

Recycling Modernization Act Material List Request for Information:

Compilation of Selected Responses – Aerosol Containers



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State of Oregon
Department of
Environmental
Quality

This document is a compilation of selected responses to DEQ's [Request for Information](#) regarding the potential for recycling different materials. As optional background reading materials for members of DEQ's Technical Workgroup on Material Lists, DEQ has selected the following response that addresses metal aerosol containers, which will be discussed at the May 31, 2022 Technical Workgroup meeting.

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email deqinfo@deq.oregon.gov.



Innovative Products For **Home. Work. Life.**

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via electronic transmission

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**Subject: Request for Information: Oregon Statewide Recycling Collection List and
Producer-Collected Materials (For Recycling)**

The Household & Commercial Products Association¹ (HCPA) appreciates the opportunity to offer comments to the Oregon Department of Environmental Quality (DEQ) which can be used to evaluate materials against evaluation criteria set forth in Section 22 of the Recycling Modernization Act.² Section 22 requires the Environmental Quality Commission to identify by rule two lists of materials: materials collected by local government or their service providers as part of providing the opportunity to recycle and covered products for which a producer responsibility organization must provide for collection through recycling depot or mobile collection events. HCPA would like to take this opportunity to discuss why aerosol products should be included in the statewide collection recycling list of materials collected by local government or their service providers as part of the opportunity to recycle.

The aerosol delivery form is used to dispense a wide range of products, including but not limited to adhesives, air fresheners, antiperspirant, asthma inhalers, body spray, cleaners, degreasers, deodorant, disinfectants, dry shampoo, hair spray, insect repellent, insecticides, lubricants, paints, pan sprays, sealant, shaving creams and gels, sunscreen, and whipped cream. HCPA has represented the U.S. aerosol products industry since 1950 through its Aerosol Products Division, representing the interest of companies that manufacture, formulate, supply and market a variety of products packaged in an aerosol form.

¹ The Household & Commercial Products Association (HCPA) is the premier trade association representing companies that manufacture and sell \$180 billion annually of trusted and familiar products used for cleaning, protecting, maintaining, and disinfecting homes and commercial environments. HCPA member companies employ 200,000 people in the U.S. whose work helps consumers and workers to create cleaner, healthier and more productive lives.

² <https://olis.oregonlegislature.gov/liz/2021R1/Downloads/MeasureDocument/SB582/Enrolled>

The U.S. aerosol products industry produces nearly four billion aerosol products³ each year. Products using aerosol technology can be found in most households, as well as commercial, institutional, and industrial settings. Post-consumer metal containers are in demand because both aluminum and steel are valuable within the recycling stream and can be recycled infinitely without the metal breaking down or compromising the metal's quality. If all of these aerosol products were recycled, this would result in approximately 130,000 tons of steel scrap and 25,000 tons of aluminum scrap.⁴

Empty aerosol containers are considered widely recyclable because a majority of Americans have access to recycle empty aerosol containers, aerosol containers are easily sorted by material recovery facilities (MRFs), aerosol containers do not cause issues in reprocessing, and both aluminum and steel aerosol containers have robust end-markets. We will discuss in more detail how both aluminum and steel aerosol containers are collected, sorted, reprocessed, and discuss their end-markets.

I. Collection

In 2016, HCPA (formerly the Consumer Specialty Products Association), the Can Manufacturers Institute (CMI), the Aluminum Association, and the Steel Recycling Institute (SRI) sponsored a study⁵ organized by the Sustainable Packaging Coalition, a project of GreenBlue, on the access rate of Americans to curbside or drop-off recycling facilities that recycle empty aluminum or steel aerosol containers. Most recently, the Sustainable Packaging Coalition published a comprehensive update⁶ in 2021 which showed that aluminum and steel aerosol containers have access rates above the 60 percent threshold set out in the Federal Trade Commission Green Guides.

In response to concerns that non-empty aerosol containers may pose a hazard, HCPA and the aerosol industry conducted a study⁷ to identify and understand the potential risks that aerosol containers pose in the recycling stream. The study found that the likelihood of an accident with no significant consequence was *low or remote*. The study also found that the likelihood of an accident with significant consequences was *very low*. This assessment led to the development of guidelines⁸ for recycling aerosol containers which can be implemented in order to capitalize

³ HCPA conducts an annual survey of all U.S. aerosol product manufacturers, as well as aerosol container and valve manufacturers (the HCPA Aerosol Pressurized Products Survey).

⁴ Based on the number of aluminum and steel aerosol containers produced as reported by the HCPA Aerosol Pressurized Products Survey and multiplied by the average weight of each type of container.

