

NEWMOA Hazardous Waste Conference Call March 10, 2015

Topic: Aerosol Can Waste Management

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Participants: CT DEEP (9 people); Mass DEP (4 people); NH DES (6 people); NJ DEP (2 people); NYS DEC (11 people); RI DEM (1 person); VT DEC (3 people); EPA Region 1 (3 people); EPA HQs (2); NEWMOA (1 person)

The call was led by Mass DEP

Draft notes prepared by Melissa Zych and Tod Leedberg, NH DES

Background

Mass DEP inspectors have visited facilities that have aerosol cans with paint, lubricants, die penetrators, cleaners, and other solvents. Some sites collect these in drums and ship them offsite as D001 hazardous waste (HW) and others toss them in the trash. DEP is considering what is the best method of managing these can wastes and would like to create a level playing field for the management of these materials. As part of their efforts, they are wondering about proper management of empty spray cans and should those be treated the same as ones that are half full. They prepared the following questions to discuss during the call:

- How are states regulating aerosol can waste? A discarded un-punctured aerosol can containing hazardous waste is a hazardous waste. Other scenarios are less clear.
- Do states consider puncturing a can to be treatment of a hazardous waste?
- Do states allow treatment without a license if certain conditions are met?
- What conditions must be met for aerosol cans to be RCRA empty?
- What about aerosol cans that are empty through use and not punctured?

- No liquid/no propellant, contents non-hazardous,
- No liquid/no propellant, contents hazardous, and
- Less than 2.5 cm of hazardous waste/no propellant?
- Do states consider cans with no propellant to be a reactive HW?
- Is a can with no propellant not reactive because it meets the RCRA-empty definition of “substantially at atmospheric pressure”?
- Should the reactivity determination be based on the contents and not the container it’s stored in?
- Still potentially hazardous due to being reactive under temperature or pressure?

It may be a best management practice to puncture cans with no hazardous constituents prior to disposing, but is it something state programs can enforce? What’s the hazardous constituent causing it to be D003?

A few useful documents:

<https://www.webcoenvironmental.com/aerosolcans.htm>

<http://yosemite.epa.gov/osw/rcra.nsf/0c994248c239947e85256d090071175f/0c95b3d30e33cdb68525670f006bece7!OpenDocument>

The following summarizes the responses to these questions.

Do states consider puncturing a can to be treatment of a hazardous waste?

MA – Aerosol cans can contain hazardous chemicals, such as toluene, acetone, ethyl benzene, liquid propane gas, and other constituents that would render them hazardous waste. Unless a generator uses a control device, such as the AeroVent 1 (drum mounted can puncturer with a carbon canister) to capture all waste (i.e., liquid and gases), puncturing would be considered treatment. Is this enforceable? Even if a can is spray empty, is it RCRA empty? If a can is spray empty, it can still contain enough propellant to be considered reactive under the right conditions. If the can contains no liquids and no propellant, it would not be hazardous waste. If the can has less than three percent contents of the can and no propellant, less certain about whether it is a HW.

CT – Puncturing is considered treatment, unless generators perform the puncturing process in tanks or containers. Need to collect the liquids and gases, and ensure that all wastes are compatible. Fact sheet available on website. Mandatory recycling of scrap metal to ensure that can is not being “disposed”. Scrap metal yards can only accept punctured cans.

NH – Puncturing a RCRA empty aerosol can is not “treatment”, but puncturing an aerosol can with RCRA hazardous waste in it (either propellant or HW paint) is “treatment”. However, if the can itself is to be recycled as a “scrap metal” then it can be viewed as part of the “recycling process” and therefore not subject to regulation under the HW Rules, per Env-HW 802.02(b).

NJ – Follow federal rules. Not a regulated process. If cans are punctured, generator must ensure that wastes are compatible, and the cans must be RCRA “empty” of both propellant and product.

NY – Referred to RO 11466 – states that puncturing is not considered treatment.

RI – No formal policy; do allow puncturing, but have concerns about can puncturing devices seen in the field. Puncturing devices must capture gases. View it as exempt under treatment in container and tank allowance.

VT – Have a procedure in place and consider it treatment, and requires a notification from the generator.

Does your program allow treatment without a license if certain conditions are met?

MA – currently allows generators the option of puncturing aerosol cans if

- They use equipment with a pollution control device to capture fugitive emissions, and
- Waste removed/drained from cans is characterized and managed appropriately.

CT – No permit required if done in a container or tank.

NH – Yes; although NH considers it treatment. NH generators can puncture non-empty aerosol cans without a permit/license under the “generator treatment in tanks or containers” allowance. Remaining can contents must be properly contained and characterized and managed in accordance with the HW rules. The residual aerosol can propellant must not be directly vented to the atmosphere (e.g., carbon filter on the drum where the puncturing takes place). The resultant punctured cans that are free of propellant, and drained of its liquid, are exempt from the HW rules when recycled as scrap metal (Env-HW 802.02(a)(2)). An inspection found a company to be using a handheld can puncturer, and company was directed to use a drum top puncturer (Aerosolv unit) to be in compliance.

NJ – Not a regulated process. Look at it as a generator emptying a container and subject to generator standards.

NY – Yes, must have proper equipment to collect emissions and waste and ensure the waste is properly characterized.

RI – No license necessary as exempt under the treatment in container/tank allowance.

