

4.1 AEROSOL CANS

Q1 Do I have to keep aerosol cans in one of those yellow lockers?

No. According to the ODOT Safety Standard, you must use an approved storage cabinet if storing more than 25 gallons of flammable and/or combustible products in one location.

So, you can store about 225 thirteen-ounce cans (225 times 13 ounces equals 2925 ounces; which is about 23 gallons) without using a flammables cabinet (so long as aerosol cans are the only flammable products you are storing in that area). However, the EMS Procedure recommends storing cases of aerosol cans in a flammables cabinet, if possible. Alternative flammables storage cabinets, such as a ½-inch plywood cabinet, are allowed.

The EMS Procedure strongly encourages minimizing the number and type of aerosol products used, purchasing only as much as you need, and using products up before opening a new can.

For additional information on the storage of flammable and combustible products, review the Portable Flammable Storage Standard in the ODOT Safety and Health Manual.

Q2 Can I pop partially full aerosol cans in the can popper?

Yes. Partially full aerosol cans need to drain before taking them out of the can popper. Popping full and partially full aerosol cans will increase residue buildup inside the drum. You are more likely to encounter safety concerns, such as bursting, when popping full and partially full aerosol cans.

Alternatives to popping full aerosol cans include transferring them to another ODOT yard that uses the product or returning them to the vendor.

Q3 Can I pop all my aerosol cans in one popper?

No. Spray pesticides (e.g. wasp spray), caustics (e.g. oven cleaner), and ether (e.g. starting fluid) should not be popped in the can popper. These un-popped cans may be tossed in the trash, **if** you record it on the Waste Generation and Disposal Logs **and** your yard is not a Small Quantity Generator (SQG).

This is different from previous guidance on can poppers. The change has been documented because of new information from the can popper manufacturers.

According to ODOT Safety, solvents, paints, lubricants and other spray products typically used by Maintenance are safe to pop in the same can popper. Popping full or partially full aerosol cans are more likely to cause a reaction. If you have a question about whether it is safe to pop a particular product contact Regional HazMat or Regional Safety.

Q4 What do I do with aerosol cans that don't fit in the can popper?

Count them as hazardous waste. Then either store them for hazardous waste disposal or throw them in the trash. See Q6 (below) for information about putting un-popped aerosol cans in the trash.

Q5 When do I have to keep track of aerosol cans?

If you are storing (or throwing out) used, un-popped aerosol cans record them on the Waste Generation and Disposal Logs. Storing includes keeping empty aerosol cans in a container before popping them onsite and collecting used aerosol cans before taking them to another yard. If you are throwing aerosol cans in the trash, without popping them, see Q6 below.

If you are popping aerosol cans ‘immediately’, don’t record them on the Waste Generation or Disposal Logs. If an aerosol can is popped as soon as it is unusable (e.g. there is no product left in the can or it’s broken), it is not considered hazardous waste. ‘Immediately’ includes cans popped by the end of shift; ‘immediately’ does not include cans popped by the end of the week.

Un-popped aerosol cans are hazardous waste. If you are storing aerosol cans after deciding they are unusable, you must track the number of cans generated each month on the Waste Generation Log. Record hazardous waste in pounds. An empty aerosol can weighs about 4 ounces or ¼ pound. If you are getting rid of a partially full can, you must add the weight of the product left in the can to the ¼ pound of an empty can. The weight does not have to be exact. For example, a half-empty 17 ounce can has about 8½ ounces of product plus the 4 ounces empty can, so 12 ½ ounces or ¾ pound. (Note: 16 ounces equals 1 pound)

Do not double count the waste. If you are tracking aerosol cans on the Waste Generation Log, you don’t have to keep track of how much residue is inside the can popper.

Include what happened to the aerosol cans and the residue inside the can popper on the Waste Disposal Log. On the line for aerosol cans under the column ‘method of disposal,’ write something like “popped onsite; empty cans recycled with scrap metal.” The ‘method of disposal’ for the can popper residue should be something like “picked up by hazardous waste hauler.”

Some yards have decided to keep track of what kind of products go into their can poppers. This will make it easier (and possibly cheaper) when a hazardous waste hauler picks up the waste. A tally sheet with the name or product type on a clipboard near the can popper seems to work.

If you are using a can popper to pop several types of aerosol products (paint, insecticide, solvent, etc), label the can popper drum with the accumulation start date and the words “Hazardous Waste.” This labeling is required even if you are not tracking aerosol cans (see Q10 below for what labels go on the can popper). Track the residue inside a ‘mixed’ can popper drum and the can popper filter as hazardous waste, if you are not tracking aerosol cans.

Q6 Can I throw un-popped aerosol cans in the garbage?

Yes, so long as you record it on the Waste Generation and Disposal Logs and your yard is not a Small Quantity Generator (SQG). However, popping and recycling are strongly encouraged.

Yards classified as Conditionally Exempt Generators (CEG) may throw un-popped aerosol cans in the trash, **if** they have accurately recorded the weight of the empty or unusable cans they generate each month on the Waste Generation Log **and** they have recorded the disposal on the Waste Disposal Log. Use the phrase “in the trash” or a similar description in the ‘method of disposal’ column of the Waste Disposal Log.

Q7 How much does an aerosol can weigh?

An aerosol can weighs about 4 ounces (or ¼ pound) plus the weight of the contents.

If you are getting rid of a partially full can, you must add the weight of the product left in the can to the ¼ pound empty can. The weight does not have to be exact. For example, a half-empty 17 ounce can has about 8½ ounces of product plus the 4 ounces empty can, so 12 ½ ounces or ¾ pound. (Note: 16 ounces equals 1 pound)

Q8 Do we have to figure out how much residue we've added to the can popper each month?

Not if you are counting aerosol cans. If you are keeping track of how many aerosol cans you pop each month on the Waste Generation Log, you don't have to count the monthly accumulation in the can popper. However, you will have to note the disposal of the residue on the Waste Disposal Log.

If you are not counting aerosol cans then you have to figure out how much residue accumulates each month. The easiest way to do this is to divide the total weight of the residue by the number of months it took to create it. Estimate the 'predicted amount' for the future months and then make adjustments when an actual amount is determined.

Example: Aerosol can residue has been accumulating in the can popper drum for a year. The hazardous waste hauler comes to pick it up. He lets you know that he has picked up 18 pounds of waste. You divide the 18 pounds by the 12 months it took to create it and come up with 1½ pounds per month. You back fill the Waste Generation Log with 1½ pounds of aerosol can waste each month and predict that same amount for the upcoming months. Next time the residue is picked up, modify the 'predicted amount', and forecast for the next period.

This answer works best if your yard is always going to be under the 220-pound CEG limit and you pop about the same amount of cans each month.

Q9 Other crews, not based at our yard, use our can popper. How do we figure out how much residue to include our Waste Logs?

The easiest way is to 'count' your aerosol cans on the Waste Generation Log each month. The other crews have to track aerosol cans on the Waste Generation and Disposal Logs for their yard, since they are storing spent aerosol cans and then bringing them to another yard for disposal. If everybody is counting the cans, you don't have to worry about how much residue is in the can popper drum.

When a hazardous waste hauler picks up the drum, the disposal of the entire weight of waste inside the drums must be noted on the Waste Disposal Log for the yard where the can popper is located. The disposal of the residue inside the can popper drum should not be included in the Waste Generation Log (does not count against the 220 pound hazardous waste limit) because it has already been accounted for during the prior months.

Q10 What labels should be on the can popper?

If you are popping only spray paint cans, the label on the drum must include both:

- "Non-Hazardous Waste"
- "Paint can residue", "paint can popper", "paint only" or other description

If you are popping a variety of different kinds of products, the label of the drum must include all the following information:

- "Hazardous Waste"
- "Mixed aerosol can waste", "aerosol can residue" or other description
- Start date for that container
- A hazard warning

If you are using labels purchased from a vendor, all four items are usually included on two labels; a yellow or red "Hazardous Waste" label and a HMIS label (a square red, yellow, and blue).

