyl chloride [Ethene, chloro-]	75-01-4		10,000	
Vinyl ethyl ether [Ethene, ethoxy-]	109-92-2		10,000	
Vinyl fluoride [Ethene, fluoro-]	75-02-5		10,000	
Vinylidene chloride [Ethene, 1,1-dichloro-]	75-35-4		10,000	
Vinylidene fluoride [Ethene, 1,1-difluoro-]	75-38-7		10,000	
Vinyl methyl ether [Ethene, methoxy-]	107-25-5		10,000	
Warfarin	81-81-2			500/10,000 ⁴
Warfarin sodium	129-06-6			100/10,000 ⁴
Xylylene dichloride	28347-13-9			100/10,000 ⁴
Zinc, dichloro(4,4-dimethyl-5((((methylamino) carbonyl)oxy)imino)pentanenitrile)-, (T-4)-.	58270-08-9			100/10,000 ⁴
Zinc phosphide ⁵	1314-84-7			500

- 1 Consult Section 2770.5 of the CalARP Program regulations (Tables 1, 2, and 3) for the official chemical listings. Consult Sections 2770.2, 2770.4, and 2770.4.1, for specific exemptions and exclusions.
- 2 Flammable substances when used as a fuel or held for sale as a fuel at a retail facility are excluded from the CalARP Program (Section 2770.4.1).
- 3 Substances that failed the evaluation pursuant to Section 25532(g)(2) of the HSC but remain listed pursuant to potential health impacts. The exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.

- 4 These extremely hazardous substances are solids. These substances are regulated at the lower listed threshold if: 1) the chemical is in powdered form with a particle size of less than 100 microns; or 2) if handled in solution or in molten form; or 3) the substance has an NFPA rating for reactivity of 2, 3, or 4. If the above 3 conditions do not apply, the threshold for each of these substances is 10,000 pounds. (Note: The 10,000 pound threshold for these substances is a remnant from the former RMPP program. OES is considering initiating a regulatory change to remove the 10,000 pound thresholds, in accordance with HSC 25532(g)(2)(A)(iii).) In addition, the exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.
- 5 These extremely hazardous substances are reactive solids. The exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.
- 6 Appropriate synonyms or mixtures of extremely hazardous substances with the same CAS number are also regulated, e.g., formalin. The listing of ammonia includes anhydrous and aqueous forms of ammonia pursuant to Section 25532(g)(2). Consult USEPA's "CAA Section 112(r) Frequently Asked Questions," April 2000, Questions II. 20 (List Rule Response to Comments, page 50, Docket A 91-74), II. 22, II. 36, and II. 37 for further discussion on ammonium hydroxide and formaldehyde.
- 7 Hydroquinone is exempt in crystalline form.
- 8 Sulfuric acid fails the evaluation pursuant to Section 25532(g)(2) of the HSC but remains listed as a Regulated Substance only under the following conditions:
 - If concentrated with greater than 100 pounds of sulfur trioxide or the acid meets the definition of oleum. (The Table 3 threshold for sulfur trioxide is 100 pounds.) (The Table 1 threshold for oleum is 10,000 pounds.)
 - If in a container with flammable hydrocarbons (flash point < 73⁰ F).

Appendix I

Definitions and Acronyms

DEFINITIONS

29 CFR—The *Title* within the *Code of Federal Regulations* which contains requirements pertaining to worker health and safety as promulgated by OSHA.

40 CFR—The *Title* within the *Code of Federal Regulations* which contains regulations pursuant to many environmental laws, most notably RCRA.

49 CFR—The *Title* within the *Code of Federal Regulations* which contains regulations pursuant to many transportation laws, most notably HMTA and HMTUSA.

Aboveground tank—A device meeting the definition of tank in Title 22, Section 66260.10¹ and situated in such a way that the entire surface area (including tank bottom) is completely above the plane of the adjacent surrounding surface and is able to be visually inspected. (*State*)

Accumulated speculatively—Accumulating a material before recycling it. A material is **NOT accumulated speculatively**, however, if it can be shown that the material is potentially recyclable and a feasible means of recycling it exists and if, during the calendar year (commencing on January 1st), the amount of materials recycled or transferred to a different site for recycling equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (e.g., slag from a single smelting process) that is recycled in the same way (i.e., from which the same material is recovered or is used in the same way). Materials accumulated in units that would be exempt from regulation under Section 66261.4(c) are not to be included in making the calculation. Materials already defined as wastes also are not to be included. Once removed from accumulation for recycling, materials are no longer in this category. (*State*)

Accumulation—The temporary holding of hazardous waste during waste generation activities for a specific limit of time past the accumulation start date. Not considered *storage*.

Activated carbon—A highly adsorbent form of **carbon** used to remove odors and toxic substances from liquid or gaseous emissions. In waste treatment it is used to remove dissolved organic matter from waste water. It is also used in motor vehicle evaporative control system.

Activated sludge treatment—Exposing water to microorganisms and air. A portion of the organic matter is oxidized to Carbon dioxide and water and the other portion is synthesized into new microbial cells.

Acute Aquatic 96-hour LC₅₀—The concentration of a substance or mixture of substances in water, in milligrams per liter, which produces death within 96 hours in half of a group of at least 10 test fish. (*State*)

Acute Dermal LD₅₀—The dose of a substance or mixture of substances, in milligrams per kilogram of test animal body weight, which, when applied continuously to the bare skin for 24 hours, produces death within 14 days in half a group of 10 or more rabbits. (*State*)

Acute inhalation LC₁₀—The lowest concentration of a substance or mixture of substances in air, other than acute inhalation LD₅₀ in parts per million by volume if the substance or mixture of substances is a gas or vapor, reported to have caused death in humans or animals. (*State*)

¹ Unless otherwise specified, regulatory sections refer to Title 22, California Code of Regulations.

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Acute effects—Toxic effects which occur over a relatively short period of time (minutes, hours). (*Compare Chronic Effects*).

Acutely hazardous waste—Any hazardous waste classified as an acutely hazardous waste in Article 4 of Chapter 11, CCR Title 22. (*Federal, P Listed Waste*).

Adsorb—To take up by attraction and hold to a surface. Chemicals are often **adsorbed** by soil particles, dust, activated charcoal, or other substrates.

Aeration—A process that promotes biological degradation of matter in water. The process may be passive (as when waste is exposed to air) or active (as when a mixing or bubbling device introduces the air).

Aerobic—Occurring in the presence of free Oxygen.

Aerosol—A suspension of fine liquid or solid particles in gas.

Alkaline—A substance with a pH between 7 and 14. An **alkaline** waste is considered to be hazardous when its pH is 12.5 or greater.

Alternate facility—A treatment, storage, or disposal facility to which a transporter may deliver a shipment of hazardous waste if it cannot be delivered to the designated facility. An **alternate facility** may be identified in Item 15 on the manifest.

Aromatic compounds—In organic chemistry, compounds that contain one or more Benzene rings.

Asphyxiant—Anything, especially a gas, that impairs the exchange of oxygen and carbon dioxide, usually in the lungs as opposed to in the circulating blood or tissues.

Average volatile organic concentration—The mass-weighted average volatile organic concentration of a hazardous waste as determined in accordance with the requirements of Section 265.1084(a).

Bhopal—City in India where, in December 1984, 40 tons of Methyl isocyanate (MIC) were released into the atmosphere from a Union Carbide plant manufacturing the pesticide Sevin. At least 2,000 people died, and more than 10,000 more became ill. Eye and lung damage predominated.

Bill of Lading—A shipping document containing information required by DOT for commodities and hazardous materials.

Bioaccumulation—The retention and concentration of a substance by an organism.

Biological treatment—Treatment process utilizing living micro-organisms to decompose organic wastes into less complex organic or inorganic substances. Techniques include activated sludge, aerated lagoons, trickling filters, waste stabilization ponds, and anaerobic digestion.

Bioremediation—Use of living organisms to clean up oil spills or to remove other pollutants from soil, water, or wastewater; use of organisms such as non-harmful insects to remove agricultural pests or counteract diseases of trees, plants, and garden soil.

Biotransformation—The enzymatic transformation of a foreign compound into a different one. The new compound may be more or less toxic than the old one.

Boiling point (bp)—The temperature at which a continuous flow of vapor bubbles occurs in a liquid being heated in an open container; when vapor pressure equals atmospheric pressure.

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Bulking—The process of consolidating various quantities of the same type of waste by placing them into a single, larger container.

By-product—A material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slag or distillation column bottoms. The term does not include a *co-product* that is made for the general public's use and ordinarily used in its produced form. (See **TABLE 1** in Section 66261.2.)

CAS registration number—A number assigned by the Chemical Abstracts Service to identify a chemical.

Characteristic wastes—Wastes considered hazardous if containing one or more of the following characteristics:²

- Ignitable
- Corrosive
- Reactive
- Toxic

Chronic—Of long duration. **Chronic exposure** usually refers to long-term, low-level exposure. **Chronic toxicity** refers to the effects produced by such exposure. **Chronic exposure** may cause latent damage that does not appear until later.

Class A fires—Fires involving ordinary combustible materials.

Class B fires—Fires involving flammable liquids.

Class C fires—Fires involving energized electrical equipment.

Class D fires—Fires involving combustible metals such as lithium, magnesium, titanium, zinc, sodium, and potassium.

Closed-vent system—A system that is not open to the atmosphere and is composed of piping, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece of pieces of equipment to a control device.

Conditionally exempt small quantity generator (CESQG)— A generator that produces no more than 100 kg of RCRA or non-RCRA hazardous waste and less than 1 kg of RCRA acute or non-RCRA extremely hazardous waste in any calendar month. In California, all CESQG generators must obtain an Identification Number from DTSC (effective January 1, 2002).

Consignee—The ultimate treatment, storage, or disposal facility in receiving country to which the hazardous waste will be sent.

Consolidated Manifesting—Health & Safety Code, Section 25160.2 combines the earlier modified manifesting statutes and milkrun regulations to allow certain registered hazardous waste transporters to combine specified wastes from multiple eligible generators on a single manifest, rather than using a separate manifest from each generator. Eligible generators using the consolidated manifesting procedure are exempt from filling out a hazardous waste manifest for specified wastestreams.

² California's criteria for corrosive and toxic wastes are more inclusive than USEPA's.

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Container—Title 22, Section 66260.10 defines a container as “any device that is open or closed, and portable in which a material can be stored, handled, treated, transported, recycled or disposed of.” Containers include portable tanks. Title 13, Section 1160.3(j) defines containers as any covered or uncovered receptacle to be used for transporting hazardous waste and having a capacity greater than 110 U.S. gallons (416.4 liters).

Contained-in waste—A waste, media, or debris which contains or is contaminated with hazardous waste constituents.

Contingency plan—A document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Continuation sheet—U.S. EPA Form 8700-22A. If used, **continuation sheets** become part of the manifest document. According to U.S. EPA regulations, **continuation sheets** are to be used to list additional transporters or additional wastes beyond those listed on the first page of the manifest.

Control device—An enclosed combustion device, vapor recovery system, or flare. Any device the primary function of which is the recovery or capture of solvents or other organics for use, reuse, or sale is not a control device.

