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## ● A Discussion of the Federal EPA Empty Container Rule: *Purpose and Application*

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*The Journal of HazMat Transportation™* focuses exclusively on providing expert updates, reviews and guidance on complying with U.S. and International hazardous materials transportation regulations. For 28 years, it has been an indispensable management tool for both large and small organizations, and government agencies throughout North America and Europe.

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# A Discussion of the Federal EPA Empty Container Rule: *Purpose and Application*

By Paul W. Rankin & Lawrence W. Bierlein, Esq.

## Introduction

The industrial packaging reconditioning industry serves an indispensable role in promoting the economy of the United States by providing for the safe transportation, cleaning and reuse of millions of industrial packagings annually. Industrial containers, the most common of which are steel and plastic drums, as well as composite, rigid plastic and metal intermediate bulk packagings, are used daily by businesses large and small to transport and store thousands of commodities that are utilized in a multitude of industrial processes. After these packagings have been emptied of their original contents, small amounts of residue remain inside.

Since the original lading in a majority of these packagings is regulated as hazardous by the U.S. Department of Transportation (DOT) or the U.S. Environmental Protection Agency (EPA), the loadings and the packagings must be managed safely.

The emptier of any drum or other industrial container has certain responsibilities with respect to the residues that continue to adhere to that container. ASTM defines an industrial container as “a package used for the transportation or storage of commodities, the contents of which are not meant for retail sale without being repackaged.”

This article examines the history and practical application of the federal empty container rule and explains the important economic and environmental benefits it provides to thousands of manufacturers doing business in the United States.

## Background

In 1976, the Resource Conservation and Recovery Act<sup>1</sup> was passed by Congress, giving EPA the authority to control hazardous waste from the “cradle-to-grave.” This regulatory authority includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes.

In 1980, following adoption by EPA of a comprehensive regulatory regime, the Agency was petitioned by an association representing the industrial container reconditioning industry to decide if regulation

of the industry as hazardous waste “treatment, storage and disposal facilities” (TSDF) was warranted.<sup>2</sup> EPA was willing to consider whether it should regulate the removal of small amounts of residue from industrial containers that previously held a regulated substance. EPA concluded it was not necessary to do so. The Agency recognized that the removal of such residue was ancillary to the reconditioning process, and that requiring such residue to be managed as hazardous waste would impose substantial burdens on industry and potentially end the environmentally beneficial practice of reusing industrial containers, such as steel drums and intermediate bulk containers.

Specifically, EPA concluded that requiring such residue to be managed as a hazardous waste was not necessary to protect human health or the environment. Significantly, before reaching this conclusion, EPA solicited comment on whether it should regulate the removal of residue from used industrial containers. See 45 FR 78,524 -78,529 (Nov. 25, 1980). After considering the comments received, EPA rejected proposals to regulate small amounts of residue in containers that formerly held regulated substances. 47 FR 36,092 - 36,097 (Aug. 18, 1982).

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**LAWRENCE W. BIERLEIN ESQ.,** He is an internationally renowned expert on the subject of hazardous materials transportation regulation and law to which he devotes his practice. Mr. Bierlein may be contacted at tel: (202) 775-5560, [larry@hazmat-lawyer.com](mailto:larry@hazmat-lawyer.com).

The final RCRA regulations that EPA promulgated instead adopt the “empty container rule,” which provides that a container that has been fully emptied using commonly employed emptying practices is deemed empty and “is not subject to regulation.” EPA created minor exceptions to the empty container rule for viscous materials originally transported in drums or intermediate bulk containers, allowing up to approximately one inch or 0.3% by volume in drums and IBCs, respectively. 40 CFR 261.7(a)(1).

## Transportation regulations

An industrial container that held a U.S. DOT-regulated hazardous material, then is emptied, and now holds only the residue of that material, still must be shipped as if it were full of its original contents. See 49 CFR 173.29. This means that it must be closed, with all closures tightly in place. If the lid is gone or removed, or the closures are missing or loose, the DOT regulations are *not* being met.

All marks and labels originally required when the container was full, are still required when it is shipped with residual contents.

Some relief from DOT shipping papers is granted in 49 CFR 173.29(c)(2), but only for non-bulk packaging “when collected and transported by a contract or private carrier for reconditioning, remanufacture or reuse.” Emptied non-bulk industrial packaging being discarded or scrapped is not being shipped for reconditioning, remanufacture, or reuse, and therefore must be accompanied by certified shipping documents indicating the hazard of the residue. They may include the words “RESIDUE: LAST CONTAINED \_\_\_\_” in association with the shipping description. Shipping papers also are required if the means of shipping is via common carrier.

