

Container Management for Hazardous Waste Generators Guidance Document

Introduction

The purpose of this document is guidance for container management by hazardous waste generators. While every attempt has been made to remain consistent with existing laws and regulations if any provision of this guidance conflicts with any applicable state or federal law or regulation, the law or regulation shall prevail in that particular instance. All other provisions of the guidance should not conflict with the law and shall remain applicable and to this end, provisions of the guidance are deemed to be severable.

Unless specifically stated otherwise, the information in this guidance document¹ applies to both storage containers and satellite accumulation containers; provided, that if a provision specifically refers to “storage container,” rather than the generic “container,” it does not apply to satellite accumulation containers.

- “Storage Container” refers to a portable device in which hazardous waste is stored, transported, treated, disposed of, or otherwise handled, that is not a satellite accumulation container.
- “Satellite accumulation area” refers to the area where one or more satellite accumulation containers are located.
- “Satellite accumulation container” refers to a hazardous waste container that is located at or near the point where waste initially accumulates and meets the requirements of Louisiana Administrative Code (LAC) 33:V.1011.
- “Central accumulation area” refers to any on-site hazardous waste accumulation area with hazardous waste accumulating in units subject to either LAC 33:V.1013 for Small Quantity Generators (SQG) or LAC 33:V.1015 for Large Quantity Generators (LQG).

Labeling Storage Containers

- Large Quantity Generators (LQG) and Small Quantity Generators (SQG) in Louisiana must label or clearly mark containers storing hazardous waste with the words “Hazardous Waste” and an indication of the hazards of the contents. Examples of an indication of the hazards of the contents include:
 - Hazardous waste characteristic(s) (i.e., ignitable, corrosive) (LAC

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33:V.4903);

- Hazard communication placard consistent with the U.S. Department of Transportation (DOT) requirements of 49 Code of Federal Regulations (CFR) part 172 Subpart E (labeling) or Subpart F (placarding) (<https://www.transportation.gov/regulations>);
- A hazard statement or pictogram consistent with the U.S. Occupational Safety and Health Administration (OSHA) Hazard Communication Standard at 29 CFR 1910.120 (<https://www.osha.gov/laws-regs>); or
- Chemical label consistent with the National Fire Protection Association Code 704 (<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=704>).

A Very Small Quantity Generator (VSGQ) must label their storage containers with the words “Hazardous Waste” or with other words that identify the contents of the container, (e.g., “Spent Solvents,” “Waste Paint,” or “Used Paint Cleaner”). The label or mark must be legible and in good condition. If the label or mark is torn and/or becomes difficult to read, it must be replaced right away.

LQGs and SQGs must clearly mark each storage container with an accumulation start date, which is visible for inspection. The accumulation start date is the date the waste is first added to the storage container **OR** the date a satellite accumulation container becomes full and no longer meets the definition of a satellite accumulation container.

Condition of Containers

Each container must:

- Be in good condition (i.e., no deep creases or dents and no severe rust or corrosion); and
- Have adequate strength and integrity to contain the waste.

Please be aware that each container must meet USDOT packaging standards when shipped off-site. The Federal Motor Carrier Safety Administration can be contacted at 1-800-832-5660 or the Louisiana Division Office at 225-757-7640 regarding any questions about USDOT regulations.

Compatibility with Containers

Each container must be compatible with the hazardous waste to be placed in the container to ensure that the ability of the container to contain the hazardous waste is not compromised. Therefore, the container must be made of or lined with materials that will not react with, or be incompatible with, the hazardous waste to be stored. For example, acid waste must not be stored in a metal container without an appropriate liner because the acid may corrode the metal, releasing the hazardous waste.

LQGs and SQGs shall ensure that each storage container accumulating hazardous waste that is incompatible with any other waste or material accumulated or stored nearby be separated by a dike, berm, wall, curb, or any practical means that will segregate the incompatible wastes and/or materials. Refer to generator status for particular requirements.²

² See LAC 33:V.1011(A)(3).

Prevention of Sudden/Non-sudden Release

As a best practice, hazardous waste liquids with a flashpoint lower than 100°F should be bonded and grounded when adding or removing hazardous waste. This includes non-metallic containers even though the construction material is not conductive (e.g., polyethylene). If the containers are not properly bonded and grounded, a static spark could raise the vapor temperature above the flashpoint, causing an explosion and allowing for the release of hazardous waste.

Closed Containers

To minimize the potential for spills, releases, and volatile air emissions, LQGs, SQGs, and VSQGs must keep each container closed, except when actively adding or removing waste. Containers must be closed in a way that:

- Prevents the escape of vapors; and
- Prevents the release of the contents in the event the container is tipped or knocked over.

To be considered closed each container must be managed as follows:

Open-head drum (e.g., a container that has a removable lid). The lid must be fully seated on the drum's rim and the closure device must be fully secured, so that if the container is tipped and waste contacts the lid, no leaks occur. If the lid is equipped with a gasket, the gasket must be in good condition.

Closed-head drum (e.g., a container with a non-removable lid and, typically, two bungholes). The bung gaskets are in good condition and bungs are fully secured, so that if the container is tipped and waste contacts the bungs, no leaks occur.

A funnel with a lid can be used with a closed-head drum. The funnel must be securely screwed into a bunghole. The other bunghole must be closed unless it is fitted with an emission control device to control emissions from container breathing loss. The lid of the funnel may need to be fitted with a gasket firmly sealing the funnel lid.

The funnel lid needs to be kept closed unless waste is being actively added or removed. The lid may be closed by a latching mechanism, other spring-loaded device, or similar latching mechanism.

Another type of funnel that may be used is one that has a one-way valve that allows liquid hazardous waste to enter the container but prevents the waste and air emissions from escaping. Level indicators can be used on closed-top containers to prevent overfilling.

Bag. The opening must be securely closed so that no waste is visible.

Box. The lid or flaps must be securely closed with no gaps, holes, tears, or openings in the box.

Roll-off box, dumpster, tote, Gaylord container, and similar container. Lids, covers, hatches, and tailgates must be securely closed and fastened to the container. There must be no holes, tears, or gaps in the covers or lids. The covers or lids must cover the entire opening with no visible gaps along the edges.

Solid and semi-solid hazardous waste in satellite accumulation containers. For solid and semi-solid hazardous wastes that emit Volatile Organic Compounds (VOCs), the closed containers criteria listed in the preceding paragraphs must be followed. Otherwise, for solid and semi-solid hazardous wastes that do not emit VOCs, the container will be considered closed as long as there is complete contact between the lid and the entire circumference of the rim of the container (e.g., spent aerosol cans or sample containers in a satellite accumulation container). If there is a reasonable possibility of tipping, the container must be secured.

Satellite accumulation containers attached to processes or instruments that continuously generate hazardous waste. These containers are commonly found in laboratories or research facilities where gas chromatography (GC) or high-pressure liquid chromatography (HPLC) equipment is used. Such containers must be closed to minimize air emissions when the equipment is not in operation. Closure may be achieved by using a gasket to seal any opening between the top of the container and the hose that drains liquid hazardous waste from the equipment into the container. Secondary containment is recommended to contain a release in the event the container is overfilled or overturned. The container may be secured to reduce the chance the container is overturned. If a spill does occur, it must be cleaned up immediately with clean-up residuals properly managed and disposed.

Other considerations for closed containers

- It is recommended that gaskets are installed and maintained where appropriate (e.g., subject to DOT regulations) for proper closures.
- If a container is located outside and precipitation is able to accumulate on the cover or lid, the cover or lid must be impervious to water and able to support the weight of any accumulated precipitation.
- To prevent the possible build-up of pressure in containers that hold liquid hazardous wastes, a pressure release valve should be considered. The valve must remain closed when not venting.
- LDEQ recommends grounding any container storing ignitable waste prior to adding or removing waste to prevent sparks or fire hazards.
- The container may be anchored to prevent tipping (for example secured to a wall or a pole).

Location of Containers

Aisle Space

SQGs and LQGs are required by LAC 33:V.1013.C.8.e. and 1015.B.6.e respectively to “maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, ...unless aisle space is not needed for any of these purposes.”

Ignitable and Reactive Wastes

For LQGs, each storage container storing ignitable or reactive hazardous waste must be stored at least 50 feet from the facility’s property line unless a written approval is obtained from the authority

having jurisdiction over the fire code at the facility's location (i.e., state fire marshal or district fire chief). A record of the approval must be maintained as long as hazardous waste is being accumulated in the area. An example of a container location needing a waiver would be a LQG dry cleaner, who generates spent tetrachloroethylene (or PERC) located in a strip mall that does not have at least 50 feet behind the building to store the hazardous waste in a central accumulation area.