Corrosive—DOT classifies a corrosive as having the ability to cause destruction of living tissue or steel surfaces by chemical action. RCRA and Title 22 defines corrosive hazardous waste as a liquid (or a solid in California) with a pH ≤ 2.0 or ≥ 12.5 or corrodes steel at a rate greater than $\frac{1}{4}$ ” (6.35 mm) per year.

Covered (or closed) container—Means any container which is equipped with a cover or other device that will prevent the escape of a liquid (including volatile vapors) or solid substance when closed.

CCR (California Code of Regulations)—The compilation of regulations in California. Replaced the terminology “California Administrative Code (CAC).”

CERCLA—Comprehensive Environmental Response, Compensation and Liability Act. Also known as **Superfund**; enacted in 1980 to ensure that a source of funds be available to clean up abandoned hazardous waste dumps, compensate victims, address releases of hazardous materials, and establish liability standards for responsible parties.

CFR (Code of Federal Regulations) —The compilation of regulations of Federal Agencies. Volumes of the **Code of Federal Regulations** are available from the Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402.

Designated facility—A hazardous waste transfer, treatment, storage, or disposal facility which has received a permit (or a facility with interim status) in accordance with the requirements of Chapters 20 and 21 of Title 22 CCR; a permit from a state authorized in accordance with part 271 of Title 40 CFR; or is regulated under Chapter 16 of Title 22 CCR; or has received a permit, a grant of interim status, or a variance to operate without a permit or grant of interim status from the Department; or is otherwise authorized by law to receive specific hazardous wastes; and that has been designated on the manifest by the generator pursuant to Section 66262.20. Commonly referred to as a TSDF (treatment, storage, or disposal facility).

Designated waste—A waste considered to pose a potential threat or that threatens to discharge waste materials or constituents to waters of the state and would result in a condition of pollution or

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nuisance or which affect the beneficial use(s) of the water, given the toxic nature of the chemical constituents. A Special Waste or any hazardous waste given a variance is generally considered to be a designated waste.

Discharge or hazardous waste discharge—The accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste on or into any land or water.

Disposal—(a) The discharge, deposit, injection, dumping, spilling, leaking, or placing of any waste or hazardous waste on or into any land or water so that such waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters including ground waters; (b) the abandonment of any waste.

Disposal facility—A facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term **disposal facility** does not include a corrective action management unit into which remediation wastes are placed.

DOT Identification number (UN/NA)—U.S. DOT identification number for shipping purposes. Numbers beginning with the letters **UN** are considered appropriate for international shipments; those beginning with **NA** are not appropriate for such shipments, except to Canada.

Enclosure—A structure that surrounds a tank or container, captures organic vapors emitted from the tank or container, and vents the captured vapors through a closed-vent system to a control device.

EPA—The United States Environmental Protection Agency. Also known as U.S. EPA. Federal agency chartered with protecting environmental health.

EPA Hazardous waste number—The number assigned to each hazardous waste listed in 40 CFR Part 261.31–33 and Article 4 of Chapter 11 of Title 22 CCR and to each characteristic identified in 40 CFR Part 261.21–24 and Article 3 of Chapter 11 of Title 22 CCR.

EPA Identification numbers—12-digit numbers assigned by EPA or the State to hazardous waste generators, transporters and facilities. *See Identification number.*

EP Toxicity—Extraction Procedure Toxicity (EPTox). A federally specified test designed to identify wastes likely to leach hazardous concentrations of particular toxic constituents into the ground water as a result of improper management. This test is no longer in use, replaced by the Toxicity Characteristic Leaching Procedure (TCLP).

Exception report—Report submitted by a generator that does not receive a signed copy of the manifest from the TSD facility. Large quantity generators must file this report within 45 days of the date the waste was accepted by the initial transporter and small quantity generators must submit the report within 60 days. Some states have modified the 45-day period.

Extremely hazardous waste—Any hazardous waste or mixture of hazardous wastes which, if human exposure should occur, may likely result in death, disabling personal injury or serious illness caused by the hazardous waste or mixture of hazardous wastes because of its quantity, concentration or chemical characteristics. (*State*). Although not necessarily the same as federal acutely hazardous waste, accumulation limits are the same.

Excluded Recyclable Materials—Any hazardous waste or mixture of hazardous wastes in which a significant percentage of the waste is recycled and reused at the same location the waste is originally generated. Excluded Recyclable Materials must be labeled and properly managed while being accumulated on site. Generators who produce and recycle more than 100 kg/month of Excluded Recyclable Materials must report the on-site recycling activity to their

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CUPA.

Facility—*See* **Designated**.

Fire point (fire p)—The lowest temperature at which a mixture of air and vapor continues to burn in an open container when ignited. It is usually above the flash point.

Flammability range—For a given substance, that range of percentages from the LEL (Lower Explosive Limit) to the UEL (Upper Explosive Limit), any of which will ignite if provided an ignition source.

Flash point—The lowest temperature at which a liquid gives off enough flammable vapors at or near its surface such that it ignites in an intimate mixture with the air and a spark or flame. For *liquids*, see 49 CFR Section 173.115; for *solids*, see 49 CFR Section 173.150.

Forbidden—Materials prohibited from being offered or accepted for transportation. This prohibition does not apply if these materials are diluted, stabilized, or incorporated in devices and they are classed in accordance with the definitions of hazardous materials.

Generator or producer—Any person, by site, whose act or process produces hazardous waste identified or listed in 40 CFR Part 261 or Chapter 11 of Title 22 CCR or whose act first causes a hazardous waste to become subject to regulation.

Hauler—A transporter.

Hazard—A source of risk that does not necessarily imply potential for occurrence. A **hazard** produces risk if an exposure pathway exists and if exposure creates the possibility of adverse consequences.

Hazard class—U.S. DOT classification for hazardous materials. *See* 49 CFR Part 172.

Hazardous and solid waste amendment—(*HSWA, PL 98-616*) was enacted in 1984 to address regulatory gaps in the RCRA program in the area of highly toxic wastes. These include regulation of carcinogens, listing and de-listing of hazardous wastes, permitting for hazardous waste facilities, leaking underground storage tanks, and the elimination of land disposal of hazardous wastes according to a congressionally mandated schedule.

Hazardous constituent—(a) constituent identified in Appendix VIII to Chapter 11 of CCR Section C; (b) any other element, chemical compound, or mixture of compounds which is a component of a hazardous waste or leachate and which has a physical or chemical property that causes the waste or leachate to be identified as a hazardous waste.

Hazardous material—As defined in *Hazardous Materials Transportation Act* Section 103 and *Health and Safety Code* Section 22501 as applied in Chapter 69.5 of Division 20 of the *Health and Safety Code*.

Hazardous substance—A material and its mixtures or solutions identified by CERCLA and having a reportable quantity (RQ) (49 CFR, Subchapter C, Section 171.8). Definition applies when said material is offered for transportation in one package or, if not packaged, in one transport vehicle. RQ values are now listed in Appendix to 172.101 for all hazardous substances.

Hazardous waste—A hazardous waste as defined in 40 CFR Part 261 and Section 66261.3 of Title 22 CCR. **Hazardous Waste** includes extremely hazardous waste, acutely hazardous waste, RCRA hazardous waste, non-RCRA hazardous waste, and special waste.

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Hazardous waste constituent—A constituent that caused the U.S. EPA Administrator to list the hazardous waste in 40 CFR Part 261, Subpart D, or a constituent listed in **TABLE 1** of 40 CFR Section 261.24.

Hazardous waste control account—A state fund derived from fees paid by operators of on-site and off-site disposal facilities and used to support the Department of Toxic Substances Control.

Identification number or ID number—The number applied for by and assigned to all handlers of hazardous waste. The ID number is business **and** location specific. A **State ID number** will be issued to generators of non-RCRA hazardous waste (HW) that produce less than 100 kg per calendar month of a RCRA HW or less than 1 kg of RCRA acute hazardous waste. The **State ID number** will have a prefix of three letters followed by nine numbers. A **Federal ID number (EPA ID number)** is issued to generators of 100 kg or more per calendar month of a RCRA HW and/or more than one kg per calendar month of acute HW, regardless of the amount of non-RCRA HW generated. The **Federal ID number** will have a prefix of three letters followed by nine numbers. Federal facilities will have a prefix of two letters followed by ten numbers. Regardless of facility/company ownership, each non-contiguous (on-site) facility must have an individual ID number. While U.S. EPA only requires SQGs and LQGs of RCRA waste to obtain a U.S. EPA identification number, all generators of hazardous waste in California, except those that only generate silver-only wastes, must have an identification number.

Ignitable—Capable of being set afire or of bursting into flame spontaneously or by interaction with another substance or material. Includes liquids with a flashpoint less than 140 degrees F (60 degrees C) and ignitable compressed gases and oxidizers defined in 149 CFR.

In light material service—A container that is used to manage a material for which both the following conditions apply: the vapor pressure of one or more of the organic constituents in the material is greater than 0.3 kilopascals (kPa) at 20 degrees C and the total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20 degrees C is equal to or greater than 20 percent by weight.

Incompatible waste—A hazardous waste which is unsuitable for **(a)** placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); **(b)** commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases or flammable fumes or gases.

Individual generation site—The contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is still considered a single or individual generation site if the site or property is contiguous.

Inorganic chemical—A large group of chemicals in which Carbon atoms generally are not present; includes *oxides, acids, bases, and salts*.

Interim status—The authorization granted by the U.S. EPA that allows a hazardous waste facility to continue to operate pending review of and decision on the facility's permit application.

Land disposal—Placement in or on the land, except in a corrective action management unit, and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, or placement in a concrete vault or bunker intended for disposal purposes.

Land disposal methods—**(a)** disposal of hazardous wastes on or into the land, including, but not

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limited to, landfill, surface impoundment, waste piles, deep-well injection, land spreading, and co-burial with municipal garbage; **(b)** treatment of hazardous wastes on or in the land, such as neutralization and evaporation ponds and land farming, in which the treatment residues are hazardous wastes and are not removed for subsequent processing or disposal within one year; **(c)** storage of hazardous wastes on or in the land, such as waste piles and surface impoundments other than neutralization and evaporation ponds, for longer than one year.

Land disposal restrictions—Federally, a series of five rules promulgated between November, 1986 and May, 1990 and as amended since, impacting all generators of hazardous wastes is a result of the 1984 Hazardous and Solid Waste Amendments (HSWA). Additionally, in California, a result of SB 1500 (Roberti), which parallels the federal program at the state level, and subsequently amended by SB1222 (Calderon) in 1995.

Landfill—A disposal facility or part of a facility at which hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a slat bed formation, an underground mine, a cave, or a corrective action management unit.

Large quantity generator (LQG)—A “RCRA Large Quantity Generator” is a person or facility generating less than or equal to 1000 kilograms (2200 pounds) of RCRA hazardous waste or less than or equal to 1 kilogram (2.2 pounds) of acutely hazardous waste per month. Such generators produce about 90 percent of the nation’s hazardous waste and are subject to all RCRA requirements. In California, the definition of a large quantity generator combines the volume of both non-RCRA and RCRA hazardous waste and acute and/or extremely hazardous waste in the respective quantities. It is important for California generators to know the respective amounts of RCRA and non-RCRA wastes produced.