VT – require notification, no license required. Have device standards:

- Designed for puncturing cans
- Capture all liquid and gases
- Compatibilities of wastes
- Manufacturer’s recommendations
- Must be affixed to container
- Must make a hazardous waste determination

What conditions must be met for aerosol cans to be RCRA empty? And what about aerosol cans that are empty through use and not punctured?

MA –

- No liquid/no propellant, contents non-hazardous,
- No liquid/no propellant, contents hazardous,
- Less than 2.5 cm of hazardous waste/no propellant,
- If can is “spray empty”, it may still be “reactive”; unwritten position that to be empty, cans need to be punctured.

CT – “Stokes” test – emptied by method using containers and tanks:

- Empty of both product and propellant,
- “Spray empty”,

- Not required to be punctured to be considered empty.

NH – Aerosol cans are considered empty, and thus exempt from the HW rules, under the following conditions:

- When the pressure inside the aerosol container approaches atmospheric pressure (i.e., when the propellant gas is unable to spray any more material from the aerosol can); and
- When all wastes (e.g., paint) has been removed, using the practices commonly employed to remove materials from the can.

Cans emptied through use and not punctured must meet above criteria

NJ – RCRA empty means no propellant and no product left in can. Most cans are punctured prior to recycle; cans not punctured would be considered hazardous waste.

NY – Conditions must follow two steps:

- Liquids: less than an inch and no liquid can be sprayed out, and
- Gases: approach atmospheric pressure if the gases meet the definition of hazardous waste (such as a butane propellant, or even an inert propellant that had picked up sufficient ignitable components from the liquid to make it an ignitable compressed gas).

No need to be punctured to meet criteria of empty.

RI – No liquid, no propellant; specifically, liquid <1”, and gas reaching atmospheric pressure.

Cans can be emptied through use.

VT – RCRA empty and gas reaching atmospheric pressure.

Do states consider cans with no propellant to be a reactive HW?

MA – If can is “spray empty”, may still be reactive HW.

CT – Generator needs to make the determination if the can is “reactive”. CT has mandatory recycling of scrap metal (would cite a generator if found in trash). If not punctured, contents and can could be reactive; although any sealed container could be considered reactive, therefore generator needs to determine. Case in CT where a lit candle next to a can of hairspray on a hotel sink caused a BLEVE-like explosion that blew out windows. Another incident involved a can of oven cleaner on top of a heated stove, which caused an explosion that blew out walls. These examples demonstrate that aerosol cans are capable of being reactive hazardous waste.

NH – If punctured properly, no. If not punctured, the generator needs to make that determination based on the contents and propellants in the aerosol can. Based on the can as well as the contents (material and propellant), subject to a hazardous waste determination by the generator.

NJ – Need to be punctured to be considered empty and not a reactive hazardous waste.

NY – 261.23(a)(6) – only if content is reactive; discount the can. If can still holds product, the can is still considered a product. Refer to RO 13468.

RI – Case by case, only if contents are reactive, container not reactive itself. Depends on what was in can.

VT – Generator required to make determination. Cans with no propellant are not considered to be reactive.

It may be a best management practice to puncture cans with no hazardous constituents prior to disposing, but is it something states can enforce? What’s the hazardous constituent causing it to be D003?

NH – Based on the reactivity characteristic, Env-HW 403.05(b)(6) – “capable of detonation or explosive reaction if it is subjected to an initiating force, or if heated in confinement”.

NY – Not due to the can, depends on the contents. Simple expansion due to a natural increase in pressure of the contents being tested does not constitute ‘explosive reaction’ or ‘detonation’. (If it did, discarded pure water sealed inside an ordinary tin can would need to be classified as D003 reactive hazardous waste as a consequence of the water vaporizing and the resulting steam pressure causing the can to suddenly burst open.) Aerosol cans are designed to safely hold their contents at ordinary temperatures and will not typically withstand the pressures achievable if they are heated, and will likely burst. But such bursting is not a valid indicator of whether the contents of an aerosol can are D003 reactive under 261.23(a)(6) because the bursting is caused by the simple physical expansion of the contents (rather than by a chemical reaction or detonation) and the subsequent structural failure of the container product that had been adequately holding those contents.

VT – Do not require the puncturing of cans containing non-hazardous ingredients.

EPA HQs – Even a can with water would be considered explosive if heated; so EPA would not consider cans containing non-hazardous waste reactive. EPA-HQs is:

- Drafting policy on the management of cans under the Definition of Solid Waste Rule;
- Drafting policy on applicability of reactivity to aerosol cans: if no contents/propellants, then not reactive hazardous waste; and
- Scrap metal exemption letter does not require a RCRA-empty container.

HQs is considering the possibility of propellants being used as fuel under the fuel-to-fuel exemption; EPA memo that allows fuel-to-fuel for aerosol cans. EPA is investigating an Alabama cement kilns that has a process for managing the material and a Wal-Mart letter that addresses fuel-to-fuel for contents. HQs will keep the group apprised of any developments in the retail sector related to this topic.

EPA HQs is investigating whether carbon canisters must be managed as HW. MA, CT, and NH responded that they require carbon canisters be managed as HW.

EPA HQs may share information received from Retail Notice of Data Availability (NODA) as part of RCRA Retail Strategy during NEWMOA’s June 9 workshop.

NYS DEC Region 3 – What about pressurized inhalers? How are state programs addressing them? These are overlooked at hospitals. Are they considered to be aerosol cans for the purposes of waste management? This could be a topic for a future discussion.