

# Hazardous Waste Management

## Management of Aerosol Containers

*Information presented in this fact sheet is intended to provide a general understanding of the regulatory requirements governing the management of disposable aerosol containers. This information is not intended to replace, limit, or expand upon the complete regulatory requirements found in Division 14 of the Alabama Department of Environmental Management Administrative Code.*


### WHAT IS AN AEROSOL CONTAINER?

An aerosol container is a dispenser that holds a substance under pressure and that can release the substance, usually by means of a propellant gas, in a number of forms such as wet sprays, fine sprays, powder sprays, foams, or pastes. Common liquefied propellants include propane, butane, and isobutane.

### WHAT ARE THE SAFETY AND ENVIRONMENTAL CONCERNS FOR AEROSOL CONTAINERS?

Some aerosol products (for example, paints, solvents, and pesticides) are hazardous due to the presence of hazardous ingredients. Aerosol products should be used with adequate ventilation and/or personal protective equipment to prevent inhalation and exposure that may result in harmful health effects. Extreme temperatures may cause containers to rupture and moisture may cause them to rust, resulting in a release of the contents to the environment. Many aerosol containers pose a fire hazard because they contain highly flammable propellants such as propane and butane. Pressurized containers present additional concerns. If punctured, the contents may be released so forcefully that injuries can result. Also, pressurized containers delivered to a landfill present safety concerns during compacting.

### Spent Aerosol Can Management

<p>I will <b>RECYCLE</b> my cans.  <b>Are the cans empty?</b>  <b>Yes:</b>  <b>Empty</b> aerosol cans being recycled are excluded from management as solid (and therefore hazardous) waste. [See 335-14-2-.01(4)(a)13.]  <b>No:</b>          Cans may be recycled, but the contents are solid wastes subject to a hazardous waste determination. Any liquids or propellants removed from the cans must be managed in accordance with ADEM div. 14 requirements. [See 335-14-2-.01(6)(a)3.(ii) and 335-14-3-.01(2)]</p>		<p>I will <b>DISPOSE</b> my cans.  <b>Are the cans empty?</b>  <b>Yes:</b>          Aerosol cans that are <i>empty</i> and fully depressurized may be disposed of as solid waste, which are subject to a hazardous waste determination. [See 335-14-2-.01(7) and 335-14-3-.01(2)]  <b>No:</b>          A discarded aerosol can is a hazardous waste if the can and its contents exhibit a hazardous waste characteristic or if it is a listed hazardous waste. [See 335-14-3-.01(2)]</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

“**Empty**” means the aerosol can does not contain a significant amount of free liquid and also that the propellant has been used up so that the pressure in the can is at or near atmospheric pressure. This can usually be determined during the normal use of the product in the manner it was intended to be used. If you cannot demonstrate that the can is empty then it must be emptied by the means ordinarily used to render aerosol cans empty (e.g. the can must be punctured, crushed, or shredded and in the process the gas and the liquid must be contained/captured and

managed appropriately). If your aerosol can held an acute hazardous waste it must be triple rinsed to be considered “empty”. [See 335-14-2-.01(7)]

### **WHAT IS THE PREFERRED MANAGEMENT METHOD FOR AEROSOL CONTAINERS?**

- Empty the container, either through normal use or by puncturing and draining.
- When puncturing a container, collect both the liquid and the gas in an appropriate collection device.
- Send the empty container to a scrap metal recycler.
- Dispose of the collected residues appropriately, based on their regulatory status - either as solid or hazardous waste.

While landfill disposal of the empty containers is an acceptable alternative, it is the least preferred option.

### **MAY I USE A DEVICE TO PUNCTURE AEROSOL CONTAINERS?**

Companies that regularly generate significant numbers of waste aerosol containers may be interested in using a device to puncture and drain the containers. Punctured, drained aerosol containers are known as “processed scrap metal”, which is exempt from the solid waste regulations so long as it is recycled. Use of such a device does not require a waste-treatment permit at this time. If you choose to use one, consider the following precautions:

- **Do not** puncture containers with any of these ingredients: ethyl ether (often in starting fluids), chlorinated compounds, pesticides, freons and foamers, oven cleaners, unknowns. These should be lab-packed and managed as hazardous waste.
- Follow the manufacturer’s instructions for operating, cleaning, and maintaining the device.
- Employees operating the device should be thoroughly trained in its use and should wear appropriate personal protective equipment.
- Sort containers by size and puncture similar sizes at the same time. You may wish to puncture containers with solvents, degreasers, and/or lubricants last to help clean the device.
- Operate only in an open, well-ventilated area. Avoid confined spaces.
- Collect liquids in an appropriate hazardous waste container.
- Keep the unit closed when it is not in use.
- Puncturing spent aerosol cans for recycling is considered a form of treatment under ADEM Admin. Code r. 335-14-8-.01(1)(c)2.(x). According to that rule, you do not need a permit, but you must notify the Department at least 60 days in writing before you begin puncturing cans.

### **HOW SHOULD I MANAGE AEROSOL CONTAINERS THAT CANNOT BE EMPTIED?**

- First try to return or exchange malfunctioning aerosol containers. Malfunctioning aerosol containers returned to the supplier or manufacturer are considered “products”, not “wastes”.
- Non-empty aerosol containers that cannot be returned or exchanged must usually be managed as a hazardous waste, depending on the specific contents (including propellants, which are often flammable).

### **HOW CAN I REDUCE MY AEROSOL CONTAINER WASTE?**

- ✓ Determine whether or not a product is needed. Could the process using the aerosol be eliminated?
- ✓ Could a non-aerosol product be used instead of the aerosol product?
- ✓ If required, choose a non-hazardous product, or the least hazardous product, that will do the job.
- ✓ Use only as much as is needed.
- ✓ Store aerosol containers away from moisture, sunlight, and extreme heat or cold.
- ✓ Follow the label instructions to clean the nozzle after each use.
- ✓ Use the entire contents of a container before buying more.
- ✓ Purchase according to demand so that the product’s shelf life does not expire.
- ✓ Consider purchasing products in bulk and using either a refillable container with compressed air as the propellant or a non-aerosol pump applicator.

**WHERE CAN I GET ADDITIONAL INFORMATION?**

ADEM Administrative Code rules (ADEM Admin. Code rs) 335-14-2-.01(4)(a)13. and 335-14-2-.01(6)(a)3.(ii) provide more in-depth information regarding the status of metal that will be recycled. ADEM Admin. Code r. 335-14-2-.01(7) provides a full definition of “RCRA Empty containers”, while “processed scrap metal” is defined at ADEM Admin. Code r. 335-14-1-.02(1)(a)208.

On-Line Resources

Earth 911 - <http://earth911.com>

ADEM Home Page - <http://www.adem.alabama.gov>

ADEM Administrative Code Division 14 - <http://www.adem.state.al.us/alEnviroRegLaws/files/Division14.pdf>

ADEM Guidance - <http://www.adem.alabama.gov/programs/land/guidanceReports.cnt>

*Hazardous Waste Determination*

*Hazardous Waste: The Basics*

*Notification of Regulated Waste Activity*

ADEM Publications - <http://www.adem.alabama.gov/MoreInfo/publications.cnt> :

*RCRA Small Quantity Generator Handbook*

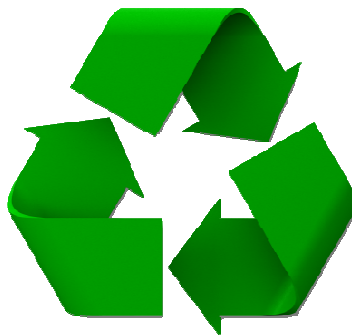
US Environmental Protection Agency’s Homepage - <http://www.epa.gov>



Telephone Resources

ADEM Ombudsman - - - - - 800-533- 2336

Hazardous Waste Compliance Inspectors - - - 334-271-7730



\*Adapted from the following sources: Oregon Department of Environmental Quality Program Implementation Guidance Number 2005-PO-001 (dated 07/24/2005); Nebraska Department of Environmental Quality Environmental Guidance Document 03-067, dated December 2003.