Q11 We have a hazard label on our can popper. How do we decide what numbers to put in the boxes?

The HMIS label (a square red, yellow, and blue) should have the highest numbers in each category for whatever aerosol cans you're popping. You'll have to look on the MSDSs for the products.

For example if you were popping the following items in your can popper

	health(blue)	flammability (red)	reactivity (yellow)	protection (white)
adhesive	2	4	0	G
insecticide	1	4	1	none
carburetor cleaner	2	3	0	none
spray paint	2	4	0	none
can popper label	2	4	1	G

The numbers will vary depending on the products used at your shop. Different brands of the same product will have different numbers.

Q12 Do I need training or a certification to use a can popper?

No. ODOT Safety recommends that employees who use the can popper go over the instruction manual prior to operating it.

Q13 Can we make our own can popper?

No. Can popper designs are not as simple as they look. They are designed to specific manufacturer specifications to safely puncture pressurized cans and to capture hazardous propellants. The Agency does not want to take the risk of manufacturing our own systems due to worker safety concerns. Worker safety is ODOT's first concern.

Q14 How do I know when to change the can popper filter?

The label on the filter and/or the operating manual should have specific information for your can popper.

Typically, can popper filters are good for a set period of time (such as once a year) or a set number of cans (such as 1,000 cans). Review the information for your particular can popper.

If you can smell propellants when you are popping cans, it's past time to get a new filter.

4.3 AUTOMOTIVE FLUIDS AND PARTS

Q1 How do I count tire pieces in the 100 total tire limit for waste tires?

Parts and pieces should not be included when counting tires. Parts and pieces can be recycled, if available. If not recycled, they can be taken to a landfill. Contact your local landfill for their requirements.

A DEQ Waste Tire Storage permit is needed if more than 100 waste tires are stored in one location. A waste tire is defined as a tire that is no longer usable for its intended purpose because of wear, damage, or defect.

See the DEQ Fact Sheet - Waste Tire Program Auto Wreckers in Appendix K for additional information about getting rid of waste tires.

Q2 My vendor says the antifreeze we use is safe enough to 'flush.' Is that ok?

Not likely. Recycling is the best option for disposing of used antifreeze. Even non-hazardous antifreeze can become contaminated with metals during use. If you plan to put used antifreeze into a sanitary sewer, you must first confirm that the used product is non-hazardous and get written permission from your local sewage agency.

Q3 Do I have to track used oil filters and used anti-freeze on the Waste Generation and Disposal Logs?

Yes. Used oil filters and used anti-freeze are 'excluded' wastes. ODOT is choosing to track the generation and disposal of certain 'excluded' wastes to show proper waste stream management.

Assume excluded wastes are non-hazardous, so long as you are following the BMPs listed in the Procedure for that product. Track excluded wastes in whatever units make sense (e.g. gallons or filters).

On the Waste Generation Log, record the approximate number of gallons or filters produced at your yard. The amount can be estimated each month.

Example: Estimate the amount of used anti-freeze generated per month by dividing the number of gallons in a full container by the time it took to fill it up. If it took 5 months to fill a 55-gallon drum with used anti-freeze, you would write 11 gallons for each of the five months (55 divided by 5 equals 11). Predict the same amount for future months.

Example: Estimate the number of used oil filters generated by taking the number of new filters you purchased and divided it by the number of months it took you to go through that many filters. If you start out with a case of 24 oil filters and you have to buy a new case in 6 months, you would write 4 used oil filters generated for each of the six months (24 divided by 6 equals 4). Pencil in the predicted number of filters generated in the up coming months.

On the Waste Disposal Log, fill in a row when the vendor picks up the waste and keep the receipt or invoice on file.

Q4 Do I need a hazard warning label on my drum of used anti-freeze?

No. Used anti-freeze is an 'excluded' waste. It is assumed non-hazardous so long as it is managed according to the EMS Procedure.

