



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

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Subject: Guidance on 40 CFR 264.173(a) and 265.173(a): Closed Containers

From: Robert Dellinger, Director *Robert Dellinger*
Materials Recovery and Waste Management Division

To: RCRA Division Directors
Regions 1 – 10

This memorandum provides Agency guidance to assist EPA Regions, authorized states and the regulated community in determining when a container is “closed” for purposes of 40 CFR 264.173 (a) and 40 CFR 265.173(a).¹ This guidance is relevant to both small and large quantity hazardous waste generators accumulating hazardous waste in central accumulation areas (CAA) and in satellite accumulation areas (SAA).² Similarly, this guidance is applicable to containers being stored at RCRA permitted and interim status facilities. We developed this guidance in response to stakeholder comments we received from an Advanced Notice of Proposed Rulemaking (ANPRM) published in the Federal Register on April 22, 2004 (69 FR 21800). The ANPRM was part of an evaluation of EPA’s hazardous waste generator regulatory program.

INTRODUCTION/BACKGROUND

A container is defined under 40 CFR 260.10 as “any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.” EPA promulgated the RCRA container regulations for large quantity generators (LQGs) accumulating hazardous wastes in containers at non-permitted storage areas on May 19, 1980 (45 FR 33244) and for small quantity generators (SQGs) on March 4, 1986 (51 FR 10175). These regulations are found at 40 CFR 262.34 (a)(1)(i) and 40 CFR 262.34 (d)(2), respectively. The technical requirements for large and small quantity generators accumulating hazardous wastes in closed containers and interim status facilities storing hazardous wastes in closed containers are found at 40 CFR 265.173(a), while the technical requirements for permitted facilities storing hazardous waste in closed containers is found at 40 CFR 264.173 (a). 40 CFR 270.15 provides specific Part B information requirements for permitted facilities. EPA also promulgated regulations addressing containers located at SAAs on December 20, 1984 (49 FR 49568). See 40 CFR 262.34 (c)(1) and (2). These

¹ I wish to acknowledge the constructive comments received from the Office of Enforcement and Compliance Assurance and EPA Regions on earlier drafts.

² This guidance is not applicable to persons subject to Universal Waste rules under Part 273, or persons subject to other Subtitle C regulatory requirements, such as Subpart K regulations for Laboratories Owned by Eligible Academic Entities (See 73 FR 72954, December 1, 2008).

regulations reference compliance with 40 CFR 265.171 (Condition of containers), 40 CFR 265.172 (Compatibility of waste with containers), and 40 CFR 265.173(a) (Storage of waste in closed containers).³

Among other requirements, the regulations in Part 265, subpart I require that “a container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.” 40 CFR 265.173(a). In addition, the regulations require that “a container accumulating hazardous waste must **not** be opened, handled or stored in a manner which may rupture the container or cause it to leak.” 40 CFR 265.173(b).⁴

LQGs utilizing containers with a volume greater than 0.1 cubic meters (approximately 26 gallons) that store hazardous wastes containing volatile organic compounds (VOCs) at concentrations of 500 ppmw or greater also must comply with the air emission control requirements at 40 CFR 264.1086 for permitted units, and 40 CFR 265.1087 for non-permitted units. (See the EPA publication, RCRA Organic Air Emission Standards for TSDFs and Generators,⁵ which summarizes the Subpart CC requirements.) The Subpart CC standards apply to containers in CAAs, but do not apply to containers in SAAs.

The May 19, 1980, preamble to the final rule at 45 FR 33199 associated with the first set of RCRA hazardous waste regulations explains the rationale for requiring containers storing hazardous wastes to be closed.

“.....Its purpose is, as it was originally, to minimize emissions of volatile wastes, to help protect ignitable or reactive wastes from sources of ignition or reaction, to help prevent spills, and to reduce the potential for mixing of incompatible wastes and direct contact of facility personnel with waste. While many commenters argued and the Agency agrees that storage may properly be conducted in open tanks and surface impoundments, requiring containers to be kept closed does not unnecessarily restrict storage options. All containers have lids or some other closure device, and keeping containers closed whenever possible is simply a matter of good operating practice. It is not expected that containers of hazardous waste need be opened routinely to inspect the waste or the container for reasons other than to add or remove waste.”

³ Please be aware that generators storing and transporting hazardous waste must comply with applicable Occupational Health and Safety Administration (OSHA) regulations found at 29 CFR Parts 1910 and 1915, and Department of Transportation (DOT) Hazardous Material regulations found at 49 CFR Part 172.101. For example, 29 CFR 1915.173(d) states that “Unless pressure vessels, drums and containers of 30 gallon capacity or over containing flammable or toxic liquids or gases are placed in an out-of-the-way area where they will not be subject to physical injury from an outside source, barriers or guards shall be erected to protect them from such physical injury.” Similarly, 29 CFR 1915.173(e) states, “Containers of 55 gallons or more capacity containing flammable or toxic liquid shall be surrounded by dikes or pans which enclose a volume equal to at least 35 percent of the total volume of the containers.”

⁴ These regulations also apply for hazardous wastes stored in containers at permitted facilities. See 40 CFR 264.173(a) and (b).

⁵ RCRA Organic Air Emission Standards for TSDFs and Generators, US EPA, Office of Solid Waste and Emergency Response, Region 3 Waste and Chemicals Management Division, EPA 530-F-98-011, July 1998, pages 4-5.

In effect, the container regulations at 40 CFR 265.173(a) and (b), as well as 40 CFR 264.173 (a) and (b) for permitted units are performance standards designed to minimize the potential for spills, releases, and volatile air emissions depending on the nature of the waste, containers, and operations.

