

Fact Sheet
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SB1158 Designates Aerosol Cans as "Universal Waste"



DEPARTMENT OF TOXIC
SUBSTANCES CONTROL

HAZARDOUS WASTE MANAGEMENT

DTSC is one of six Boards and Departments within the California Environmental Protection Agency. DTSC's mission is to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

State of California



California
Environmental
Protection Agency



Senate Bill (SB) 1158 (Chapter 450, Statutes of 2001), effective January 1, 2002, reduced the regulatory and financial burden of managing hazardous waste aerosol cans by designating them as "universal waste." Before SB 1158, non-empty aerosol cans that were discarded had to be fully managed as hazardous waste. Now, qualified universal waste handlers may process the cans onsite without a permit under certain conditions.

What Are Aerosol Cans?

The principle behind aerosol cans has remained unchanged since the 1920s. Two fluids are sealed in a metal can. One fluid, the product, is a liquid at room temperature; the other, the propellant, is a compressed gas. When the valve at the top of the can is opened (by pressing on it), the expansion of the propellant forces the product through a small tube that extends from the bottom of the can to the nozzle. According to an industry group, the Consumer Aerosol Products Council, up to 1,500 kinds of products, from asthma inhalers to shaving cream and low cholesterol cooking sprays, are packaged as aerosols.

When Are Aerosol Cans Hazardous Wastes?

Aerosol cans are not hazardous waste when they have been emptied of contents, but non-empty aerosol cans may be hazardous wastes. Non-empty Aerosol cans are commonly discarded for a number of reasons, such as: the spray mechanism is damaged or clogged and no longer works, the propellant has been exhausted, or the owner decides that he or she no longer wants or needs the product.

If the aerosol can contains pressurized contents that may explode when heated, if the propellant is ignitable or toxic, or the prod-



uct itself is ignitable, corrosive, or toxic, then the non-empty aerosol can is a hazardous waste. Aerosols containing paint, pesticides and degreasers are several examples of materials that are likely to be hazardous when discarded.

In the past, Chlorofluorocarbons (CFCs) were the most common type of propellants in use due to their low toxicity and relative inertness. However, CFCs were banned as aerosol propellants in the United States in 1978 after they were found to damage the Earth's protective ozone layer. In 1994, Congress banned a related class of compounds, Hydrochlorofluorocarbons (HCFCs) from use as aerosol can propellants.

Today most aerosol cans use a hydrocarbon propellant. While hydrocarbons are less harmful to stratospheric ozone than CFCs or HCFCs, they are very flammable. An aerosol product containing a hydrocarbon propellant can become a fire hazard if sprayed near fire.

The Four Hazardous Waste Characteristics

A non-empty aerosol can may be considered hazardous if its contents have any of the following characteristics (Cal. Code Regs., tit.22, div. 4.5, ch.11):

Ignitability (can readily catch fire)

Corrosivity (acidic or alkaline)

Reactivity (can explode)

Toxicity (poisonous)

What Are "Universal Wastes"?

"Universal waste" is a designation which includes certain hazardous wastes which are commonly generated. Because they pose a relatively lower risk to people and the environment than other hazardous wastes, universal wastes are regulated based on a relaxed set of standards which is more appropriate for the specific hazards they pose. For more information or a listing of universal wastes, see the Department of Toxic Substances Control (DTSC) fact sheet entitled "Managing Universal Waste in California" (available at http://www.dtsc.ca.gov/PublicationsForms/HWM_FS_UWR.pdf), and California Code of Regulations (Cal Code Regs.), title 22, chapter 23.

SB 1158 now allows qualified handlers to process hazardous waste aerosol cans as "universal waste aerosol cans." Processing includes puncturing, draining, and crushing the cans. See Health and Safety Code (Health & Saf. Code), section 25201.16.

What Has SB 1158 Changed?

Before SB 1158, generators of hazardous waste aerosol cans were subject to all the requirements generally applicable to California hazardous waste generators. These requirements included: obtaining an EPA identification number; complying with accumulation time limits; planning for contingencies; training employees; transporting only by registered hazardous waste hauler; and using the Uniform Hazardous Waste Manifest.