⁵ 2015-16 Centralized Study on Availability of Recycling is available at <http://greenblueorg.s3.amazonaws.com/smm/wp-content/uploads/2017/06/SPCs-Centralized-Availability-of-Recycling-Study-3.pdf>

⁶ 2020-21 Centralized Study on Availability of Recycling is available at <https://sustainablepackaging.org/wp-content/uploads/2022/03/UPDATED-2020-21-Centralized-Study-on-Availability-of-Recycling-SPC-3-2022.pdf>

⁷ Kumar R. Bhimavarapu and Dimitrios M. Karydas. Recycling Aerosol Cans: A Risk Assessment. Factory Mutual Research Corporation. April 1996.

⁸ Guidelines for Aerosol Can Recycling in Material Recovery Facilities. Factory Mutual Research Corporation. August 1998.

on the inherent value that aluminum and steel bring to the recycling system – and at very low risk.

II. Sortation

As aluminum and steel containers are sorted separately, HCPA shall discuss both separately.

In many MRFs, eddy currents are used to sort out all aluminum material from the rest of the single stream. They are more than 95% effective⁹ in sorting out used beverage cans (UBCs); although, there are some missortation issues. Aluminum aerosol containers are less affected by missortation. The size and shape of aluminum aerosol containers pose minimal issues for sortation equipment. While many aluminum aerosol containers have a diameter of less than two inches, aerosol containers do not flatten as easily as UBCs which is a significant source of the sortation challenges. With regard to the eddy current, it might miss an aluminum aerosol can if it is above a certain weight threshold, which differs accordingly to the eddy current system settings.

To the best of our knowledge, all MRFs easily and effectively separate out ferrous (e.g., steel) packaging from the single-stream via a magnet, which is very effective. The size, shape, and other attributes of steel aerosols pose no issues for the sortation process at typical MRFs. Last year, HCPA, CMI and the Pet Food Institute (PFI) sponsored research¹⁰ by Resource Recycling Systems (RRS), which conducted interviews of 16 MRF operators on behalf of the aerosol and pet food industries. All of the MRF operators that RRS interviewed said that they are confident that most of the steel packaging, including aerosol containers, is recovered. While there is the potential for missortation of small steel aerosol containers and/or crushed and flattened containers through the glass screen, it is highly unlikely because most steel aerosol containers have diameters larger than two inches and are unlikely to be crushed flat.

III. Reprocessing

Neither aluminum or steel aerosol containers cause issues in reprocessing. The aluminum mills melting down UBCs to make new aluminum beverage can sheets are very sensitive to contaminants; however, that is not the case for deox and remelt scrap ingot (RSI) manufacturers. As the RRS research notes, while mills and foundries do not want any plastic, “plastic is not a problem for secondary processors making RSI and deox.” There is more on RSI and deox in the end-markets section. Also according to the RRS research, while liquid poses a problem for steel mills, the baling at the MRF typically expresses any remnant liquid. Plastic

⁹ Can Manufacturers Institute. Aluminum Beverage Can: Driver of the U.S. Recycling System. 2020. Available at <https://www.cancentral.com/sites/cancentral.com/files/public-documents/GBB%20Report%20Aluminum%20Can%20Drives%20U.S.%20Recycling%20System%20Final%202020-0623.pdf>

¹⁰ Resource Recycling Systems. Surveying State of MRFs and End Market Barriers to Recycling Steel and Aluminum Aerosols and Pet Food Cans and Identification of Solutions. 2021. Available at https://drive.google.com/file/d/1CccuPA_SPnbmu32w0L_BtKMv7aGB8dWo/view.

components and paper labels are not a problem in the steel recycling process and can even be a benefit as they add energy to the heat process. The RRS research does note that too many full (i.e., unused) steel aerosol containers could pose marketing challenges based on local market conditions but that full steel aerosol cans are rare. In short, the RRS research states, “Steel recyclers are agnostic to plastic, paper, coatings, etc. that may prohibit the recyclability in other products.”¹¹

In both aluminum and steel aerosol containers, only empty aerosol containers should be recycled by the public. Nonempty aerosol containers should be managed by household hazardous waste when being disposed of by consumers or as a universal waste¹² when generated by commercial, institutional, or industrial settings in the state of Oregon.

IV. End Markets

There are robust end-markets for mixed aluminum (i.e., aluminum material other than UBCs) and steel.

Aluminum

For mixed aluminum, the end-markets are ready and willing with current infrastructure to buy more if it were available for sale. According to the RRS research, the conclusion from talking to six end-market experts and insights from previous research was, “Most secondary end-markets are eager for material and willing to work with potential suppliers to unlock new sources.”

There is demand for mixed aluminum mainly from two end-markets. One of these end markets is deox, which is a critical additive in the steel making process. The deox made with mixed aluminum displaces the need for virgin material. The other end-market is RSI, which is where the mixed aluminum is melted down into an ingot (i.e., a large slab) and the remelted and mixed with other inputs to be turned into some new product.