THE ISSUE

Over the years, the regulated community has expressed some confusion over the application of the “closed container” regulations. The existing federal RCRA Subtitle C container regulations do not define “closed container.” Because of different operational scenarios, a number of states issued technical guidance defining more precisely how to accumulate hazardous waste in containers. For example, Ohio and Kansas issued guidance for closed containers. In developing our guidance, we drew information from a number of state technical determinations, constructive feedback from the Office of Enforcement and Compliance Assistance (OECA), several EPA Regions, and comments from the 2004 ANPRM. Our goal is to clarify the closed container regulations so that EPA and states can better implement them, and the regulated community can better comply with them.

This document provides EPA’s guidance on the federal RCRA hazardous waste regulations regarding the meaning of “closed containers.” It does not supersede or replace any existing state closed container guidance. EPA authorizes the states to implement the RCRA hazardous waste program. States promulgate their own hazardous waste regulations and a state’s authorized regulations are applicable within the state in lieu of the federal regulations. In addition, a state’s regulations may be more stringent or broader in scope than the federal regulations. Thus, we encourage generators to check with the appropriate state agency for regulatory requirements. If the state is not authorized, then the EPA regional office would determine the applicable requirements.

This guidance is not a rule and is not legally enforceable. As indicated by the use of non-mandatory language such as “may” and “should,” it provides recommendations and does not impose any legally binding requirements. This memorandum provides recommended procedures and approaches to assist EPA and authorized state program implementers, as well as the regulated community, in determining when a container is “closed” for purposes of 40 CFR 264.173 (a) and 40 CFR 265.173(a). This memorandum does not replace any existing laws or regulations.

FRAMEWORK FOR GUIDANCE

This guidance provides information to assist federal and authorized state program implementers, and the regulated community with the closed container provisions of 40 CFR 264.173 (a) and 40 CFR 265.173 (a). The focus is on addressing those goals identified in the preamble to the 1980 final rule: preventing spills and minimizing emissions from volatile wastes. This guidance consists of two parts: containers of hazardous waste in a central accumulation area (CAA)^{6, 7} and containers of hazardous waste in a satellite accumulation area (SAA).⁸ In

⁶ The Academic Labs rule (73 FR 72954, December 1, 2008) identified in Footnote 1 defined a central accumulation area as an on-site hazardous waste accumulation area subject to §262.34(a) (for large quantity generators); or §262.34(d)–(f) (for small quantity generators).” (See 40 CFR 262.200.)

SAAs, hazardous wastes are accumulated at or near the point of generation. Once generated, hazardous wastes from the plant processes, including the accumulated hazardous waste from the various SAAs are sent to the CAA. Where appropriate, we also discuss containers accumulating hazardous waste in permitted and interim status storage areas. The discussion for containers accumulating hazardous waste in a SAA and CAA focuses on 55-gallon drums. However, since other types of containers may be used, we also provide a discussion of those containers.

I. Central Accumulation Areas

A CAA is a location where hazardous waste containers are kept according to the generator accumulation requirements at 40 CFR 262.34(a) and 40 CFR 262.34(d) without a facility having to obtain a RCRA storage permit or having interim status.⁹ ¹⁰ The regulations require that these containers remain closed, except when necessary to add or remove hazardous waste (40 CFR 265.173(a)) and that containers must not be opened, handled or stored in a manner which may rupture the container or cause it to leak (40 CFR 165.173(b)).

For containers storing hazardous wastes subject to the Subpart CC regulations, the container regulations are much more detailed because of concerns associated with VOCs. The objective of these regulations is to prevent the release of VOCs into the atmosphere. For typical containers, such as 55 gallon drums, EPA recommends that a container cover be properly secured with snap rings tightly bolted, bungholes¹¹ capped, and, where appropriate, pressure-vacuum relief valves to maintain the container's internal pressure to avoid explosions. Figure 1 provides an example of a container in compliance with the Subpart CC requirements.

CAAs are located either in an outdoor area within the facility boundary, or inside of the facility away from production operations. While RCRA regulations require containers be closed when not adding or removing hazardous wastes, EPA also recommends that containers be closed securely while in the CAA to prevent spills or releases. Generators should take care to ensure that operations within the accumulation area do not result in rupturing the container as they move it either into or out of the CAA.

⁷ Other terms have been used in previous preambles and correspondence to define accumulation units that receive hazardous wastes from one or more satellite accumulation areas within a facility. They include central storage area, generator accumulation area, and central accumulation area. We chose central accumulation area because this term was recently defined in the Academic Labs Rule (73 FR 72954, December 1, 2008)

⁸ Attached to this document, for your information, is the memorandum, Frequently Asked Questions About Satellite Accumulation Areas, Robert Springer, Director, Office of Solid Waste, March 17, 2004.

⁹ A small quantity generator also may accumulate the requisite quantities of hazardous waste on-site for up to 270 days if it has to transport its waste a distance of 200 miles or more for off-site treatment and disposal. (See 40 CFR 262.34(e).)

¹⁰ A facility may have more than one CAA for accumulating hazardous wastes.

¹¹ A bunghole is a small opening in a drum, barrel, or cask where materials may be added or removed.

Figure 1



II. Satellite Accumulation Areas

A SAA is a location within a facility where the initial generation of a hazardous waste occurs and where the hazardous waste is accumulated in a container. 40 CFR 262.34(c)(1) and (c)(2) describe the requirements for generators accumulating hazardous waste in a SAA, including the requirement that the generator accumulate the hazardous waste in a “closed” container, except when adding or removing waste from the container (40 CFR 265.173(a)). EPA regulations state that container(s) in a SAA can accumulate up to a total of 55 gallons of any particular hazardous waste.¹² While most facilities will have a SAA with only one container (usually a 55 gallon container), some facilities may generate multiple waste streams in a SAA and require more than one container, although they cannot accumulate more than 55 gallons total regardless of the number of containers.

For example, an electronic component manufacturing line may generate a liquid flammable hazardous waste stream and a solid wipes waste stream. When 55 gallons of all wastes (in total) are reached in a SAA, the generator may choose to manage the entire 55-gallons or the material in excess of 55 gallons in accordance with 40 CFR part 265, or the 40 CFR part 264, subpart I requirements. A generator who accumulates hazardous waste in excess of 55 gallons must, with respect to the amount of excess waste, comply within three days with 40 CFR 262.34(a). The hazardous waste may be moved from the SAA to a CAA for subsequent management (see 40 CFR 262.34 (c)(2)) at a permitted, interim status, or exempt on-site unit, or for off-site management at a RCRA permitted or interim status treatment, storage and disposal facility (TSDF)). The generator must mark the container holding the excess accumulation of hazardous waste with the date the excess amount began accumulating.

¹² The generator also may accumulate up to one quart of acutely hazardous waste in a SAA before having to move the entire quart or excess amount to a CAA, or another on-site regulated unit. (See 40 CFR 262.34(c)(1).)

40 CFR 262.34 (c)(1) requires containers accumulating hazardous waste in SAAs to be located “at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste...” to ensure any spills or releases are quickly noticed and addressed. Some Regions and states recommend utilizing an “in sight of” approach to implement this requirement; however, site-specific conditions should generally determine compliance with what constitutes “at or near any point of generation.” 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. As an example, it would be permissible if spent solvent was generated at the bench and then consolidated into a 55 gallon container at the end of a shift within the same SAA, so long as the waste remained “at or near” the point of generation and under the control of the operator.

EPA issued guidance for SAAs, stating it is permissible to have more than one hazardous waste in an SAA. Likewise, it is permissible to have more than one container of hazardous waste in an SAA. The regulations do not limit the number of hazardous wastes or the number of containers that can be placed in an SAA. The regulations limit only the total volume of hazardous waste at a single SAA to 55 gallons (or 1 quart of acute hazardous waste). If there are multiple containers of hazardous waste in a SAA, each container must be labeled in accordance with 262.34(c)(1)(ii).¹³ Similarly, what constitutes an SAA (i.e., one or more wastes or one or more containers) is a site-specific determination made by the hazardous waste generator.

The next sections of this guidance document focus on accumulation in containers of different forms of hazardous waste and, as appropriate, different types of hazardous waste, that take place in a SAA.

1. Containers Accumulating Liquid Hazardous Wastes in Satellite Accumulation Areas

Containers used to accumulate liquid hazardous wastes, or free liquids, such as spent organic solvents, raise the most questions, because so many generators use liquid solvents as part of their production or manufacturing processes. Management of liquid hazardous wastes in containers poses three potential problems: risks from inhalation, risks from the potential buildup of vapors, and risks from an accidental spill. As discussed previously in this memorandum, EPA explained in its May 19, 1980, preamble to the final rule at 45 FR 33199, the reason for requiring closed containers—that is, to minimize emissions, prevent spills, prevent ignitability and reactivity, and reduce the risk of mixing incompatible wastes. In fact, 40 CFR 264.173 (b) and 40 CFR 265.173(b) specifically require that containers “. . . must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.” Therefore, generators must ensure that hazardous wastes being accumulated in closed containers are managed in a manner that prevents leaks and ruptures.

EPA generally considers a container accumulating free liquids or liquid hazardous wastes in SAAs to be “closed” when all openings or lids are properly and securely affixed to the container, except when wastes are actually being added to or removed from the container. The objective of ensuring that the lid is securely affixed to the container or ensuring the lid completely covers the container, is to prevent the release of any volatile (or organic) emissions,

¹³ Ibid, Frequently Asked Questions About Satellite Accumulation Areas, Robert Springer, Director, Office of Solid Waste, March 17, 2004.

and to prevent a spill if the container is tipped over. Because hazardous waste may be added frequently to a container in a SAA, it may not be practical for the generator to secure the cover or lid using snap rings, securely cap the bungholes, or securely fasten the container with other types of covers or lids during working hours. However, while it may not be practical to secure snap rings, etc. to the container, it is still important for the container to be covered tightly to prevent spills and air emissions.

We believe containers holding free liquids, or liquid hazardous waste, in the SAA would meet the regulatory definition of "closed" through a variety of approaches. For example, special funnels with manually or spring closed lids or other similar closing devices could be used for closed-head drums or closed-top drums (e.g., containers that have two bung holes with non-removable lids). Similarly, funnels used to add or remove liquid hazardous wastes from these containers would be screwed tightly into the bunghole and fitted with a gasket, if necessary, to seal the funnel lid firmly closed. In some cases, the funnel lids for closed-head drums and closed-top drums may be fitted with a locking mechanism. This keeps the lid in a closed position. All other openings on the drum lid should generally be properly closed or capped. Another alternative is the use of a funnel with a one-way valve that allows hazardous waste to enter the container, but prohibits the waste or emissions from exiting the container.¹⁴ Figure 2 shows an example of a closed container with a funnel, and Figure 3 shows an example of a container with an open funnel.

Figure 2



¹⁴ This practice is recommended by the State of North Carolina. See Hazardous Waste Compliance Manual for Generators of Hazardous Waste, North Carolina Department of Environment and Natural Resources, Compliance Branch, 2000, page 49.