Leachate—Any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

Leak detection system—A system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

Listed wastes—Wastes that appear on any one of the four lists of hazardous wastes contained in the RCRA regulations. These include wastes derived from manufacturing processes and from discarded commercial chemical products. (federal waste codes starting with prefixes *F, K, P, or U*).

Management or hazardous waste management—The handling, storage, transportation, processing, treatment, recovery, recycling, transfer, and disposal of hazardous waste.

Manifest—The shipping document DHS 8022A, or the equivalent document required by the state to which the waste will be shipped, which is originated and signed by the generator in accordance with the instructions included in the appendix to Chapter 12 of Title 22CCR.

Manifest document number—The unique number assigned to the manifest by the Department of Toxic Substances Control for recording and reporting purposes.

Marking—Applying the Subchapter C, CFR 49-required descriptive name, instructions, cautions, weight, or specialization marks, or combination thereof, to outside containers of hazardous

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materials.

Maximum organic vapor pressure—the sum of the individual organic constituent partial pressures exerted by the material contained in a tank, at the maximum vapor-pressure-causing conditions (e.g., temperature, agitation, pH effects of combining wastes) reasonably expected to occur in the tank. Maximum organic vapor pressure is determined using the procedures specified in 40 CFR Part 265.1084(c).

Melting point (m.p.)—The temperature at which the solid and liquid forms of a substance exist in equilibrium.

Mixture—A material composed of more than one chemical compound or element.

Multiple hazards—A material meeting the definition of more than one hazard class is classed according to the provisions set forth in 49 CFR Section 173.2(a) and (b).

No detectable organic emissions—No escape of organics to the atmosphere as determined using procedures described in 40 CFR Part 265.1084(d).

Non-RCRA hazardous waste—All hazardous waste regulated in the state other than RCRA hazardous waste as defined in this section. A hazardous waste is presumed to be a RCRA hazardous waste, unless it is determined pursuant to Section 66261.101 that the hazardous waste is non-RCRA hazardous waste.

On-site—The same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing as opposed to going along, the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which that person controls and to which the public does not have access, is considered onsite property. EPA recently amended the definition of onsite to include sites if the material can be transported to that site while remaining parallel or adjacent at all times to property owned by the generator (campus rule).

Packaging—The assembly of one or more containers and any other components necessary to assure compliance with the minimum packaging requirements of Chapter C, 49 CFR, including containers, portable tanks, cargo tanks, tank cars, and multi-unit tank-car tanks.

Part A—An application to DTSC or to the U.S. EPA for a permit to operate a hazardous waste facility. The application is described in Section 66270.13.

Part B—The operation plan described in Sections 66270.14 through 66270.23 for a hazardous waste facility.

Personnel or facility personnel—All persons who work at or oversee the operations of a hazardous waste facility and whose actions or failure to act may result in noncompliance with the requirements of this division. Many of the requirements applicable to “facility personnel” are incorporated by reference and may apply to personnel working at generator sites.

Point of waste origination—(1) When the facility owner or operator is the generator of the hazardous waste, the point of waste origination means the point where a solid waste produced by a system, process, or waste management unit is determined to be a hazardous waste as defined in 40 CFR part 261. (2) When the facility owner or operator is not the generator of the hazardous waste, point of waste origination means the point where the owner or operator accepts delivery or takes possession of the hazardous waste.

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Point of waste treatment—The point where a hazardous waste to be treated in accordance with Section 265.1083(c) (2) exits the treatment process. Any waste determination must be made before the waste is conveyed, handled, or otherwise managed in a manner that allows the waste to volatilize to the atmosphere.

Proper shipping name—The name of the hazardous materials shown in Roman print in 172.101, Chapter C, 49 CFR.

Publicly owned treatment works (POTW)—Any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature that is owned by a *state* or *municipality* (as defined by 33 U.S.C. Section 1362). This definition includes sewers, pipes or other conveyances only if they convey wastewater to a POTW providing treatment. While federally RCRA waste discharged to a POTW is regulated under the Clean Water Act (which may be excluded or allowed under specified conditions), no hazardous waste may be discharged to a POTW in the state of California.

RCRA hazardous waste—All waste identified as a hazardous waste in Part 261 (commencing with Section 261.1) of Subchapter I of Chapter 1 of Title 40 of the *Code of Federal Regulations* and appendices thereto.

Reactive—Having properties of explosiveness or of chemical activity which can be a hazard to human health or the environment. A reactive waste can undergo violent change, reacting violently with water, generating toxic gases, vapors or fumes and/or detonating or exploding.

Recyclable material—A hazardous waste that is capable of being recycled, including, but not limited to, any of the following: **(a)** a residue; **(b)** a spent material, including, but not limited to, a used or spent stripping or plating solution or etchant; **(c)** material that is contaminated to such an extent that it can no longer be used for the purpose for which it was originally purchased or manufactured; **(d)** a byproduct listed in Section 66261.31 or Section 66261.32; **(e)** any retrograde material that has not been used, distributed, nor reclaimed through treatment by the original manufacturer or owner by the later of the following dates: **(1)** one year after the date the material became a retrograde material; **(2)** if the material has been returned to the original manufacturer, one year after the material is returned to the original manufacturer.

Registered hazardous waste transporter—A transporter registered with the Department to transport hazardous wastes.

Reportable quantity (RQ)—A specific quantity of hazardous materials meeting the reporting requirements of DOT or EPA (CERCLA). Refer to the Appendix of the **HAZARDOUS MATERIALS TABLE**, 49 CFR 172.101.