Onsite processing of non-empty aerosol cans, by methods such as puncturing, draining, and crushing the cans, was considered hazardous waste treatment that required authorization from DTSC under the Conditionally Exempt-Limited Tier for

onsite treatment of hazardous waste. Health and Safety Code, section 25201.14 required generators to get certification from DTSC that the technology they used for processing the cans did not pose “a significant potential hazard to human health and safety or to the environment.”

SB 1158 deleted from section 25201.14 this certification requirement. In its place, section 25201.16 was added, which made processing hazardous waste aerosol cans a universal waste handler activity. Qualified handlers can now process the cans onsite without a permit or other authorization from DTSC or the local Certified Unified Program Agency (CUPA). A notification requirement exists, as explained below. It is the handler’s responsibility to ensure that equipment used for processing the cans meets the requirements of Health and Safety Code, section 25201.16(e). If you process aerosol cans under the provisions of SB 1158, your processing equipment must be designed, maintained, and operated so as to prevent fire, explosion, and unauthorized releases to the environment.

Note: If the contents drained from the cans are hazardous, you must continue to manage the contents as hazardous waste (Health & Saf. Code, § 25201.16(i)).

Does SB 1158 Apply to Me?

SB 1158 applies to you if you generate or accumulate hazardous waste aerosol cans in accordance with California Code of Regulations, title 22, chapter 23 (which specifies standards for managing universal wastes). You may now process hazardous waste aerosol cans onsite if you meet SB 1158 requirements.

The aerosol can puncturing and draining provisions of SB 1158 do not apply to commercial universal

waste handlers such as offsite hazardous waste facilities, hazardous waste transporters, or transfer facilities. Offsite commercial processors remain subject to all applicable requirements for the management of hazardous waste, including obtaining proper authorization for the type of treatment they conduct (Health & Saf. Code, § 25201.16(a)(7) and 25201.16(h)(1)); Cal. Code Regs., tit. 22, § 66273.9).

Notification Requirements

Health and Safety Code section 25201.16(j) requires you to notify your local CUPA if you process universal waste aerosol cans. The notification can be given in person or by letter, via certified mail, with return receipt requested. Some CUPAs may have a notification form that can be completed. In the absence of a CUPA, send the notification to the agency authorized to implement and enforce the hazardous waste generator program in your jurisdiction. Also notify the CUPA or authorized agency within 30 days of any change in operation that changes the information you originally provided.

Requirements for Handling Universal Waste Aerosol Cans

All handlers of universal waste aerosol cans must comply with the requirements of Health and Safety Code section 25201.16 (e), (f), and (g). If you are a qualified handler who processes universal waste aerosol cans, you are subject to additional requirements in section 25201.16. You must:

- Manage the universal waste aerosol cans in a manner and in equipment designed to prevent fire, explosion, and unauthorized releases to the environment;

- Place the unit used to process aerosol cans above a non-earthen floor that is free of cracks or gaps and is sufficiently impervious and bermed to contain leaks and spills;
- Develop and implement a written operating procedure for safely processing universal waste aerosol cans and handling emergencies;
- Provide a spill clean-up kit and promptly clean-up any spills or leaks of the contents of universal waste aerosol cans;
- Promptly transfer the contents of the drained aerosol cans from the processing device to appropriate containers that meet specified requirements;
- Process the universal waste aerosol cans in a well-ventilated area; and
- Train employees on the proper procedure for sorting and processing aerosol cans and handling emergencies.

Requirements for Containment of Universal Waste Aerosol Cans

When accumulating, processing, or transporting universal waste aerosol cans, you must (Health & Saf. Code, § 25201.16(f)):

- Accumulate and transport universal waste aerosol cans in containers that are structurally sound, and compatible with the contents of the can, and show no evidence of leaks, spills, or damage that could cause leaks;
- Keep containers closed that are used to accumulate or transport processed aerosol cans or waste drained from the cans, except when waste is being added or removed;

- Cover containers at the end of each workday that are used to accumulate universal waste aerosol cans for processing or shipping;
- Place accumulation containers in a location with sufficient ventilation to prevent formation of an explosive atmosphere;
- Place containers of processed cans, drained can contents or cans generated offsite on a surface that is free of cracks and gaps, and is sufficiently impervious and bermed to contain leaks;
- Place aerosol cans in containers that are designed, built, and maintained to withstand pressures reasonably expected during storage and transportation;
- Segregate incompatible materials in separate containers;
- Keep containers of flammable wastes a safe distance from heat and open flames;
- Label containers of universal waste aerosol cans with one of the following phrases: "Universal Waste-Aerosol Cans," "Waste Aerosol Cans," or "Used Aerosol Cans;" and
- During accumulation, sort cans by type and compatibility of contents.