Figure 3



Liquid hazardous wastes also can be accumulated in open-head drums or open-top containers (e.g., where the entire lid is removable and typically secured with a ring and bolts or a snap ring) and meet the definition of “closed,” provided the rings are clamped or bolted to the container. In some situations, the container could be considered closed if the lid covers the container top securely even though the rings are not clamped or bolted. Several states take this approach, and EPA believes it reflects a reasonable interpretation of the regulations. Figure 4 shows an example of an open-head closed container.)

Figure 4



2. Containers Continuously Receiving Liquid Wastes

Generators will often attach accumulation containers to processes or instruments, for example, gas chromatographs, that continuously generate hazardous waste. To prevent malfunctions or incorrect readings, the accumulation container may require a vent system.

However, the container must still be closed to minimize releases. In addition, we recommend that operators should monitor the process operation to the extent possible to observe releases. We also recommend secondary containment, such as a pan or securing the containers to prevent overturning. When the device is not in operation, the containers should be closed.

3. Preventing Spills

Closed containers also prevent spills from occurring. While the regulations allow flexibility in determining whether a container is closed, it is important to prevent the container from spilling its contents. One recommended practice is for a generator (or TSDF) to locate its containers in areas with little or no vehicular traffic, such as forklifts. This practice reduces the opportunity for accidental spills or overturned containers. This is also a good practice for containers storing hazardous wastes in CAAs.

Similarly, we recommend that generators (and TSDFs) with containers that do not have lids securely affixed (e.g., a bolted ring clamp or locked funnel lid) secure such containers with a chain or strap to a wall or building support column to prevent the loss of liquids from accidental overturning of the container. This we believe is a basic work practice for managing some containers, such as compressed gas containers that do not meet the regulatory definition of "empty," and containers located where there is seismic risk. Alternatively, in situations where no building support is available for securing the containers, we recommend that generators (and TSDFs) strap the containers together to prevent overturning. However, the generator must continue to comply with the SAA requirements that the containers be located at or near the point of generation and not exceed the quantity limitation of 55 gallons.

Although not required in 40 CFR 262.34, a good management practice often implemented by hazardous waste generators is using a secondary containment system for accumulating hazardous wastes.¹⁵ Some of these containment systems can be inexpensive, such as use of a pan or tub to collect any releases or spills that might occur in the course of adding or removing wastes, or from a leaking container. Additionally, to prevent unnecessary pressure buildup after the addition of liquids in drums, the generator should consider using valve vents or level indicators. The use of level indicators may prevent the overfilling of a container that could result in unsafe working conditions and a costly cleanup.¹⁶

The regulations require containers to be closed, except when adding or removing waste. This requirement applies even when the plant is not operating. Preventing spills and emissions is just as important when the plant is shutdown as it is when operating. While accidents generally do not occur when the facility is closed or inactive, the regulations still require that containers be securely closed even when operators are not present (e.g., when work stops, such as at the end of a workday, or before the start of a weekend) to prevent the escape of volatile emissions. Similarly, requiring an operator to secure the cover or lid using snap rings, capping the bungholes, or securely fastening the container with other types of covers or lids is not time-consuming and adds protection for the facility when it is closed down for the weekend or periods of inactivity.

¹⁵ Facilities subject to a Part B storage permit under 40 CFR 264.175 are required to have secondary containment for containers.

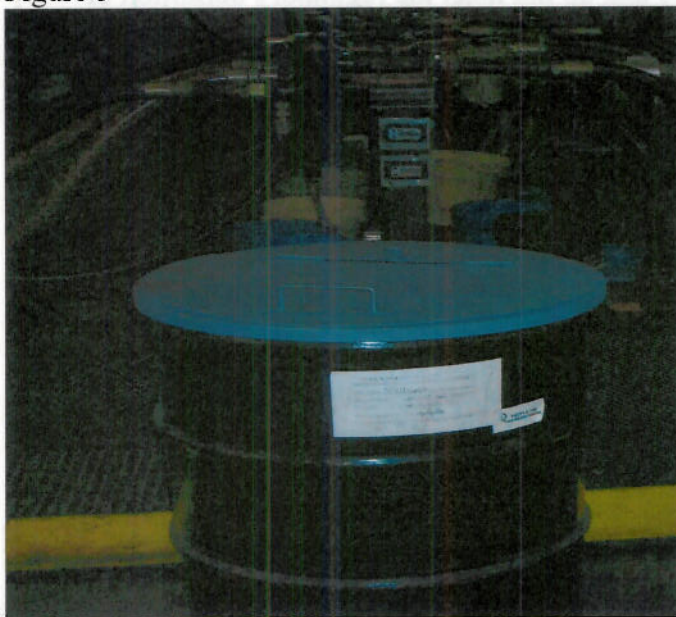
¹⁶ See CLOSED CONTAINERS, Technical Guidance Document HW 97-03, Kansas Department of Health and Environment, Bureau of Waste Management, Revised August 2005, page 1.

4. Containers Accumulating Solid and Semi-Solid Hazardous Waste in Satellite Accumulation Areas

For solid¹⁷ and semi-solid hazardous wastes, such as dewatered metal-bearing wastes or sludges, EPA considers the container “closed” as long as there is complete contact between the lid and the rim all around the top of the container. This ensures that any vapors released to the environment are minimized.¹⁸ When the container is full, or the container must be moved or transported, the lid can be secured by bolting the band that seals the lid to the container or with a band that is tightened with a lever. Figure 5 shows an example of a closed container accumulating solid hazardous waste; e.g., filters.