Conspicuous Signage

Evaluate need for appropriate signage in areas where containers are handled or stored.

- “Hazardous Storage Area”
- For ignitable waste and reactive waste, in particular: “No Smoking / No Open Flames/No Sparks / No Hot Work / Do Not Store Other Chemicals Here / No Heat Sources”
 - “No Smoking” signage is required in central accumulation areas when storing ignitable waste or reactive waste.

Air Emission Standards

LQGs should be aware that organic air emission standards might be applicable to their storage containers. These regulations are located in LAC 33:V.1015.B.1.a, which directs the LQG to LAC 33:V.Chapter 17.Subchapter C for air emission standards for tanks, surface impoundments, and closures. LDEQ encourages each LQG to review its waste management practices to ensure compliance with these regulations and to obtain professional consulting services if necessary.

Containers storing hazardous waste may be exempt from the air emission standards in LAC 33:V.Chapter 17.Subchapter C. Exemptions include:

- Containers storing hazardous waste at a VSQG facility.
- Containers storing hazardous waste at a SQG facility.
- Containers smaller than 26.4 gallons (0.1 cubic meters).
- Containers accumulating hazardous waste in satellite accumulation areas.
- A container that holds hazardous waste placed in the unit before December 6, 1996, and in which no hazardous waste is added to the unit on or after December 6, 1996.
- A container that is used solely for on-site treatment or storage of hazardous waste that is placed as a result of implementing remedial activities of Resource Conservation and Recovery Act (RCRA) Sections 3004(u), 3004(v), or 3008(h), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authorities, or similar state authorities.
- A container that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act.
- A container that the owner or operator certifies is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act (CAA) regulation.

Inspections

Inspecting the areas where hazardous waste containers are stored helps the generator identify

containers that might be leaking, or are otherwise in poor condition, before hazardous waste is released to the environment. Keeping a written record of the inspection information provides documentation that required inspections are performed and, if problems are discovered, that corrective action was taken.

Conducting Inspections

SQGs and LQGs are required to conduct weekly inspection of each area where hazardous waste storage containers are located.

Inspections are not required for satellite accumulation containers.

Regardless of frequency, all inspections must include, but should not be limited to, a check for any container deterioration and leaks. LDEQ recommends that inspections also include a check for the following:

- Each container is properly labeled or marked.
- Labels or markings are easily viewed.
- Dates on each container are properly recorded and are within 90 days of the accumulation start date for LQGs and 180 days of the accumulation start date for SQGs.
- Containers are properly closed.
- Incompatible wastes and other materials are properly segregated.
- Secondary containment, if provided, is in good condition.
- For SQGs and LQGs, aisle space throughout the facility meets the requirements of LAC 33:V.1013.C.8.e and 1015.B.6, respectively.
- For LQGs, each storage container storing ignitable or reactive hazardous waste must be stored at least 50 feet from the facility's property line unless written approval is obtained from the authority having jurisdiction over the fire code at the facility's location (i.e., state fire marshal or district fire chief). A record of the approval must be maintained as long as hazardous waste is being accumulated in the area. An example of a container location needing a waiver would be a dry cleaner that generates spent PERC and is located in a strip mall that does not have at least 50 feet behind the building to store the hazardous waste in a central accumulation area.

Documenting Inspections

To demonstrate compliance, LDEQ recommends that each inspection be recorded and the record kept for at least three years from the date of the inspection. At a minimum, the following information should be recorded:

- Date and time of inspection;
- The name (not just initials) of the inspector;
- Observations (e.g., leaks, rusting); and
- The date and nature of any repairs or other remedial actions.

Satellite Accumulation Containers

In December 1984, EPA defined the term Satellite Accumulation Area (SAA) as places where hazardous waste is generated in an industrial process or laboratory and where the waste is initially accumulated prior to removal to a central accumulation area. Note that the regulations refer to “containers”; however, the regulatory SAA provisions actually relate to the area itself.