There Are No Exemptions from Universal Waste Regulations for Aerosol Cans

California Code of Regulations, title 22, section 66273.8 temporarily exempts households and certain very small generators of universal wastes from requirements that apply to larger universal waste handlers (until 2/9/2006). These exemptions however do not apply to aerosol cans (Health & Saf. Code, § 25201.16(d)(2)). Homeowners and small generators of non-empty

aerosol cans **are not** allowed to dispose of the cans as solid waste (i.e., put them in the trash). However, anyone may dispose of *empty* aerosol cans as solid waste, or recycle empty cans as scrap metal (Cal. Code Regs., tit. 22, § 66266.2(b)(7)).

Frequently Asked Questions

1. How long can I accumulate universal waste aerosol cans?

For up to one year at each site.

2. Can a business with more than one site transport universal waste aerosol cans to one site for consolidation and processing?

Yes, provided that the business keeps records of shipment and comply with California Code of Regulations, title 22, chapter 23, article 4. Universal waste that is classified as a hazardous material by the United States Department of Transportation (U.S. DOT) regulations must be transported in compliance with applicable U.S. DOT requirements (Title 49, Code of Federal Regulations, Parts 171 through 180).

3. SB 1158 requires that universal waste aerosol cans be processed in a manner and in equipment designed, maintained, and operated to prevent fire, explosion, and the unauthorized release of universal waste to the environment. What is intended by this section of the law?

This is an open performance standard, adopted to grant flexibility. Apply your best professional judgment. Factors to be considered include:

- Is the operation in compliance with the Uniform Fire Code?

- Is the equipment safe?
- Are all the metal parts bonded, and is the equipment grounded?
- Are all electrical components in the immediate vicinity intrinsically safe (such as explosion proof)?
- Is the operation located away from open flames and other ignition sources?
- Are all the equipment components compatible with contents of the can?
- Does the equipment meet Air Pollution Control District requirements?

Also consider things such as:

- Cans stored next to a hot furnace.
- Cans stored near acids where the cans would corrode.
- Cans stored where they are likely to suffer mechanical damage.
- Cans sorted to prevent inadvertent, sequential, processing of incompatible waste.

4. When is a container used to accumulate or transport universal waste aerosol cans considered closed? Structurally sound? Compatible with the contents of the universal waste aerosol can?

The same management standards used for hazardous waste containers apply. Use the general hazardous waste guidance and knowledge to guide your management practices.

5. What does “prior to processing the cans” or “prior to shipping the cans offsite” mean?

“Prior to processing the cans” means after the cans become waste, but before they are processed to remove the contents. “Prior to shipping the cans offsite” means before the cans are processed and/or shipped offsite.

6. What is considered to be sufficient ventilation to avoid formation of an explosive atmosphere?

This is best determined by calculating the airflow in the room or area where cans are being processed and factoring in the releases from the unit. These calculations are commonly performed to design systems and work areas that allow businesses to meet OSHA and CalOSHA exposure limits. Many other businesses regularly perform such calculations to meet the fire code and insurance requirements when they are using flammable solvents with low vapor pressure or flammable gases.

- Note that this standard is most easily enforced when the facility fails to meet it; that is, when the facility fails to keep the atmosphere around the operation below the lower explosive limit (LEL) as measured by a flammable gas meter.

7. What type of container would be considered acceptably designed, built, and maintained to withstand pressure reasonably expected during storage and transportation?