Containers continuously or intermittently receiving solid or semi-solid hazardous wastes often remain open while connected to a device (e.g., under a baghouse or filter press) that generate the waste. In these situations, the containers should be capable of catching and retaining all of the material during transfer from a device to the container in order to avoid spills or releases.

Figure 5



Containers with covers opened by a foot pedal (e.g., flip-top or spring loaded lid) or with a self-closing swinging door also may be appropriate for semi-solid and solid hazardous wastes. EPA considers the container closed when the cover makes complete contact between the lid and

¹⁷ For purposes of this portion of the guidance, by solid, we mean the physical state.

¹⁸ With regard to vapor emissions, an unsecured lid with “contact between the lid and the rim all around the top of the container” will “ensure no vapors are released to the environment” through diffusive and convective transport mechanisms. However, such a lid will not prevent pressure-driven releases of vapors from the drum. For example, if a drum containing volatile organic compounds is heated, say through diurnal heating, sunlight, etc., the resulting pressure rise inside the drum may well result in some releases of vapors to the environment. Therefore, generators should be aware of these potential situations.

the rim all the way around the top.¹⁹ Having a tight seal prevents VOC emissions. Generators should be aware that the seals on containers can erode because of time and use, and should be checked periodically for wear and replaced if necessary. Containers of this type are appropriate for such wastes as rags, batteries, aerosol cans, or solvent-contaminated wipes that do not contain free liquids. Figure 6 shows a container being opened using a foot pedal.

Figure 6



III. Other Types of Containers for Accumulating Hazardous Wastes in a CAA or SAA:

Other types of containers used for accumulating hazardous wastes in SAAs and in CAAs include: bags, durable sacks made of woven synthetic material (polysacks), boxes, twenty cubic yard roll-off boxes or containers, one cubic yard heavy duty cardboard boxes with a plastic liner (gaylord boxes), semi-trailers used to manage solid and semi-solid hazardous wastes, and stainless steel and plastic totes in wire cages to handle liquid hazardous wastes. Totes often have a capacity of 300 to 500 gallons. All have different methods for closing.²⁰

For these types of containers, EPA considers them “closed” when they are sealed to the extent necessary to keep the hazardous waste and associated air emissions inside the container. For example, sometimes waste paint filters are accumulated in bags. A bag containing **dry** paint filters may be considered closed when the neck of the bag is tightly bound. However, a bag containing solvent laden **wet** paint filters would generally not be an acceptable container unless the bag was double lined and the bag could be sealed sufficiently to prevent leaks and emissions. Figure 7 shows an example of a closed container accumulating solvent contaminated rags.)

¹⁹ Also, see CLOSED CONTAINERS, Technical Guidance Document, HW 97-03, Kansas Department of Health and Environment, Bureau of Waste Management, Revised August 2005, page 2.

²⁰ Ibid, page 2; Also see “Guidance on the Definition of Closed Container”, OhioEPA, Department of Hazardous Waste Management, June 2004, page 4..

Figure 7



Large roll-off containers, such as 10 by 20 foot containers, are often used for the accumulation of large volume waste streams, such as F006 sludges from electroplating operations and inorganic wastes where volatility is not an issue. Some roll-off containers are manufactured with lids that open and close. When these lids are shut and have a good seal around the rim, the container would be “closed.” From an operational and practical standpoint, these types of containers are generally located inside the facility where a roof or ceiling and walls protect the container from outside elements. Once the containers are completely full, the containers may be covered with tarps and moved outside to a staging area for subsequent management (e.g., transportation to a landfill or reclamation facility). EPA generally views these situations as both practical and sufficient to meet compliance with 40 CFR 265.173(a). If a roll-off is kept outdoors²¹ when it receives waste, it is important to keep the tarp closed when not receiving waste so precipitation will not enter the container. Even modest amounts of precipitation are sufficient to leach hazardous constituents from the waste and leak out of the roll-off and would be in violation of 40 CFR 264.173(b) and 40 CFR 265.173(b).

There are additional requirements for roll-off containers used for wastes containing VOCs and subject to Subpart CC. If a roll-off container is **not** in light material service,²² then use of a tarp with no visible holes or gaps or open spaces (e.g., a cover and closure device that forms a continuous barrier over the container) is an example of a suitable Level 1²³ control device. However, use of tarps in this instance is also subject to 40 CFR 264.1086(c)(2) for permitted units and 40 CFR 165.1087(c)(2) for LQGs, which requires closure suitable to weather conditions, including exposure to wind, moisture and sunlight. If the roll-off container is in light material service, then Level 2 controls²⁴ are required under Subpart CC. Examples of container

²¹ This practice is common in the metallic mineral processing industry and at commercial TSDFs.

²² In light material service means the container is used to manage a material for which both of 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 °C; and the total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20 °C is equal to or greater than 20 percent by weight. (From 40 CFR 265.1081. Definitions)

²³ See 40 CFR 265.1087(c) for a discussion of Level 1 standards.

²⁴ See 40 CFR 265.1087(d) for a discussion of Level 2 standards.

loading procedures that meet Level 2 controls include using a submerged-fill pipe or other submerged-fill method to load liquids into the container or a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations.²⁵ The use of a tarp would not be an acceptable Level 2 control device.

SUMMARY and CONCLUSIONS

This memorandum provides Agency guidance on the term “closed container” for purposes of complying with 40 CFR 264.173 (a) and 40 CFR 265.173(a). It also provides information and examples of what we generally consider acceptable practices that meet the requirements of EPA’s closed container regulations. We encourage inspectors to continue to use their professional judgment along with this guidance in determining when a container complies with the “closed” container requirements.

