

# Aerosol Can Management

Guidance on Hazardous Waste Requirements



## Introduction

Aerosol spray cans contain products and propellants under pressure that can be dispensed as spray, mist or foam. Common products include insecticides, cooking sprays, solvents and paints. Most aerosol cans are made of recyclable steel or aluminum and can be easily managed as scrap metal when empty. However, when aerosol cans are unusable or cannot be emptied due to defective or broken spray nozzles the remaining liquids, vapors, or even the can itself, may be hazardous waste and subject to regulation.

Hazardous waste regulations are found in chapters [NR 600-679](#) of the Wisconsin Administrative Code.

**Waste aerosol cans cannot be managed as universal waste in Wisconsin.** While the U.S. Environmental Protection Agency and some states allow aerosol cans to be managed as universal waste this regulatory allowance has not been adopted in Wisconsin at this time and aerosol cans continue to require waste determinations and proper management.

This publication provides waste management guidance to businesses generating hazardous waste aerosol cans. The following sections will define and discuss the Resource Conservation and Recovery Act "RCRA empty" determinations, acute hazardous waste determinations, storage requirements, puncturing requirements and hazardous waste reduction recommendations.

## "RCRA empty" determinations

The first step to determine management requirements is to evaluate whether the waste aerosol cans are "RCRA empty" according to s. NR 661.0007, Wis. Adm. Code, and the U.S EPA's RCRA definition of empty containers. Waste aerosol cans are "RCRA empty" when they meet all criteria listed below:

1. The aerosol cans must contain no compressed propellant (i.e., the aerosol cans release no pressure through an open, working valve). [s. NR 661.0007(2)(b), Wis. Adm. Code]
2. All chemical product that can be dispensed through the valve has been dispensed (i.e., the aerosol can no longer sprays any product through an open, working valve). [s. NR 661.0007(2)(a)1, Wis. Adm. Code]
3. No more than 3% of the original capacity/net weight of the full container **or** no more than 1 inch of liquid residue remains in the aerosol can. [s. NR 661.0007(2)(a)2 and (3)(a), Wis. Adm. Code]

If an aerosol can contained non-pharmaceutical acute hazardous waste (P- listed or F027) it **must be punctured and triple rinsed** using a solvent capable of removing the commercial chemical product.

Do **NOT** discharge non-empty waste aerosol cans into the air to empty the cans. **The uncontrolled release of hazardous waste and containerized propellants (e.g., butane, propane) into the atmosphere from the aerosol cans constitutes disposal of hazardous waste.** All generated hazardous waste must be transported, treated, stored or disposed of at licensed facilities. [s. NR 660.10(26), Wis. Adm. Code; s. 291.25 and s. 291.21(9), Wis. Stats.]

The solvent rinse must be managed as acute hazardous waste, it will count toward monthly generation totals, and if mixed with other residuals, the entire contents of the container must be managed as acute hazardous waste. Special care should be taken when managing aerosol cans with acute hazardous wastes. [s. NR 661.0007(2)(c)1, Wis. Adm. Code]

If an aerosol can held acute or non-acute **hazardous waste pharmaceuticals**, it must be managed as a non-creditable hazardous waste pharmaceutical, **no matter how little residue remains**. [s. NR 666.507(4), Wis. Adm. Code]

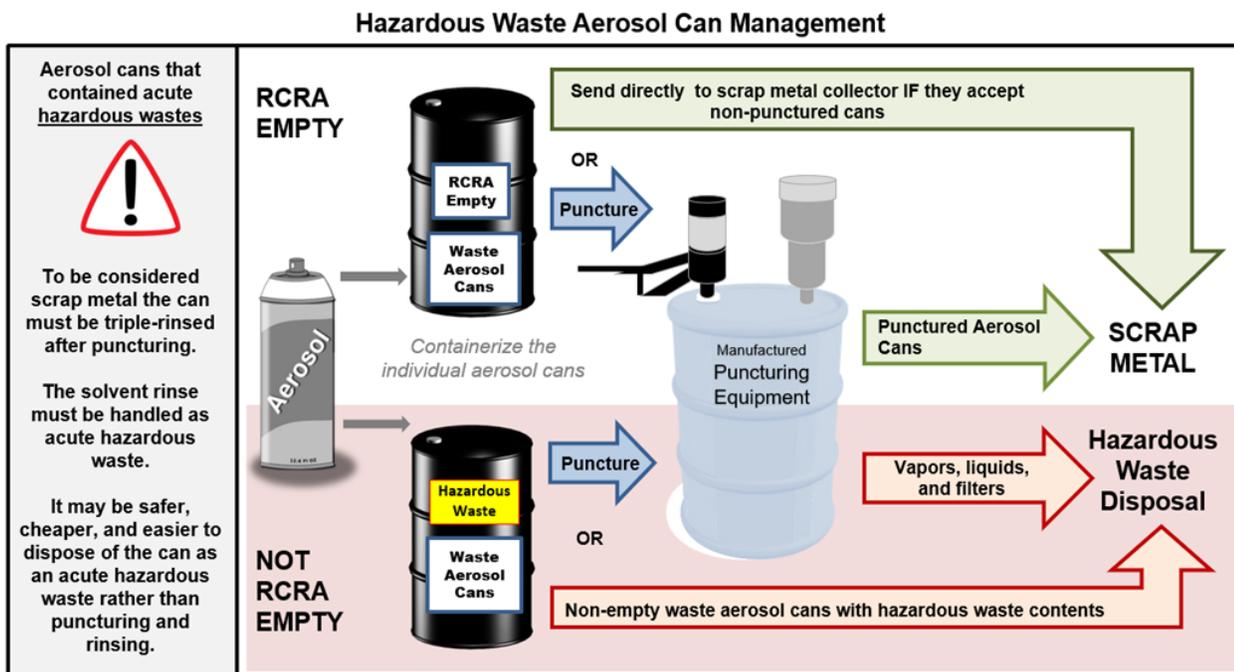
Once the waste aerosol can is RCRA empty, and has been triple rinsed if required, it is considered scrap metal and can be collected for recycling. While not a Wisconsin Department of Natural Resources requirement, the scrap metal marketer may require the RCRA empty waste aerosol cans to be punctured to confirm that they are empty.

## Hazardous waste aerosol cans

An aerosol spray can is a waste when it can no longer be used for its intended purpose. This typically does not include defective products returned to the retailer or manufacturer for refund or replacement. A small percentage of aerosol cans may not contain hazardous materials; however, the majority consist of contents under pressure that are flammable. The handling of these hazardous waste aerosol cans can pose risks to workers and the environment. The following diagram is a general representation of the management options and requirements for hazardous waste aerosol cans.

As indicated in the diagram below, there are two options for managing hazardous waste aerosol cans:

- Containerize and label as hazardous waste and ship off-site to a licensed treatment, storage and disposal (TSD) facility. Lists of [licensed hazardous waste transporters](#) and [licensed hazardous waste TSD facilities](#) are available by going to [dnr.wi.gov](http://dnr.wi.gov) and searching “waste facility.”
- Collect the cans and manage them within the requirements and guidelines described in this document.



## Acute hazardous waste determination

A hazardous waste aerosol can is an acute hazardous waste if the contents contain a P-listed commercial chemical product, identified in ss. NR 661.0033(5) or (6), Wis. Adm. Code, or if the contents contain a F027 listed waste from the table in s. NR 661.0031(1). As acute hazardous wastes pose serious health and environmental hazards it may be safer, less expensive and easier to dispose of the can and residual contents as acute hazardous waste rather than puncturing and rinsing.

It is the responsibility of the generator to conduct waste determination and to maintain waste determination records.

Facilities that have acute hazardous waste aerosol cans, and choose to puncture and triple rinse the cans to meet RCRA empty requirements, should collect the waste cans in separate containers prior to puncturing and follow the storage requirements listed below for managing aerosol cans that are not RCRA empty.

Typical acute hazardous wastes found in aerosols include some unused poisons, pharmaceuticals and pesticides. Acute hazardous waste pharmaceuticals must be managed as non-creditable hazardous waste pharmaceuticals (cannot be rinsed and managed as scrap). [s. NR 666.507(4), Wis. Adm. Code]

## Storage requirements

### Recommendations for managing aerosol cans that are RCRA empty

RCRA empty waste aerosol cans ready to be shipped as scrap metal or stored for puncturing prior to shipment should be managed as follows:

1. Replace the cap/cover on the can or remove the nozzle in order to decrease the potential for release of fluids and vapors. Place the waste aerosol can in a container that is structurally sound and compatible with the contents of the can.
2. Label the container as "RCRA empty waste aerosol cans" to identify the contents and avoid the co-mingling of non-RCRA empty and RCRA empty cans.

### Requirements for managing aerosol cans that are not RCRA empty

Steps for managing non-RCRA empty hazardous waste aerosol cans that are ready to be shipped as hazardous waste, or stored for puncturing:

1. Place aerosol cans that are not damaged, defective or leaking in a container that is structurally sound and compatible with the contents of the cans. There is no requirement to keep the container accumulating the aerosol cans closed because the aerosol can itself meets the definition of a container. When the aerosol can is not damaged, defective or leaking, the aerosol can is considered closed. Placing the aerosol cans into a larger container (e.g., 55-gallon drum, 5-gallon pail, cubic yard box) allows for the label and date to be placed on the larger container rather than each individual aerosol can.

It is recommended that the cap/cover stay in place and/or the nozzle on the aerosol can be removed, to minimize potential release of fluids and vapors.

2. Place aerosol cans that are damaged, defective, or leaking in a separate closed container since the aerosol can is no longer capable of functioning as its own closed container. In addition to being subject to the closed container requirements of subch. A of ch. NR 662, Wis. Adm. Code, the hazardous waste in the aerosol can is also subject to the RCRA air standards of subch. CC of ch. NR 665, Wis. Adm. Code, when all of the following apply:
  - a. The hazardous waste in the aerosol can has an average volatile organic concentration equal to or greater than 500 parts per million by weight.
  - b. The container holding the aerosol cans is greater than 26 gallons.
  - c. The container is not being managed under the satellite accumulation requirements of s. NR 662.015, Wis. Adm. Code.
3. Clearly label the container with the words "hazardous waste."
4. Clearly identify the hazards of the container's contents with the hazardous waste characteristic, such as "flammable" or "flammable and toxic". Globally Harmonized System or U.S. Department of Transportation pictograms may be used.
5. It is recommended that the container's contents are clearly identified, such as labeling the container with the words "waste aerosol cans."
6. Place a start date on any 270-, 180-, or 90-day accumulation container. The start date on the container must consist of the earliest date when the aerosol can is identified as a hazardous waste.
7. It is recommended that aerosol cans in metals containers be bonded and grounded to reduce the potential for a fire or explosion. For more details, see NFPA 30 Flammable and Combustible Liquids Code and NFPA 77 Recommended Practice on Static Electricity.

The publication *Closed Container Guidance for Hazardous Waste Generators* (WA-1342) provides additional information.

For more information on container handling requirements, refer to ss. NR 662.014(4), 662.015(1), 662.016(2) or 662.17(1), Wis. Adm. Code.

Hazardous waste shipped off-site to federally permitted or Wisconsin-licensed TSD facilities must be counted in the monthly generation totals. These wastes would include waste aerosol cans shipped as hazardous waste and the liquids and filters generated during the puncturing process.

## Puncturing requirements

The puncturing and draining of hazardous waste aerosol cans require a high level of understanding of the RCRA requirements to address safety hazards and potential compliance issues. To maintain compliance with the RCRA requirements:

1. Conduct a hazardous waste determination on the contents of the aerosol can per s. NR 662.011, Wis. Adm. Code. Any hazardous waste generated as a result of puncturing and draining the aerosol can is subject to all applicable requirements of chs. NR 660 through 679, Wis. Adm. Code.
2. If the contents in the waste aerosol can are determined to be nonhazardous, the generator may manage the waste in any way that complies with applicable federal, state or local solid waste regulations.
3. Conduct the puncturing and draining activities using a device specifically designed to safely puncture aerosol cans and effectively contain the residual contents and any emissions. **The uncontrolled release of hazardous waste and containerized propellants (e.g., butane, propane) into the atmosphere from the aerosol cans constitutes disposal of hazardous waste.** All generated hazardous waste must be transported, treated, stored or disposed of at facilities holding a license. [s. NR 660.10(26), Wis. Adm. Code; s. 291.25 and s. 291.21(9), Wis. Stats.]