The statutory standard addresses containers that are used to accumulate universal waste cans and containers that are used to accumulate hazardous waste residuals from processing universal waste aerosol cans. It is the generator’s duty to determine that the containers meet this standard. Factors to consider include:

- Aerosol cans are designed to be used and stored in small quantities at temperatures of 130 degrees Fahrenheit or less
- Aerosol cans that are damaged, stored in direct sunlight or stored at high temperatures can explode.
- Hazardous waste residues drained from the cans must be properly managed
- Containers must be compatible with their contents. This includes the contents of the universal waste aerosol cans.
- Containers must be able to withstand the vapor pressure of their contents at the highest temperature that will be reached in storage and transportation.
- Containers must meet the United States Department of Transportation shipment standards established for containers of similar materials.
- Containers must be able to withstand shocks and impacts expected during handling and transportation.
- Containers that bulge, rupture, or leak during accumulation or transportation, are inappropriate containers.

8. What is a surface considered “sufficiently impervious and bermed to contain leaks and spills”?

Impervious means that the liquid will not soak through the surface. This determination must be based on the material to be contained. A wooden enclosure is obviously not in compliance. In many cases, unsealed concrete may not be appropriate due to its porosity. Bermed means that a berm completely surrounds the area where a leak can take place. The statute does not address the volume that must be contained, but is best interpreted as having the capacity to hold the contents of the largest container.

9. *What is considered a safe distance from heat and open flames?*

This is addressed in the Uniform Fire Code. The propellant in aerosol cans is typically a flammable gas and in many cases the contents can produce explosive vapors. These must be isolated from any source of ignition. Unsafe situations can be identified and prevented by applying professional judgment and common sense.

10. *How can I determine “compatibility of contents” when accumulating universal waste aerosol cans?*

Material Safety Data Sheets (MSDS) usually contain information on material compatibility. Appendix V to the California Code of Regulations, title 22, division 4.5, chapter 14 also contains guidance on incompatible wastes. For instance, an alkaline oven cleaner mixed with chlorinated solvents will release highly toxic phosgene gas. Additional factors to consider include:

- Will combining contents from different cans make the mixture impossible to recycle or significantly increase the cost of recycling?
- Will combining different materials subject a large volume of materials to stricter standards due to the contents of one can (for example, a can containing an acutely hazardous waste)?

11. *What is meant by “immediately transfer the contents of universal waste aerosol can to a container meeting the requirements of subdivision (f)”?*

This means that the puncturing device itself must meet the requirements of Health and Safety Code section 25201.16(f). You must transfer the

contents of the puncturing device to such a container as soon as the puncturing operation is completed. It does not mean that the operator must transfer the contents after each individual can is processed. Contents may not be left in the device until the next batch of cans arrives unless the device itself meets the requirements of section 25201.16(f).

12. *What is considered adequate documentation of a training program?*

Follow the requirements in Health and Safety Code section 25201.16(h)(8) in developing a training program. Your documentation should contain:

- A copy of the training materials, a course outline, or a detailed description of the training;
- A list of employees trained and the dates of their training for all active employees managing the non-empty aerosol cans, with the training being appropriate for their duties. Additionally, training documentation should be accessible during an inspection; and
- Note that all generators of hazardous waste, including generators who manage hazardous waste contents drained from aerosol cans, must comply with hazardous waste generators requirements, including personnel training standards in the California Code of Regulations, title 22, section 66265.16.

Disclaimer

This fact sheet provides general information about managing universal waste aerosol cans. Consult the actual statutes and regulations before making any decisions that may impact regulatory compliance. The full text of Health and Safety Code, section 25201.16 is included in this fact sheet on pages 9 through 16.

Questions

If you cannot find the answer to your question in this fact sheet, contact your local CUPA. You may also contact the DTSC Public and Business Liasons. You can call them at 800-728-6942, or contact them through the DTSC website at www.dtsc.ca.gov, click on "Toxic Questions?" and follow the Contact a Live Person! link to the page listing each of the Public and Business Liasons' e-mail addresses.

Public and Business Liasons provide informal guidance only regarding management of hazardous waste for the convenience of the public. Such advice is not binding upon DTSC, nor does it have the force of law. If you would like a formal opinion on a matter by DTSC, please contact the responsible program office directly. You should also refer to the statutes and regulations, CUPA and DTSC Policies and Procedures, and other formal documents.

For more information, contact the DTSC office nearest you, or call the regional Public and Business Liaisons at (800) 72TOXIC (1-800-728-6942). From outside California, call (916) 255-3545.

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