Should you have any questions, please contact Jim O’Leary at (703) 308-8827, or oleary.jim@epa.gov, or Teena Wooten at (703) 308-8751, or wooten.teena@epa.gov.

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²⁵ See 40 CFR 264.1086 (c)(2) and 40 CFR 265.1087(c)(2) for additional examples.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 17 2004

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

MEMORANDUM

SUBJECT: Frequently Asked Questions about Satellite Accumulation Areas

FROM: Robert Springer, Director
Office of Solid Waste

TO: RCRA Directors, EPA Regions 1-10

Purpose

The purpose of this memo is to reiterate and clarify the Environmental Protection Agency's (EPA) regulations under the Resource Conservation and Recovery Act (RCRA) hazardous waste management program regarding satellite accumulation areas (SAAs). For convenience, this memo pulls together answers to many of the frequently asked questions EPA receives regarding SAAs. Many, but not all, of the questions in this memo have been answered by EPA in previous letters and documents. For those questions that have been answered previously, citations to relevant memos and Federal Register preambles are provided in numbered endnotes.

Summary of Generator Accumulation Regulations

When accumulating hazardous waste on-site, large quantity generators (LQGs) must comply with 40 CFR 262.34(a) and small quantity generators (SQGs) must comply with 40 CFR 262.34(d) to avoid the requirement to obtain a hazardous waste treatment, storage, or disposal permit.^a LQGs may accumulate hazardous waste on-site without interim status or a permit for up to 90 days, while SQGs have up to 180 days to accumulate hazardous waste without interim status or a

^a Generators of ≥ 1000 kg/month of hazardous waste or >1 kg/month of acute hazardous waste are large quantity generators (LQGs). Generators of >100 kg/month but <1000 kg/month of hazardous waste are small quantity generators (SQGs). Generators of ≤ 100 kg/month of hazardous waste and ≤ 1 kg/month of acute hazardous waste are conditionally exempt small quantity generators (CESQGs) and are regulated under 40 CFR 261.5. The regulations for CESQGs are not discussed in this memo.

permit.^b The Agency sometimes refers to these generator accumulation areas as “90-day” or “180-day” areas, or “central accumulation” areas.

The satellite accumulation provisions allow generators to accumulate up to 55 gallons of hazardous waste (or 1 quart of acute hazardous waste) in containers that are:

- at or near any point of generation, and
- under the control of the operator,

with fewer requirements than for central accumulation areas, provided the generator complies with the requirements of 262.34(c).

When a generator accumulates hazardous waste on-site in containers, the regulations for 90-day areas, 180-day areas and SAAs all refer generators to the container management standards in Part 265 Subpart I. The table below identifies the sections of Part 265 Subpart I that must be followed in each case:

**Table 1
Container Management Standards for Generators**

Section of Part 265 Subpart I		Satellite accum. area	180-day area (SQG)	90-day area (LQG)
265.171	Condition of containers	YES	YES	YES
265.172	Compatibility of waste with containers	YES	YES	YES
265.173	(a) Keep closed, except when adding/removing waste	YES	YES	YES
	(b) Handle containers to avoid ruptures and leaks	no	YES	YES
265.174	Inspections	no	YES	YES
265.176	Special requirements of ignitable or reactive wastes	no	no	YES
265.177	Special requirements for incompatible wastes	no	YES	YES
265.178	Air emission standards	no	no	YES

^bSmall quantity generators who must transport hazardous waste >200 miles for treatment, storage or disposal may accumulate waste on-site for 270 days without a permit or interim status (262.34(e)). Large quantity generators of F006 may accumulate hazardous waste on-site for 180 days without a permit or interim status provided the conditions of 262.34(g)(1)-(4) are met.

In addition to the container standards indicated above, the regulations for both SQGs and LQGs have requirements for container labeling; personnel training; preparedness and prevention; emergency procedures; and waste analysis plans when treating hazardous waste on-site to meet the land disposal restriction (LDR) treatment standards. LQGs also must have contingency plans while SQGs must not accumulate more than 6000 kg of hazardous waste on-site at any one time.

In contrast, additional requirements for SAAs are limited to:

1. Generators must label satellite containers of hazardous waste with the words "Hazardous Waste" or "with other words that identify the contents of the containers." (262.34(c)(1)(ii))
2. When a generator accumulates more than 55 gallons of hazardous waste (or 1 quart of acute hazardous waste), the generator must (262.34(c)(2)):
 - mark the container with the date on which 55 gallons (or 1 quart of acute hazardous waste) is exceeded, and
 - remove the excess of 55 gallons (or 1 quart of acute hazardous waste) within three days or comply with the 90-day area or 180-day area regulations, as appropriate.

Frequently Asked Questions about Satellite Accumulation Areas

1. **Question:** Can small quantity generators establish SAAs according to 262.34(c) for their hazardous waste?

Answer: Yes. Both LQGs and SQGs may take advantage of the reduced requirements while hazardous waste is in SAAs, provided it is managed in accordance with all the provisions of 40 CFR 262.34(c).¹ If an SQG or LQG accumulates more than 55 gallons of hazardous waste (or 1 quart of acute hazardous waste) at an SAA, the excess must be removed within three days. If after that period, the excess is not removed, LQGs must comply with 262.34(a) and SQGs must comply with 262.34(d), with respect to the excess amounts.

2. **Question:** If a generator accumulates more than 55 gallons of hazardous waste (or 1 quart of acute hazardous waste) at an SAA, when should the generator date the container(s)? When 55 gallons of hazardous waste (or 1 quart of acute hazardous waste) is exceeded, or when the container is moved to the central accumulation area?