4. Establish and follow a written procedure detailing how to safely puncture and drain the hazardous waste aerosol can (including proper assembly, operation and maintenance of the unit, segregation of incompatible wastes, and proper waste management practices to prevent fires or releases); maintain a copy of the manufacturer's specification and instruction on site; and ensure employees operating the device are trained in the proper procedures.
5. Ensure that the puncturing of the aerosol can is done in a manner that is designed to prevent fires, reactions and to prevent the release of any component of the waste to the environment. This manner includes, but is not limited to, the following:
  - a. Locating the equipment on a solid, flat surface in a well-ventilated area.
  - b. All puncturing equipment and associated residual collection containers should be properly bonded and grounded.
  - c. Puncturing equipment may be subject to Wisconsin Fire Prevention Code (ch. SPS 314, Wis. Adm. Code, which references the NFPA fire prevention standards) or local fire protection ordinances. Those who puncture waste aerosol cans should consult their local fire marshal for specifics.
  - d. The puncturing of some waste aerosols cans such as ether, pesticides, chlorinated fluorocarbons (CFCs, commonly referred to as Freon), or corrosive cleaners, may be regulated under the federal Clean Air Act. See the DNR's *Air Program Fact Sheet Wisconsin Air Toxics Rule (NR 445) (AM-405)* for details.
  - e. When not in use, make sure the connections to the filter are sealed so that volatile organic compounds are not continuously released into the air from the filter. When changing the filter, make sure to store the used filter in a leak and vapor proof container. For example, place the used filter in a zip lock bag and then place the sealed zip lock bag containing the used filter into a hazardous waste container for disposal.
6. Do not place incompatible wastes, or incompatible wastes and materials, in the same container unless in compliance with s. NR 665.0017(2), Wis. Adm. Code.
7. Immediately transfer the contents from the waste aerosol can or puncturing device, if applicable, to a container or tank that meets the applicable requirements of ss. NR 662.014 – NR 662.017, Wis. Adm. Code.
8. Ensure there is a written procedure in place in the event of a spill or leak and that a spill clean-up kit is available. All spills or leaks of the contents of the aerosol cans must be cleaned up promptly.

### **Accumulation time limit for hazardous wastes**

The hazardous waste contents generated from the puncturing and draining of a hazardous waste aerosol can is not considered a new point of generation. This means that the accumulation time limit starts when the aerosol can is determined to be a hazardous waste. For example, a large quantity generator has a total of 90 days from the date the hazardous waste aerosol can was generated until the date it must be taken off-site.

- If the hazardous waste aerosol cans are accumulated under the satellite accumulation requirements, then the accumulation start date begins when the satellite accumulation limits are exceeded.
- The filter's POG occurs when it becomes spent.

If the puncturing and draining unit becomes permanently inactive, meaning it will no longer be in use and no more puncturing will occur, the unit is now considered a storage unit and must be removed and properly disposed of within 90 days after the last puncturing activity regardless of generator status. [s. 291.25(1), Wis. Stats.]

## Reducing hazardous waste

Generators can reduce their hazardous waste aerosol can generation by:

- Puncturing cans to divert scrap metal for recycling and handling of the residuals as hazardous waste.
- Purchasing products in quantities that will be used in a reasonable amount of time.
- Using rechargeable, pump-spray or refillable containers that use compressed air as the propellant.
- Using the entire product content of aerosol cans before the product's shelf life expires.
- Replacing products that contain hazardous materials with nonhazardous alternatives.
- Declining to accept free samples of aerosols that contain hazardous materials.
- Returning defective aerosol cans which contain a hazardous product or propellant to the manufacturer.

Both steel and aluminum containers are banned from landfill disposal in Wisconsin. [ch. 287.07(4), Wis. Stats.] RCRA empty steel and aluminum containers should be managed as scrap metal and recycled.

## Resources and contact information

For more information including [publications, inspection forms, and administrative codes and statutes](#), go to [dnr.wi.gov](http://dnr.wi.gov) and search "hazardous waste resources." Use the *Additional Resources* menu to navigate to specific topics. For staff contact information, go to the [staff directory](#), enter "hazardous waste requirements" in the subject field and choose the appropriate county contact.

### PUB-WA-1784 2021

**Mailing address:** DNR Waste & Materials Management Program, PO Box 7921 Madison, WI 53707

**Email:** [DNRWasteMaterials@Wisconsin.gov](mailto:DNRWasteMaterials@Wisconsin.gov)

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