Residuals repository—A hazardous waste facility or part of a facility that is permitted to accept for land disposal only non-liquid, treated hazardous waste [as defined in Section 25179.3(1), *Health and Safety Code*]. **Non-liquid** means not a liquid and containing less than 50 percent moisture by weight as determined in accordance with Section 66265.317 of Title 22 CCR.

Residue—The hazardous materials remaining in a packaging, including a tank car, after its contents have been unloaded to the maximum extent practicable and before the packaging is either refilled or cleaned of hazardous materials and purged to remove any hazardous vapors.

Restricted hazardous waste—Any hazardous waste which is subject to land disposal restriction pursuant to *Health and Safety Code* Section 25179.6 or Chapter 18 of Title 22 CCR.

Resource Conservation and Recovery Act (RCRA)—(*RCRA, 42, USC, Sections 6901 through 6987*) was enacted in 1976 as the first step in regulating the potential health and environmental problems associated with solid hazardous and non-hazardous waste disposal. RCRA and the

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regulations developed by EPA to implement its provisions provide the general framework of the national hazardous waste management system, including the determination of whether hazardous wastes are being generated, techniques for tracking wastes to eventual disposal, and the design and permitting of hazardous waste management facilities. The purpose of RCRA is to achieve resource conservation, recovery and reuse.

Retrograde material—Any hazardous material which is not to be used, sold, nor distributed for use in an originally intended or prescribed manner or for an originally intended or prescribed purpose and which meets any one or more of the following criteria:

- (1) Has undergone chemical, biochemical, physical or other changes due to the passage of time or the environmental conditions under which it was stored.
- (2) Has exceeded a specified or recommended shelf life.
- (3) Is banned by law, regulation, ordinance or decree.
- (4) Cannot be used for reasons of economics, health or safety or environmental hazard.

NOTE: Retrograde material does not include material listed in Section 66261.33 if either of the following conditions are met:

- (1) The material is used in a manner constituting disposal, *and* the material is not normally used in a manner constituting disposal.
- (2) The material is burned for energy recovery, *and* the material is not normally burned for energy recovery.

Scrap metal—(a) any one or more of the following, except as provided in *Subsection (b)* of this section:

- (1) Manufactured, solid metal objects and products.
- (2) Metal workings, including cuttings, trimmings, stampings, grindings, shavings, and sandings.
- (3) Solid metal residues of metal production.

(b) Scrap metal excludes all of the following:

- (1) *Lead-acid* storage batteries, waste elemental *mercury*, and water-reactive metals such as *sodium*, *potassium*, and *lithium*.
- (2) *Magnesium* borings, trimmings, grindings, shavings, sandings, and any other forms capable of producing independent combustion.
- (3) *Beryllium* borings, trimmings, grindings, shavings, sandings, and any other forms capable of producing adverse health effects or environmental harm in the opinion of the Department.
- (4) Any metal contaminated with a hazardous waste, such that the contaminated metal exhibits any characteristic of a hazardous waste under Article 3 of Chapter 11 of this division.
- (5) Any metal contaminated with an oil that is a hazardous waste and that is free-flowing.
- (6) Sludges, fine powders, semi-solids, and liquid solutions that are hazardous wastes.

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Shipment date—The date on which the first transporter signs the manifest indicating acceptance of the waste shipment. Several important deadlines are calculated from the shipment date, including ones related to exception reporting.

Small quantity generator (SQG)—A generator that produces more than 100 kg but less than 1,000 kg of hazardous waste and less than 1 kg of acutely/extremely hazardous waste in any calendar month.

Solid waste—A solid waste as defined in 40 CFR 261.2.

Soluble threshold limit concentration (STLC)—The concentration of a solubilized and extractable bioaccumulative or persistent toxic substance which, if equaled or exceeded in a waste or waste extract determined pursuant to Appendix II of Chapter 11 of Title 22 CCR renders the waste hazardous.

Solution—Any homogeneous liquid mixture.

Special waste—A waste which is a hazardous waste only because it contains an inorganic substance or substances which cause it to pose a chronic toxicity hazard to human health or the environment and which meets all of the criteria and requirements of Section 66261.122 and has been classified a special waste pursuant to Section 66261.124. Special Waste are deemed Designated Waste by the RWQCB(s).

Spent material—Any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

State Generator's ID—A 12-digit Hazardous Waste Fee Account Number issued by the California State Board of Equalization (BOE) to companies paying disposal taxes directly to the BOE. The account number is reported in Item B of the state manifest.

State Manifest Document Number—A unique number assigned to a manifest by the state agency responsible for hazardous waste management and usually preprinted on the state manifest form in Item A.

Storage—The holding of hazardous wastes, either for a temporary period or for a period of a year or potentially longer, in such a manner as not to constitute disposal or use of such hazardous waste. **Storage** is a permitted operation at a TSD facility.

Strict liability—Holds a party responsible for damages irrespective of the amount of care taken in handling a hazardous substance.

Subtitle C—The part of RCRA which pertains to the management of hazardous waste.

Superfund Amendments and Reauthorization Act (SARA)—Enacted in 1986 to increase the Superfund to \$8.5 billion, modify contaminated site cleanup criteria scheduling, and revise settlement procedures. It also provides a fund for leaking underground storage tank cleanups and a broad, new emergency planning and community right-to-know program.

Surplus material—An unused raw material or commercial product obtained with the intent to use or sell it but is no longer needed and ownership of which is transferred to another person for use in a manner for which the material or product is commonly used. **Surplus material** is excess material. **Surplus material** is *neither* of the following:

- *Retrograde material* as defined in this section.

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- *Recyclable material* as defined in this section.

Tank—A stationary device designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support. A “portable tank” (without structural support, etc.) is defined as a container for purposes of regulation.

Technology-based standards—Effluent limitations applicable to direct and indirect sources which are developed on a category-by-category basis using statutory factors not including water-quality effects.

Temporary household hazardous waste collection facility—A facility operated by a public agency which

- Operates in accordance with Section 66270.1 (c) (1) (F).
- Operates at the same location no more than 12 times per calendar year and not more than once in any calendar month at the same location.
- Terminates operation within two days of commencing each session.

Title 8—The Title of the *California Code of Regulations* which contains regulations promulgated by Cal/OSHA and pertaining to worker safety and health.

Title 13—The Title of *California Code of Regulations* which contains regulations promulgated by the CHP and pertaining to transportation.

Title 22—The Title of *California Code of Regulations* which contains regulations pertaining to hazardous waste management and other related matters as promulgated by the Cal/EPA.

Title 23—The Title of *California Code of Regulations* which contains regulations pertaining to water quality and other related matters as promulgated by Cal/EPA.

Title 26—The Title of *California Code of Regulations* which contains excerpts from other titles pertaining to *toxics*. This Title was created as a convenience to the user. It contains no regulations that are not also located within another of the first 25 Titles.

Total threshold limit concentration (TTLC)—The combined (total) solubilized, extractable, and non-extractable concentration of a bioaccumulative or persistent toxic substance which, if equaled or exceeded in a waste, renders the waste hazardous.

Toxic waste—A hazardous waste designated by the U.S. EPA Administrator pursuant to 40 CFR Section 261.11. Toxic characteristics for waste classification are substantially different between RCRA and California.

Transfer—The loading, unloading, pumping, or packaging of hazardous waste. Transfer does not include loading, unloading, pumping, or packaging of hazardous waste on the site where the hazardous waste is generated.

Transfer facility or transfer station—Any transportation-related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held and/or transferred during the normal course of transportation.

Transporter—A person engaged in the off-site transportation of hazardous waste by air, rail, highway, or water.

Transport vehicle—A motor vehicle or rail car used for the transportation of cargo by any mode.

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Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

Transportable treatment unit—Any mobile equipment which performs a *treatment* as defined in this section, is transported onto a facility to perform treatment, and is not permanently stationed at a single facility.

Treatment, storage, disposal (TSD) facility—A hazardous waste facility at which hazardous waste are treated, stored, or disposed of on-site.

Treatment—Any method, technique, or process which changes or is designed to change the physical, chemical, or biological character or composition of any hazardous waste or any material contained therein or removes or reduces its harmful properties or characteristics for any purpose including, but not limited to, energy recovery, material recovery or reduction in volume.

Variance—A deviation from a provision of Title 22 and Chapter 6.5 of the *Health and Safety Code* authorized pursuant to Section 66260.210 or *Health and Safety Code* Section 25143.

Volatile organic concentration—The fraction by weight of the volatile organic compounds with a Henry's law constant value of at least 0.1 y/x contained in a hazardous waste expressed in terms of ppmw as determined by direct measurement or by knowledge of the waste in accordance with the requirements of 40 CFR Part 265.1084.

Water reactive—Having properties of, when contacted by water, reacting violently, generating extreme heat, burning, exploding, or rapidly reacting to produce an ignitable, toxic or corrosive mist, vapor, or gas.

Water-soluble—Dissolves in water.

Waste determination—Performing all applicable procedures in accordance with the requirements of 40 CFR Part 265.1084 to determine whether a hazardous waste meets standards specified in subpart CC. For example, determining the volatile organic concentration of a hazardous waste stream.

Waste stabilization process—Any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous waste or eliminate free liquids as determined by Test Method 9095 (Paint Filter Liquids Test) in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication No. SW-846, Third Edition, September 1986, as amended by Update I, November 15, 1992. A waste stabilization process involves mixing the hazardous waste with binders or other materials and curing the resulting hazardous waste and binder mixture. Other synonymous terms used to refer to this process are **waste fixation** or **waste solidification**. This does not include the adding of absorbent materials to the surface of a waste, without mixing, agitation, or subsequent curing, to absorb free liquid.

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ACRONYMS

ACGIH—American Conference of Governmental Industrial Hygienists. *This group is best known for developing TLVs for occupational chemical exposures.*

ACM—Asbestos-containing material.

ACWM—Asbestos-containing waste material. **AGST**—Aboveground storage tank.

ASHERA—Asbestos Hazard Emergency Response Act of 1986 (*Federal*).

AHM—Acutely hazardous material (*CH & SC Sec. 25532 et seq.*).

AO—Administrative order. *A legal document signed by EPA directing an individual, business, or other entity to take corrective action or refrain from an activity. It describes the violations and actions to be taken and can be enforced in court. Such orders may be issued, for example, as a result of an administrative complaint whereby the respondent is ordered to pay a penalty for violations of a statute.*

APCA—Air Pollution Control Association.

APCD—Air Pollution Control District (*CH&SC Sec. 40000 et seq.*).

APCO—Air Pollution Control Officer.

AQMD—Air Quality Management District (*CH&SC Sec. 40000 et seq.*).

ARB—Air Resources Board (*CH&SC Sec. 39500 et seq.*).

ARC—American Red Cross.

BADT—Best available demonstrated technology.

BAT—Best available technology (*from CWA*).

BCPCT—Best conventional pollutant control technology.

BDAT—Best demonstrated available technology (*from RCRA*). *A commercially available technology that is in full scale operation and has been determined to yield the greatest degree of treatment for a given category of waste.*

BDCT—Best demonstrated control technology.

BDT—Best demonstrated technology.

ASTM—American Society for Testing and Materials.

ANSI—American National Standards Institute.

AQMD—Air Quality Management District. **BACT**—Best available control technology (*from CAA*).