Answer: When 55 gallons of hazardous waste (or 1 quart of acute hazardous waste) is exceeded in an SAA, the generator needs to date the container, so that the generator can

move the excess to the 90-day or 180-day area within three days (262.34(c)(2)). Then when 3 days have passed, or when the container is moved to the central accumulation area, the generator needs to date the container again, so that it can be moved off-site within 90 or 180 days (262.34(a)(2) and 262.34(d)(4), respectively. (Of course, the container does not need to be dated after it is removed from the SAA if the excess waste is moved directly to a permitted or interim status unit.) This means that an LQG has up to 93 days and a SQG has up to 183 days for on-site accumulation time once 55 gallons of hazardous waste (or 1 quart of acute hazardous waste) has been exceeded at the SAA - up to three days in the SAA, followed by up to 90 or 180 days in the central accumulation area.²

3. **Question:** When a generator accumulates more than 55 gallons of hazardous waste (or 1 quart of acute hazardous waste) at an SAA, the excess of 55 gallons (or the excess of 1 quart of acute hazardous waste) needs to be removed from the SAA within three days. What is meant by "three days"?

Answer: Three days means three consecutive days. It does not mean three working days or three business days. Originally, the Agency had proposed to use 72 hours as the time limit but realized that determining when 72 hours had elapsed would have required placing both the date and time of day on containers. In the final rule the Agency switched to using three days so that generators only need to date containers that hold the excess of 55 gallons of hazardous waste (or 1 quart of acute hazardous waste).³

4. **Question:** If an SAA has a full 4-gallon container of hazardous waste, does the generator have to remove the container from the SAA within three days of being filled?

Answer: No. There is no federal requirement that full containers of hazardous waste be removed from an SAA within three days of being filled. Only the excess of 55 gallons of hazardous waste (or the excess of 1 quart of acutely hazardous waste) must be removed within three days.

5. **Question:** The container management standards of 265.173(a) state, "A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste." Does this mean that hazardous wastes have to be managed and/or disposed in the containers in which they were originally accumulated?

Answer: No. Generators may transfer hazardous waste between containers to facilitate storage, transportation, or treatment.⁴ For example, a generator may wish to consolidate several partially full containers of the same hazardous waste from an SAA into one container before transferring it to a central accumulation area. Generators also may

transfer hazardous waste between containers in central accumulation areas. However, the 90-day or 180-day "clock" for accumulation does not restart if the hazardous waste is transferred to another container.

6. **Question:** Do containers in SAAs have to comply with the air emission standards of Part 265 Subparts AA, BB, and CC?

Answer: No. Containers in SAAs are not required to comply with the air emission standards of Part 265 Subparts AA, BB, and CC.⁵ Likewise, SQGs are not required to comply with the air emission standards at their 180-day accumulation areas. LQGs, however, are required to comply with the RCRA air emission standards at their 90-day accumulation areas. Therefore, when an LQG transfers waste from an SAA to a 90-day central accumulation area, the applicable portions of the air emission standards of Part 265 Subparts AA, BB, and CC must be met at the 90-day central accumulation area.

7. **Question:** Section 265.174 of Subpart I requires that containers be inspected at least weekly for leaks and deterioration caused by corrosion or other factors. Both LQGs and SQGs must inspect containers in their central accumulation areas. Are SQGs or LQGs required to inspect hazardous waste containers in SAAs?

Answer: No. Inspections of containers (whether weekly or some other frequency) in SAAs are not required, so long as the provisions of 262.34(c) are met.⁶ Section 265.174, which requires inspections, is not among the provisions listed in 262.34(c) for SAAs (see Table 1). However, the SAA regulations do require that waste containers in an SAA must be under the control of the operator of the process generating the waste, in good condition (265.171), compatible with its contents (265.172), and closed except when adding or removing waste (265.173), which should achieve the goal of inspections: containers that are free of leaks and deterioration.

8. **Question:** SQGs must conduct training in accordance with 262.34(d)(5)(iii) and LQGs must conduct training in accordance with 265.16. Do the RCRA regulations require training of personnel working in SAAs?

Answer: No. The RCRA regulations do not require training of personnel working in SAAs.⁷ Personnel that have access to or work in central accumulation areas, including those that move hazardous waste from a SAA to a central accumulation area, must be trained. As the ones actually generating hazardous waste, however, personnel working in SAAs need to be familiar enough with the chemicals with which they are working to know when they have generated a hazardous waste so that it will be managed in accordance with the RCRA regulations.

9. **Question:** The preamble to the final rule that added 262.34(c), states, "...only one waste will normally be accumulated at each satellite area."⁸ Can there be more than one hazardous waste at an SAA? Can there be more than one container at an SAA?

Answer: Yes. It's permissible to have more than one hazardous waste in an SAA. Likewise, it's permissible to have more than one container of hazardous waste in an SAA. The regulations do not limit the number of hazardous wastes or the number of containers that can be placed in an SAA. The regulations limit only the total volume of hazardous waste at a single SAA to 55 gallons (or 1 quart of acute hazardous waste). If there are multiple containers of hazardous waste in an SAA, each container must be labeled in accordance with 262.34(c)(1)(ii).

Because the Agency did not anticipate that generators would accumulate multiple hazardous wastes/containers in an SAA, a cross-reference to the requirements for the safe storage of incompatible wastes was not included as part of the container management standards for SAAs. Nevertheless, good management practices clearly dictate that incompatible wastes should be stored separately. Furthermore, in the event that any wastes, including incompatible wastes, are stored in such a way that they may pose an imminent and substantial threat to health or the environment, §7003 of RCRA allows the Agency to take enforcement action to eliminate the threat.

10. **Question:** Can a facility have multiple SAAs?

Answer: Yes. The regulations do not limit the total number of SAAs at a generator's facility. Likewise, the regulations do not limit the total amount of hazardous waste that can be accumulated at various SAAs across a facility. The regulations limit only the volume of hazardous waste that can be accumulated at a single SAA to 55 gallons (or 1 quart of acute hazardous waste).

It's not possible in a memo for the Agency to delineate for all situations what constitutes a single SAA versus what constitutes separate SAAs. The regulations state that a generator may accumulate hazardous waste "in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste." For additional guidance about the Agency's intent, refer to the preamble to the final rule for SAAs, which states, "Certainly...a row of full 55 gallon drums spaced 5 feet apart along the factory wall," is not a row of distinct SAAs, but is one SAA.⁹

11. **Question:** If a facility has multiple SAAs, can hazardous waste be moved from one SAA to another?

Answer: No. Generators may not move hazardous wastes between SAAs.¹⁰ Once a hazardous waste leaves an SAA, it must be destined for a central accumulation area that is regulated under 262.34(a) or (d) or for final treatment or disposal at a facility with a permit or interim status

However, a single SAA may have multiple points of generation. Movement or consolidation of hazardous waste within an SAA is permissible, as long as it remains "at or near" the "point of generation" and "under the control of the operator of the process generating the waste."

In addition, a generator may have more than one 90-day or 180-day central accumulation area, and the regulations do not prohibit the movement of hazardous waste from one fully regulated central accumulation area to another, as long as the hazardous waste remains on-site. However, the 90-day or 180-day "clock" for accumulation does not restart if the hazardous waste is moved to another central accumulation area.

12. **Question:** Do generators have to include the hazardous waste in SAAs in the monthly quantities for determining generator status (i.e., SQG or LQG)?

Answer: Yes. Generators must include all the hazardous waste in the various SAAs in their monthly quantities for determining generator status.¹¹ Sections 261.5(c) and (d) identify hazardous wastes that do not have to be counted when determining generator status. Hazardous waste stored in SAAs is not on this list; therefore, hazardous waste in SAAs must be included in the generator's monthly quantity determination.

13. **Question:** When a facility has equipment that discharges hazardous wastes to attached containers, do the containers that collect such wastes have to be in compliance with the SAA regulations?

Answer: Yes. Even if the discharging unit is not regulated under RCRA, the attached containers that collect hazardous wastes from such equipment must be in compliance with the SAA regulations, if those containers collect wastes that are listed or characteristic hazardous wastes. Waste containers in SAAs must be:

- in good condition (265.171)
- compatible with their contents (265.172)
- labeled with "words that identify the contents of the container" or the words "hazardous waste" (262.34(c)(1)(ii)).

In addition, the containers in SAAs must be closed, except when adding or removing hazardous waste (265.173(a)). Generators would not be required to keep such containers closed while hazardous waste is being added to the container; but generators would need to keep them closed when the hazardous waste is not being discharged to the attached container.

The container(s) attached to such equipment is a point of generation. It is possible for there to be multiple pieces of equipment within one SAA, and thus multiple points of generation within a single SAA, provided all the pieces of equipment are "at or near" each other and "under the control of the operator of the process generating the waste." Under this scenario, the total amount of hazardous waste in the SAA would be limited to 55 gallons (or 1 quart of acute hazardous waste) and a generator would be allowed to consolidate like hazardous wastes from multiple discharging units.

14. **Question:** If a facility has very small containers (e.g., vials or tubes) of hazardous waste that are too small to label with the words "hazardous waste" or "other words that identify the contents of the container," how should the containers be labeled?

Answer: Generally, we would expect the small containers to be placed in properly labeled larger containers, which would have the added benefit of secondary containment should the small containers break. However, other approaches that would achieve the same result also would be acceptable.

Additional Information

Please note that this letter discusses only the federal hazardous waste regulations. States that are authorized to implement the RCRA program may have regulations that are different than the federal regulations provided they are not less stringent than the federal program. Please consult your state regulatory requirements. If you have questions about the federal hazardous waste regulations discussed in this memo, please contact Kristin Fitzgerald at (703) 308-8286 or Fitzgerald.Kristin@epa.gov.

Endnotes for Q&A Portion of FAQ

1. April 1990; RCRA/Superfund Hotline Monthly Report; RCRA Online #13365.
2. October 1990; RCRA/Superfund Hotline Monthly Report; RCRA Online #13410.
3. December 20, 1984; 49 FR 49568; Final Rule; Docket # RCRA-1984-0028.
4. November 1, 1993; Weddle to Ware; RCRA Online #11791.
5. February 1996; RCRA/Superfund Hotline Monthly Report; RCRA Online #13777.
6. December 1999; RCRA/Superfund Hotline Monthly Report; RCRA Online #14418
7. December 20, 1984; 49 FR 49570; Final Rule; Docket # RCRA-1984-0028.
8. December 20, 1984; 49 FR 49570; Final Rule; Docket # RCRA-1984-0028.
9. December 20, 1984; 49 FR 49569; Final Rule; Docket # RCRA-1984-0028.
10. February 1999; RCRA/Superfund Hotline Monthly Report; RCRA Online #14337.
11. February 10, 1994; Shapiro to Dolce; RCRA Online #11812.

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To obtain references other than Federal Register notices, search RCRA Online at www.epa.gov/rcraonline.