Code of Operating Practice Reprocessing
Intermediate Bulk Containers (IBCs)

As a member of the Reusable Industrial Packaging Association (RIPA), this company is committed to support the continuing effort to improve the industrial packaging industry's responsible performance of its role in waste source reduction, recycling and responsible packaging management. We pledge to manage our business according to the following guiding principles. We:

- Adhere to RIPA's *Code of Operating Practice* for intermediate bulk containers.
- Recognize and respond to community concerns about industrial packaging disposal and the operations of industrial packaging reprocessing facilities.
- Produce industrial packagings that are effective in safely containing all appropriate materials in transportation and storage.
- Make health, safety and environmental considerations a priority in our planning for all existing and new processes.
- Counsel packaging users on the safe manufacture, use, transportation, emptying, reuse, and recycling of industrial packagings.
- Operate our plants in a manner that protects the environment and the health and safety of our employees and the public.
- Work with others to resolve problems created by past industrial packaging disposal practices.
- Participate with government and others in creating responsible laws, regulations, and standards to safeguard the community, workplace, and environment.
- Promote the principles and practices of Responsible Packaging Management by sharing our experiences and offering assistance to others who produce, use, transport, or dispose of industrial packagings.
- Foster the integrity and reputation of the industry by refraining from publishing knowingly false, misleading, or commercially disparaging statements or

advertisements about our products and services, or the products and services of competitors.

1.0 **Basic Recommendation.**

Intermediate Bulk Containers used for the transportation of hazardous materials that are remarked, mechanically altered, or that must be mechanically processed in any way to be able to meet the design-type tests, may not be reused without first being remanufactured, repaired, or routinely maintained (per 49 CFR 180.350-352). Performance of any step of these processes should be accompanied by performance of all associated steps. For example, if any element of repair is done (e.g., replacement of the rigid inner receptacle of a composite IBC), then the entire repair process should be completed in accordance with this Code. This is to assure that any reference to remanufacturing, repair, or routine maintenance provides the filler of an IBC with total packaging integrity.

2.0 **IBC Reprocessing Firm.**

2.1 ***General.*** A business that properly reprocesses IBCs for use in transporting hazardous materials is one that possesses the necessary equipment and reprocesses IBCs in accordance with all of the provisions described of this Code of Operating Practice. Where required, an IBC reprocessing firm shall be registered or licensed by appropriate government authorities and shall mark reprocessed IBCs with the firm's identification as its certification of regulatory compliance.

2.2 ***Quality control.*** The reprocessing firm must maintain a documented quality control program.

2.3 ***Open Door policy.*** The reprocessing firm shall encourage plant reviews during normal operating hours by any emptier or customer.

2.4 **C*ompliance.*** In addition to meeting the details of this Code of Operating Practice, the reprocessing firm should be in compliance with all federal, national, provincial and local government regulations pertaining to safety and health, and environmental protection.

3.0 **Incoming Empty IBC Requirements.**

3.1 ***Transportation of Intermediate Bulk Containers containing residues.*** IBCs that have been used for the transportation of hazardous materials that have not been cleaned and purged of any potential hazard must be transported with all closures, andservice and structural equipment in place, with all original hazard markings and labels legible.

3.2 ***Acceptance of Intermediate Bulk Containers containing residues; "empty" IBCs***. No IBC that previously contained hazardous material may be accepted that is not empty, unless the reprocessing firm holds permits issued by appropriate environmental authorities to receive and process hazardous wastes. "Empty" means that the IBC complies with the California “drip dry” or U.S. EPA empty container standard. The U.S. standard states that IBCs must be as empty as possible using practices commonly employed to remove materials from IBCs, including pouring, pumping and aspiration. In addition, no more than 1-inch or 0.3 percent by weight of the total capacity of the IBC may remain in the bottom of the IBC. If more residual hazardous material than this remains in the IBC, the IBC is not empty. If the residual material is listed by EPA in 40 CFR 261.33(e) as a "P-listed" acute hazardous waste**,** the IBC is not deemed empty unless it has been triple-rinsed using an effective solvent, or has been cleaned by a method shown to achieve equivalent removal. Rigid plastic and composite IBCs that previously contained “poison” may only be offered for additional use in transporting toxic materials in Class 6.1, or hazardous wastes.

3.3 ***Empty Intermediate Bulk Container certification*.** Every person providing IBCs containing any residues to a reprocessing firm, regardless of prior contents, shall sign an "Empty IBC Certification" on each occasion that IBCs are offered, verifying that the IBCs are empty in accordance with the explanation of that term in 3.2, above. A

reprocessor operating an exclusively non-hazardous empty packaging management program should fully document such programs.

3.4 ***Rejection of Intermediate Bulk Containers that are not empty*.** IBCs containing residues of prior contents, that are to be loaded on the reprocessing firm's trucks by that firm's employees, may be rejected if they appear to contain excessive amounts of retained product. IBCs brought to the reprocessing firm's plant, or loaded on the reprocessing firm's vehicle by the emptier's employees, may be rejected at the reprocessing firm, if, upon internal inspection, they are found to be not empty. