



Returning Empty IBCs and Guidelines for Reuse

Intermediate Bulk Containers (IBCs) are bulk packagings that consist of a body for containment of greater than 450 L (119 gallons) and less than 3000L (793 gallons) and may include structural equipment for support (i.e., a cage in the case of composite IBCs) and handling (i.e., pallets, lifting eyes, straps, etc.). The IBC may have service equipment for heating, discharge, filling, temperature regulation or other features specific to the needs of the filling goods and their uses. A typical IBC replaces five or six 55-gallon drums in a more compact and stackable footprint. IBCs are becoming very popular as industries consolidate and require larger packaging volumes.

Due to the strong and durable construction of IBCs, it is ideally suited for continued, multi trip reuse. IBC manufacturers, in conjunction with a network of third-party providers whose specialty is the collection, cleaning, refurbishing and redelivery of IBCs to the filler, have established a system that simplifies this process throughout North America and Mexico. The two conditions that must be met in order to return empty IBCs are as follows.

Definition of an “Empty” IBC

When IBCs are emptied after use, a residue of the lading may remain. After emptying the contents, IBCs typically are returned for recycling, remanufacturing or reconditioning. Questions often arise concerning the transport requirements of such containers under the [Code of Federal Regulations](#) (CFR) since a small amount or residue of the product may remain in the IBC. The [Pipeline and Hazardous Materials Safety Administration](#) (PHMSA) defines a residue in [CFR Title 49](#) as “the hazardous material remaining in a packaging, including a tank car, after its contents have been unloaded to the maximum extent practical and before the packaging is either refilled or cleaned of the hazardous material and purged to remove any hazardous vapors.”

PHMSA regulates the transport of the empty IBC containers when they are returned for reconditioning, recycling or remanufacturing. In accordance with the Federal Hazardous Materials Regulations (HMR), defined in the Code of Federal Regulations (CFR) [Title 49 Part 100-185](#), a person who offers a hazardous material, including a residue, for transportation is responsible for performing the functions of the supplier of the original material. Responsibilities include properly classifying, describing, packaging, marking, labeling and preparing shipping papers for the return of the packaging. Since most empty packaging contains a residue of a hazardous material, this means empty containers must be transported in the same manner as when they held a greater quantity of the material as in the Department of Transportation regulations [Title 49 CFR§173.29\(a\)](#). To summarize, the labels, marks and placards should

not be removed. **Unlike drums, empty IBCs containing hazardous material residue must be transported in full compliance with DOT regulations, including placarding, shipping paper and CDL hazmat endorsement requirements for truck drivers.**

Under EPA regulation (40 CFR 261.7), IBCs must be shipped as “Resource Conservation and Recovery Act (RCRA) Empty” which means the IBC must not contain more than 0.3% residue after all practicable means of removing liquid, solid and vapor from the IBC. That is approximately 0.8 gallons in a typical 1000L IBC. The residue allowed in an IBC is significantly less than the residue allowed for non-bulk packaging types. Reference the EPA regulations in [Title 40 CFR§261.7](#) for details.

In addition, **under EPA regulation,** if the IBC held any ladings containing P listed chemicals (those determined by the EPA to be acutely hazardous), the IBC must be triple rinsed and drip dry. The P list is over 200 chemicals and is found in [40 CFR§261.33](#). The state of California requires empty IBCs to be rinsed and drip dry regardless of the hazardous ladings.

Definition of a “Serviceable” Unit

The Code of Federal Regulations, [Title 49 §180.352 \(d\)](#), specifies that damaged IBCs may be repaired and the inner receptacles of composite packagings may be replaced and returned to service provider (see link above for additional details) except for flexible and fiberboard IBCs **and the bodies of rigid plastic and composite IBCs**. A SDS (Safety Data Sheet) sheet should accompany each IBC, or be on file at the cleaning facility. Additionally:

- All labels and marks required by the [U.S. Department of Transportation](#) (DOT) regulations must be in place
- All label plates must be in place

Under RIBCA guidelines, any of the following defects shall render the IBC to be in non-serviceable condition and the IBC should not be returned by the emptier.

CAGE	No rust or corrosion
CAGE	No broken welds, rods or bolts
PALLET STEEL	No bent or damaged corners or feet
PALLET STEEL	All welds and bolts intact
PALLET WOOD	No missing or broken boards or feet
BOTTLE	No punctures, cuts or cracks (see CFR Title 49 §180.352)
BOTTLE	No residue on the exterior or interior
CLOSURES	No punctures or cracks and closed as for shipment
VALVES	Operable and closed for shipment

Note: A photographic record of each returned IBC that fails to meet the return requirements should be maintained by the cleaner for use in dispute resolution.

The definition for an empty IBC applies to all design types. A serviceable unit is defined as one whose applicable components meet the criteria as outlined. In addition, certain design types may be required to meet additional criteria such as minimum wall thickness. Contact the IBC owner if you question the serviceability of the unit.

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