Placarding of the vehicle is not required for emptied non-bulk packaging, but it is required for intermediate and bulk packagings that continue to hold residue of a hazardous material.

It is important to recognize that the DOT regulations apply regardless of relief from regulation that might be granted by another agency. As discussed below, for example, an EPA-empty container is not regulated by EPA, but that exception is immaterial to DOT. As long as hazardous material residue remains, emptied industrial containers must meet the DOT rules.

DOT is concerned about the hazards of the residue if it were unintentionally released during loading, unloading, transport, or storage incident to transportation. Their concern is not abated if the industrial container is cut, torn, crushed, or if the closures are not fully secured or present at all. In fact, concern is enhanced because of the greater likelihood of the residue injuring transportation or plant personnel when released from a defective or damaged container. DOT has said, “crushed steel drums which have not been cleaned and purged of all hazardous material residue must be packed in authorized packagings and marked and labeled as required when the

drums previously contained a greater amount of the hazardous material.”<sup>3</sup> [Ed. Note: See PHMSA letter of interpretation which follows this report as cited below]. *In other words, uncleaned crushed industrial containers with hazardous material residues must be overpacked, and the overpack must meet all the DOT regulations applicable to shipment of the residue.*

## Hazardous waste regulation

U.S. EPA initiated hazardous waste regulations under the Resource Conservation & Recovery Act (RCRA), in 1980. At that time, they indicated that the RCRA controls, such as manifesting and facility permitting, would not be required if all that is handled are “empty” containers. In a definition adopted in response to RIPA’s petition for rulemaking, 40 CFR 261.7 defines when a container is considered empty. For non-bulk containers such as drums, the containers first must be emptied as completely as possible using common emptying practices. Also, in no case may the residue constitute no more than one inch or 3% of the original capacity of the container. EPA makes it clear that the 1-inch maximum is meant for hard-to-remove residues such as tar. In the industry, the term “drip dry” is used as shorthand to describe a properly emptied non-bulk container.

Intermediate bulk and bulk industrial containers are subject to the same EPA rule, but the authorized allowable volume of residue is only 0.3% of the capacity of the container in these larger sizes.

If the container is *not* empty by these criteria, then the contents are an EPA-regulated hazardous waste. The container emptier is the generator of that waste, who must have his own EPA identification number, must consign the load to an EPA or State-permitted hazardous waste treatment, storage, or disposal facility, and must utilize the services of an EPA or State-registered hazardous waste transporter.

To facilitate the handling of emptied containers in the reconditioning industry, RIPA created the empty container certification form used by members, in which the emptier of the industrial container must certify that both the DOT and EPA RCRA requirements are met when the emptied packaging is offered for transport.

## Disposal liability

EPA also administers Superfund, sometimes called CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act). Under this law, people who arrange for the disposal of hazardous substances may be held jointly and severally liable for the clean up of any site where those substances are released to the environment. Under 42 U.S. Code 9601(22), “the term ‘release’ means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (*including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant*) ....” (Italics added.)

At least one case has held that the processing of scrap materials constitutes “disposal” under CERCLA. The empty container rule under RCRA has no meaning under CERCLA, just as it has no meaning under DOT. If any residue in an emptied industrial container meets the definition of a hazardous substance, then the emptier of that container can be held liable for the clean up of any portion or all of a site at which that residue is released, including a scrap yard.

For this reason, prudent operators of scrap facilities will not accept uncleaned industrial containers. In addition to the environmental consequences of release of the residues, the employees in the scrap yard may be exposed to hazardous chemicals and vapors in violation of the Occupational Safety and Health Act (OSHA). Recognizing, this, the association of the scrap industry and the predecessor of RIPA established a joint recommendation that all materials to be scrapped first would be cleaned using an effective cleaning agent and purged of all foreign matter and prior residues or would be thermally neutralized in a drum reclamation furnace for the same purpose.

In 1999, Congress passed the Superfund Recycling Equity Act, which included an amendment exempting scrap processors from cleanup liability when they send lightly contaminated “recyclable material” to downstream customers, including steel mills, that must meet very specific operating criteria. This law has a provision that excludes any industrial shipping container, whether intact or not, having a capacity from 30-3000 liters (i.e., ~8-800 gallons), from the definition of “recyclable material.”<sup>4</sup> This means that any industrial container such as steel or plastic drum, whether whole, shredded, or crushed, that is sent to a scrap yard or steel mill with residue in or on the container or its parts, will expose *both* the generator and the recipient of it to full Superfund cleanup liability.