BLEVE—Boiling-liquid expanding-vapor explosion. *The possible result of a complex sequence of events involving the impingement of flame on the exterior of a container of liquefied gas.*

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BTU—British thermal unit.

BTX—Benzene-toluene-xylene.

Cal EPA—California Environmental Protection Agency. Formerly the Environmental Affairs Agency; was expanded in 1991 to include the Department of Toxic Substances Control (formerly DHS- TSCP), the Air Resources Board, the State Water Resources Control Board, the Regional Water Quality Control Boards, the Integrated Waste Management Board, the Department of Pesticide Regulation, and the Office of Health Risk Assessment.

Cal OSHA—California Division of Occupational Safety and Health. In the Department of Industrial Relations.

CCR—*California Code of Regulations (formerly California Administrative Code).*

CEPRC—Chemical Emergency Planning and Response Commission (*California*).

CESQG—Conditionally Exempt Small Quantity Generator **CEQA**—California Environmental Quality Act.

CERCLA—Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

CFR—Code of Federal Regulations.

CNS—Central nervous system.

CO—Carbon monoxide.

CUPA—Certified Unified Program Agency.

DOHS—Department of Health Services (California; a.k.a. CDHS; DHS; SDOHS).

DOT—Department of Transportation, *federal*.

DTSC—Department of Toxic Substance Control.

EHS—Extremely hazardous substance (*SARA Title III*). Any of 406 chemicals identified by EPA as toxic and listed under SARA Title III, 40 CFR 355, Appendix A. The list is subject to periodic revision.

EPCRA—Emergency Planning and Community Right to Know Act of 1986. A.k.a. SARA Title III (42 U.S.C. Sec. 9601 et seq.).

EP toxicity—A toxicity characteristic determined pursuant to EPA Method 1310 from SW-846, *Test Methods of Reevaluating Solid Waste, Physical/Chemical Methods, 2nd or 3rd Edition (Incorporated by reference in Section 66260.11). Replaced by The Toxicity Characteristic Leaching Procedure (TCLP).*

FIFRA—Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. Sec. 136 et seq.).

FR—Federal Register.

HAZWOPER—Hazardous Waste Operations and Emergency Response *training requirements as listed in 29 CFR 1910.120.*

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HSWA—Hazardous and Solid Waste Amendments. *The 1984 law which amended RCRA and created a federal program for underground tanks.*

HWCA—Hazardous Waste Control Act.

ICS—Incident Command System. *The organizational arrangement by which one person, normally the Fire Chief of the impacted district, is in charge of both an integrated, comprehensive emergency response organization and the emergency incident site and is backed by an Emergency Operations Center staff with resources, information, and advice.*

IMO—International Maritime Organization.

LDR—Land disposal restrictions.

LEL—Lower explosive limit or lower flammable limit (**LFL**). *By percentage, the lowest concentration of a substance in air which will ignite.*

LFL—*See LEL.*

LQG—Large Quantity Generator.

LUST—Leaking underground storage tanks.

NPDES—National Pollutant Discharge Elimination System.

NRC—(1) National Response Center; (2) Nuclear Regulatory Commission; (3) National Research Council or (4) Non-Reusable Container (DOT).

OES—Governor's Office of Emergency Services.

OSHA—Occupational Safety & Health Administration (federal). **PCBs**—Polychlorinated biphenyls.

pH—A measure of corrosiveness on a logarithmic scale from 0 to 14 with 7 being neutral, acidity increasing toward 0 and basicity increasing toward 14.

POPS—Performance-oriented packaging standards (U.S. DOT).

POTW—Publicly Owned Treatment Works. *A waste treatment works operated by a state, a unit of local government, or an Indian tribe, usually designed to treat domestic wastewaters.*

ppb—Parts per billion. **ppm**—Parts per million. **ppt**—Parts per trillion.

PRP—Potentially responsible party. *Any individual company—including past and present owners, operators, transporters, or generators—potentially responsible for or contributing to a spill or other contamination at a Superfund site. Whenever possible, through administrative and legal actions, EPA requires PRPs to clean up hazardous sites they have contaminate or contributed to that contamination.*

QA/QC—Quality assurance/quality control.

RCRA—Resource Conservation and Recovery Act of 1976. (42 U.S.C. Ch. 82, Sec. 6901 et seq.).

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REA—Registered Environmental Assessor (CH&SC Sec. 25570 et seq.).

SIC—Standard industrial classification.

SPCC—Spill prevention, control and countermeasures *plan (from CWA)*.

SQG—Small Quantity Generator.

STC—Single trip container (49 CFR).

STLC—Soluble threshold limit concentration (CCR Title 22).

TCLP—Toxicity characteristics leaching procedure.

TPQ—Threshold planning quality *(from EPCRA)*. *A quantity designated for each chemical on the list of extremely hazardous substances that triggers notification by facilities to the State Emergency Response Commission that such facilities are subject to emergency planning requirements under SARA Title III.*

TSCA—Toxic Substances Control Act (15. U.S.C. Sec. 2601 et seq.).

TSD—Treatment, storage, or disposal *facility (from RCRA)*.

TSDF—Treatment, storage, or disposal facility *(from RCRA)*.

TTLC—Total threshold limit concentration *(from CCR Title 22)*.

TTU—Transportable treatment unit.

UBC—Uniform building code.

UEL—Upper explosive limit *or* upper flammable limit (**UFL**). *The maximum percentage of substance in air which will ignite. (See also LEL).*

UFC—Uniform fire code.

UN/NA Code—United Nations/North American *hazardous materials* code.

U.S. EPA—United States Environmental Protection Agency.

UST—Underground storage tank. **WET**—

Waste extraction test (*STLC & TTLC*). **WDR**—

Waste discharge requirements.



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