Location. A SAA must be located at or near the point of generation and “under the control of the operator”³ of the process generating the hazardous waste. LQGs and SQGs may use Satellite Accumulation Containers (SAC). SACs may not be used by VSQGs.

The regulations do not limit the number of SAAs where a generator can accumulate its hazardous waste. A generator can identify a SAA by painting lines on the floor, hanging a sign on the wall, or rope or fence off the area. Even though the regulations do not require designating an area as a SAA, designating an area is recommended as a Best Management Practice.

Quantity. The quantity limit for a SAA is 55-gallons of non-acute hazardous waste and one quart of acute liquid hazardous waste or one kg of acute solid hazardous waste⁴. Louisiana allows multiple waste streams and multiple points of generation to be managed in a single SAA as long as the above location requirements and quantity limits of HW are not exceeded. There may be certain cases where multiple SAA’s can exist within the same general area if each are clearly identified, and the point of generation is distinctly different.

The total quantity of non-acute hazardous waste in a SAA is limited to 55-gallons. However, the capacity of the container is not limited but may be greater than 55-gallons. For example, an 85-gallon container could be used, as long as no more than 55-gallons are placed in it. Once the 55-gallon capacity is exceeded, the container must either be emptied, or dated and within 3 consecutive calendar days, move the container(s) to a hazardous waste container storage area (Central Accumulation Area) or manage as a storage container. To avoid possible mismanagement of hazardous waste, LDEQ recommends using compatible containers with a capacity of no more than 55 gallons as SACs.

Container Requirements. Each satellite accumulation container must be marked with both the words “Hazardous Waste” and an indication of the hazards of the contents. Indications of hazards examples include:

- Hazardous waste characteristic(s) (i.e., ignitable, corrosive) (LAC 33:V.4903);
- Hazard communication placard consistent with USDOT requirements of 49 CFR part 172 Subpart E (labeling) or Subpart F (placarding) (<https://www.transportation.gov/regulations>);
- A hazard statement or pictogram consistent with US OSHA Hazard Communication Standard at 29 CFR 1910.120 (<https://www.osha.gov/laws-regs>); or

³ A satellite accumulation area/container is under control of the operator when qualified personnel are in the vicinity of the hazardous waste point of generation/accumulation (job duties keep the individual in the vicinity) and are qualified and able to act in a manner to immediately respond to any spill or release of the hazardous material.

⁴ For discussion purposes, substitute “one quart” or “one kg” for “55-gallons”.

- Chemical label consistent with the National Fire Protection Association Code 704 (<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=704>).

Satellite Accumulation Containers must:

- 1) be in good condition;
- 2) be compatible with the waste;
- 3) meet any special requirements for incompatible wastes; and
- 4) be closed except when adding or removing or consolidating waste or when temporary venting of the container is necessary.

Transition from a Satellite Accumulation Container to a Storage Container. Generators may not move waste between SAAs. Once the hazardous waste leaves a SAA, it must be transported to a 90/180/270 day Central Accumulation Area, a permitted or interim status area or unit, or offsite.

A hazardous waste container ceases to be a SAC if one of the following occur:

- The volume limit of 55-gallons non-acute or 1 kg/qt of acute hazardous waste from a specific waste stream located at an SAA is exceeded; or
- The container is no longer at or near the point of generation; or
- The container is no longer under the control of the operator.

A SAC is not required to have an accumulation date. An accumulation date is necessary when the container no longer meets the criteria of a SAC. Once the SAC no longer meets one of the above criteria, the generator must:

- Place an accumulation start date on the container(s) accumulating the excess (for discussion of what constitutes the “excess”, see next section); and
- Within 3 consecutive calendar days, move the container(s) accumulating the excess to a hazardous waste container storage area (Central Accumulation Area); or
- Transfer the contents into a storage container, tank, or recycling unit; or
- Begin to manage the container(s) accumulating the excess as a storage container at the location where the waste was generated (SAA) or manage all non-full containers as storage containers until the SAA is below the 55-gallon limit in accordance with LAC 33:V.1013.C or LAC 33:V.1015.B.

“Excess” Hazardous Waste in a Satellite Accumulation Area.