Disposal facilities such as landfills also do not want empty industrial packaging. Specific operating rules in landfills prohibit such waste disposal, because ultimately the packaging will corrode and collapse, disturbing the stability of the site.

## Conclusion

Hazardous residues in emptied industrial containers pose threats to employees, the public, and the environment, if released. For this reason, agencies like DOT and EPA under Superfund continue to regulate such industrial containers almost to the same extent as if those containers were full of their original contents. The emptier of any industrial container must recognize his responsibility to manage emptied containers in an environmentally responsible manner. If managed irresponsibly, the emptier may be subject to massive potential liabilities – both civil and criminal in some cases - for his failure to act properly. These responsibilities and liabilities extend long after the emptied container leaves the emptier’s premises.

<sup>1</sup> 42 U.S.C. §6901 et seq. (1976)

<sup>2</sup> National Barrel & Drum Association, Inc. dba Reusable Industrial Packaging Association

<sup>3</sup> PHMSA Letter of Interpretation (RN-0177) to Mr. Doug Walker, Rollins Environmental Services (Sales), Inc.; January 12, 1994

<sup>4</sup> 42 U.S.C. §9627(b)(1)

## PHMSA Letter of Interpretation

Date Issued 1/12/1994

Reference Number 94-0177

Affected Regulations 172.203, 173.29

Status Use Caution

Mr. Doug Walker

Rollins Environmental Services (Sales) Inc.

Dear Mr. Doug Walker:

This is in response to your letter of October 18, 1993 regarding requirements for empty packagings. Generally, empty drums containing any quantity of hazardous material residue must be transported in the same manner as when it previously contained a greater quantity of the material, unless the drums are cleaned and purged of all residue, or reloaded with a material not subject to the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Accordingly, requirements regarding packaging, shipping papers, marking, and placarding apply to empty drum containing hazardous materials residue. Under § 173.29(c), shippers offering drums containing residues collected and transported by a contract or private carrier for reconditioning, remanufacture or reuse are excepted from the shipping paper requirements in Subpart C of Part 172.

Under the provisions of § 172.203(e)(3), if a packaging contains the residue that is a hazardous substance, the description on the shipping paper must include the phrase “RESIDUE: Last Contained \*\*\*\*”, and the letters “RQ” must be entered on the shipping paper either before or after the basic description. For other hazardous materials, use of the phrase “Residue: Last Contained \*\*\*\*” is optional.

Therefore, for the shipment of empty drums or a cargo tank referenced in your scenario #1, the shipping paper entry would remain the same as for the originally shipped material. The phrase “Residue: Last Contained \*\*\*\*” would be optional. In your scenario #2, the crushed drums which have not been cleaned and purged of all hazardous materials residues must be packed in authorized packagings, marked and labeled as required when the drums previously contained a greater amount of hazardous materials. The shipping paper entry would remain the same. The phrase “Residue: Last Contained \*\*\*\*” would be optional unless the packaging containing the crushed drums contained a material that is a hazardous substance.

If we can be of further assistance, please feel free to contact us.