In most MRFs that accept aluminum aerosol containers, mixed aluminum is not baled. Rather, the mixed aluminum is often collected together in open-top containers (i.e., large receptacles) and then sold directly to end-markets such as the two described above or to local scrap yards that ultimately sell the mixed aluminum to end-markets. As a result, there is no bale specification for mixed aluminum, but it’s a commodity that is collected and sold by many MRFs. Further, a buyer and seller may agree to deviate from a scrap specification in a mutually agreeable way. This is in line with the Institute of Scrap Recycling Industries’ (ISRI) long-

¹¹ Resource Recycling Systems. Surveying State of MRFs and End Market Barriers to Recycling Steel and Aluminum Aerosols and Pet Food Cans and Identification of Solutions. 2021. Available at https://drive.google.com/file/d/1CccuPA_SPnbmu32w0L_BtKMv7aGB8dWo/view.

¹² On Nov. 17, 2021, DEQ adopted revisions to five sections of Oregon administrative rules governing the treatment, storage, and disposal of hazardous waste, which included adding aerosol cans to Oregon’s universal waste program. These changes became effective on Jan. 1, 2022. More information is available at <https://www.oregon.gov/deq/hazards-and-cleanup/hw/pages/hw-rules.aspx>

standing policy¹³ on pressurized containers that states that it is up to the individual recycler to make a business decision on whether to accept these containers.

Steel

Steel aerosol containers also have strong end-markets. They can be readily added to steel bales at MRFs. As the RRS research¹⁴ notes, “There are no penalties, price downgrades, or rejections for steel bales that contain aerosols.” Another way to say this is that processors are not diverting steel aerosol containers from the rest of the steel material that is collected, sorted, and sold to the end-market. Steel packaging is sold in bales that are bought by recyclers at scale for a positive value.

The RRS research that involved interviews with five steel end-market experts concluded that steel aerosol cans “are readily accepted by end-markets.” Steel manufacturers typically source steel from scrap managers and scrap aggregators instead of directly from MRFs for volume reasons. The predominant end-market for MRF steel bales are brokers and scrap managers that further process the material before being sold to end-markets. A benefit of steel is that essentially any steel product can be melted down to make any other steel product. As a result, steel end-markets buy steel bales with all kinds of consumer steel items and can use that steel to make a variety of steel products.

Steel end-markets have national reach since, according to the RRS research, 40 of 50 states (including Oregon) have electric arc furnaces capable of melting down steel cans, including aerosols. Importantly, the RRS research states, “There is ample capacity for steel mills to absorb higher volumes of steel from scrap managers across the country.”

V. Ongoing Activity to Support the Recycling of Aerosol Containers by the Aerosol Industry

The aerosol industry has spent significant time and resources educating the public that empty aerosol containers are recyclable. HCPA and CMI continue to collaborate on an Aerosol Recycling Initiative in which the aerosol industry will develop more data to support the recycling of empty aerosol containers, create toolkits to better educate consumers on how to recycle aerosol containers, and provide resources to MRFs to increase their acceptance of aerosol containers, and increase overall recycling rates.

Many consumers don’t know what an aerosol product is, instead viewing the product as their favorite disinfectant, air freshener, hair spray, etc. that helps them improve their daily lives. These consumers recognize aerosol products as recyclable because, in addition to labeling, they

¹³ ISRI’s policy on pressurized containers can be found at <https://www.isri.org/error-404?aspxerrorpath=/docs/default-source/policy-position-statements/pressurized-containers.pdf>

¹⁴ Resource Recycling Systems. Surveying State of MRFs and End Market Barriers to Recycling Steel and Aluminum Aerosols and Pet Food Cans and Identification of Solutions. 2021. Available at https://drive.google.com/file/d/1CccuPA_SPnbmu32w0L_BtKMv7aGB8dWo/view.

are packaged in a metal container. Treating aerosol products as anything other than recyclable will cause confusion in the market and likely substantively increase the amount of infinitely recyclable aluminum and steel that ends up in landfills.

VI. Conclusion

HCPA appreciates the opportunity to submit this letter regarding the recycling of aerosol containers. To establish a truly effective recycling system, we need to have one message for everyone – no matter what city or town a person lives in. Thus, HCPA supports the development of lists to designate which materials and products can be recycled by local recycling programs and which materials and products should be covered by a producer responsibility organization.

HCPA would be more than happy to further discuss the information shared in this letter. Aerosol containers have an economic value in the recycling stream and since the metal within aerosol containers can be recycled infinitely, the environmental and economic impacts of recycling can be realized many times over. Aerosol products should be included in the materials collected by local government or their service providers as part of providing the opportunity to recycle because these containers are readily collected, sorted, and reprocessed and have robust end-markets.

If you would like to discuss the information provided in this letter further or have questions, please contact me at (202) 833-7304 or ngeorges@thehcpa.org.

Respectfully Submitted,



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