A SAA has accumulated an “excess” of hazardous waste when the volume limits for either non-acute or acute hazardous waste has been exceeded. Once the volume limits have been exceeded, the container(s) with the “excess” amount must be managed as a storage container if not moved within the 3 consecutive calendar days to a CAA and regulated as such according to LAC 33:V.1013.C for a SQG or LAC 33:V.1015.B for a LQG. For example, a SAA contains one full 55-gallon container of hazardous paint waste and a partially filled second 55-gallon container with hazardous paint waste/spent solvents. The total volume of the containers is approximately 70 gallons. The total volume in the SAA has exceeded the

volume limit for non-acute hazardous waste in a SAA. The generator must manage the original full SAA container as a storage container (subject to LAC 33:V.1013.C or LAC 33:V.1015.B) if not moved to a CAA within three (3) consecutive calendar days. Alternatively, the generator may take steps to reduce the accumulated volume in the SAA to below the appropriate quantity limit of hazardous waste (55 gallons non-acute, 1 quart/kilogram acute).

SAA in Laboratories.

Containers in laboratories represent a distinct situation concerning SAA requirements. Since waste and container movement within a generator's laboratory is unique to a facility, LDEQ will evaluate compliance with the SAA regulations on a case-by-case basis. Emphasis should be placed on the prohibition that the wastes cannot be moved from one SAA to another SAA.

In cases where there are multiple points of generation within the same SAA, movement or consolidation within the SAA is permissible as long as the waste remains "at or near" the point of generation and under the control of the operator of the process generating the waste. The total quantity of non-acute hazardous waste in a SAA remains limited to 55-gallons.

Additional resources, such as McCoy's RCRA Unraveled publication or EPA's website (<https://www.epa.gov/hwgenerators/hazardous-waste-generator-regulations-compendium>), are available to generators and further explain the regulatory requirements for SAA.

Other SAA Information

- SAA Time Limitation.** EPA and Louisiana do not specify how long wastes can remain in an SAA (if the volume/quantity limits are not exceeded). SACs are not subject to the Land Disposal Restrictions (LDR) one-year storage provision. SACs accumulating hazardous waste can remain in a SAA as long as the quantity limit is not exceeded and the container meets the other regulatory requirements i.e. the SAC is in good condition and does not leak or cause a spill.
- Monthly Waste Totals.** Hazardous waste generated and accumulated in SAAs are to be included in the monthly waste totals to determine the facility's generator status.

Training Recommendations

Although not required, LDEQ recommends that persons using satellite accumulation containers are trained to:

- Label each container with the words "Hazardous Waste" (VSQGs - or other words that identify the contents of the container);
- Label each container with an indication of the hazards of the contents;
- Keep each container properly closed;
- Keep each container in good condition; and
- Use a container that is compatible with the waste.

RCRA Empty Containers

“RCRA empty” is a phrase that is used to refer to a container whose contents (residues) are so minimal that they are no longer subject to regulation as a hazardous waste. As a result, the container, with the residue, may be disposed of as a solid waste. “RCRA empty” criteria depend on the type of waste that was held in the container.

A container or an inner liner removed from a container that held hazardous waste (except acute hazardous wastes or compressed gas) is RCRA empty if all wastes have been removed that can be removed using methods commonly used to remove materials for that type of container (e.g., pouring, pumping, and aspiration); and

- No more than 1 inch of residue remains on the bottom of the container or inner liner; or
- No more than 3% by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 119 gallons in size; or
- No more than 0.3% by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 119 gallons in size.

A container or an inner liner removed from a container that held an acute hazardous waste is considered RCRA empty if:

- The container or inner liner has been triple rinsed using a solvent capable of removing the acute hazardous waste; or
- The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by a test conducted by the generator, to achieve equivalent removal; or
- In the case of a container, the inner liner that prevented contact of the acute hazardous waste has been removed from the container.

A container that held a hazardous waste that is a compressed gas, is considered RCRA empty when the pressure in the container approaches atmospheric pressure.

Summary

This document provides hazardous waste generators guidance on managing hazardous waste containers at their facility for the purposes of complying with LAC 33:V.Chapter 10. This document also provides information and examples of what LDEQ considers acceptable practices that meet the requirements of the container regulations. LDEQ encourages generators to contact the Enforcement Division at (225) 219-3931, the Surveillance Division at (225) 219-3615, or the nearest Regional Office (<https://www.deq.louisiana.gov/directory>) should they have any questions regarding the information provided in this document.