The only label needed on a drum of used anti-freeze is one that says what is inside the container (i.e. "used anti-freeze"). For additional labeling information, refer to Q2 of Good Housekeeping – Questions and Answers from the Rollout – September 27, 2005.

4.4 BATTERIES

Q1 Can I throw small used batteries in the garbage?

Sometimes. Alkaline and carbon-zinc (non-rechargeable) batteries do not typically exhibit hazardous waste characteristics and can be thrown in the trash. However, recycling is encouraged.

Rechargeable batteries (nickel-cadmium, lithium ion, etc.) **must** be sent to a universal waste facility for recycling or disposal. The number of used universal waste batteries generated each month **must** be included on the Waste Generation Log.

Batteries can be stored at a central location in the District to make offsite shipping more economical. Yards that are sending their used batteries to another ODOT yard for disposal must note the name of the receiving yard on their Waste Disposal Log.

Q2 Who will pick up small used batteries for recycling or disposal?

- Some landfills collect universal waste, such as used batteries. Contact your local facility for availability.
- DAS maintains a contract for the disposal of certain hazardous wastes, including used batteries. The current contract is with EcoLights NW. The current contact at EcoLights NW is Michelle Minstrell; her number is 888-214-2327. There is no minimum pick up amount though the company prefers you accumulate a reasonable amount of waste before arranging for pick up. Billing is done by units (piece, pound, or foot). Remember that universal wastes, such as used batteries, can only be stored onsite for 1 year.
- Some hazardous waste haulers pick up batteries. A partial list of companies is included on the DEQ Fact Sheet - Management of Waste Batteries under the Universal Waste Rule in Appendix K of the EMS Manual.
- The Rechargeable Battery Recycling Corporation (RBRC) offers free recycling of rechargeable batteries to state agencies. See their web site for details (www.rbcr.com).

Waste batteries containers must be labeled “universal waste batteries.” The label must also include the date you started putting batteries into the container. Universal waste batteries must be disposed of at least once a year.

Some Districts have created a centralized accumulation center to make off site shipping more economical. Universal waste generation does not count toward the 220-pound hazardous waste limit.

Q3 Do I have to record lead acid batteries I take back to the dealer on the Waste Generation and Disposal Logs?

Sometimes. The battery does not have to be recorded if you take your vehicle into the dealer for replacement (the dealer takes the old one out and replaces it with a new one).

If the battery is stored at the yard, it must be recorded as universal waste generated on the Waste Generation Log. The generation of universal waste does not count toward the 220-pound hazardous waste limit. The disposal of used batteries that have been stored onsite before taking them to the dealer must be recorded on the Waste Disposal Log.

4.6 COMPRESSED GAS

Q1 The Procedure says, "Quantities of compressed gas greater than 200 cubic feet must be included on the annual report to the Fire Marshal." Is there an easy way to tell which gases have to be reported?

Yes. For practical purposes, report compressed gases in "K" or "A" sized cylinders. The size should be marked on the cylinder. Multiple, smaller cylinders that contain the same gas may also have to be reported.

4.9 EPOXY

Q1 Can I mix outdated or unwanted two-part epoxies to form a solid and then throw it in the trash?

No. If either of the epoxy components is considered a hazardous waste, then mixing them (with the intention of throwing it away) is considered treatment of a hazardous waste. DEQ does not allow the treatment of wastes prior to disposal (except under complex, expensive permits).

Complete a separate Waste Profile for each of the outdated or unwanted material to determine if it is a hazardous waste. If you don't want to complete a Waste Profile, epoxy can be 'assumed' hazardous and disposed of appropriately. A completed Waste Profile is needed to prove a material is non-hazardous and can therefore be thrown in the trash.

Hazardous waste (either known or assumed) must be picked up by a hazardous waste hauler or taken to an approved landfill. Contact your local landfill about accepting non-hazardous outdated or unwanted epoxy components.

The generation of hazardous waste epoxy must be included on your Waste Generation Log during the month that you decide the material is no longer usable. The generation of hazardous waste epoxies counts toward the yards 220-pound Conditionally Exempt Generation limit.