Sincerely,

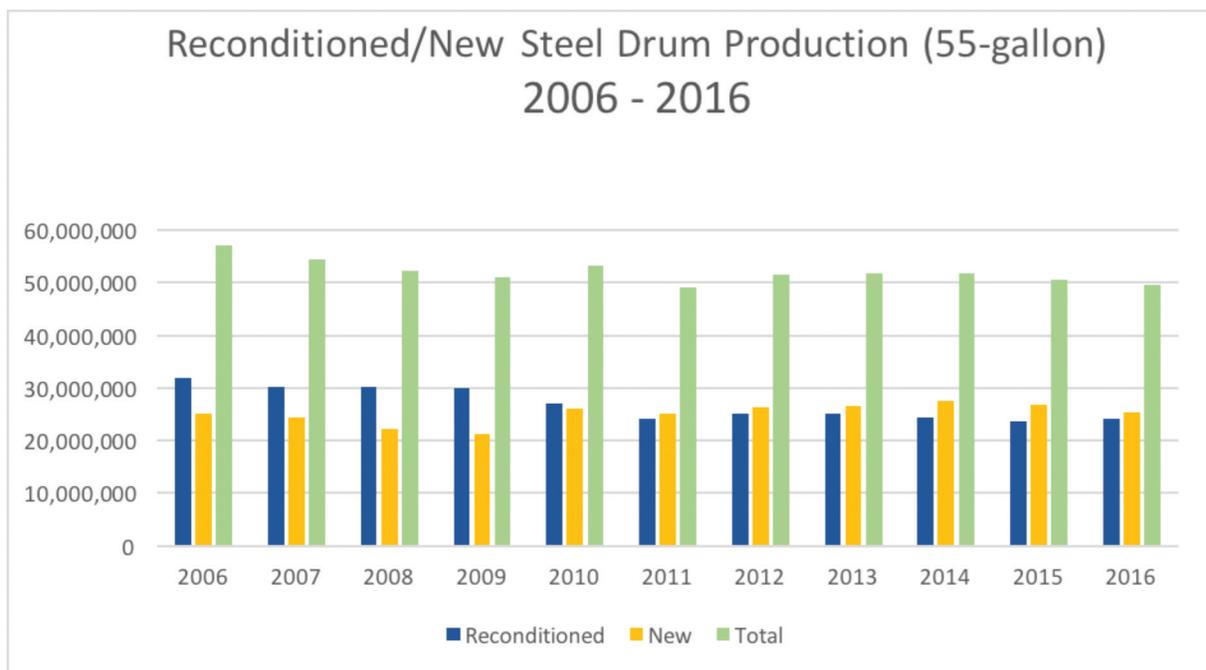
Delmer F. Billings 

# Industrial Packaging Production Statistics: Steel and Plastic Drums, Intermediate Bulk Containers

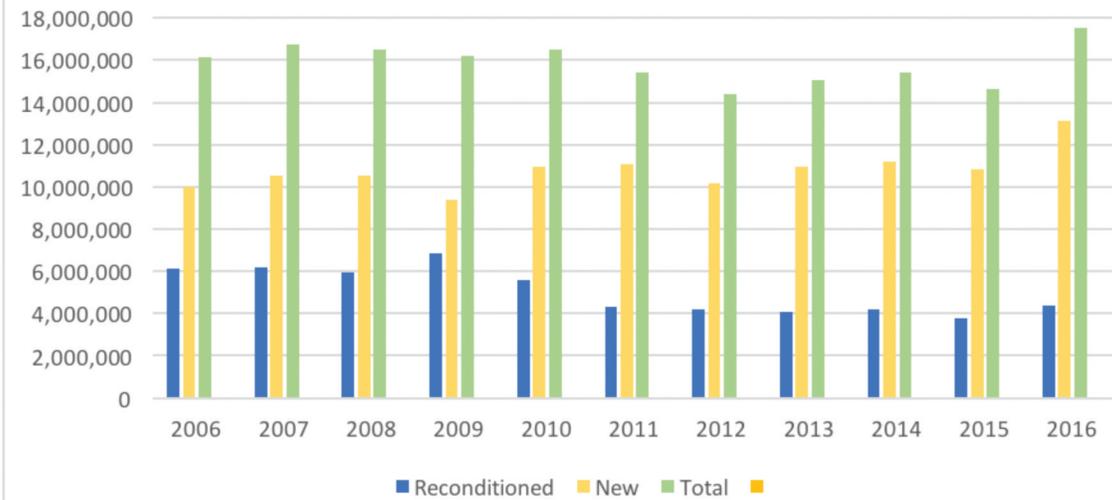
## Size of the Industrial Packaging Industry

According to production statistics compiled by several leading trade groups representing the industrial packaging industry, tens of millions of new and reconditioned industrial packagings are produced in the U.S. every year. The most common of these packagings are 55-gallon steel and plastic drums, and 275- and 330-gallon composite intermediate bulk containers. Millions of other packagings, including fiber drums, flexible and metal IBCs, and pails are also produced in large volumes. However, reliable production statistics for these containers are not available.

The following charts use data compiled by the Reusable Industrial Packaging Association, the Industrial Steel Drum Institute, the Plastic Drum Institute and the Rigid Intermediate Bulk Container Association, for the years 2006 – 2016.



Reconditioned/New Plastic Drum Production (55-gallon)  
2006 - 2016



Reconditioned/New Composite IBC Production  
2006 - 2016

(Includes 275- and 330 Gallon Sizes)

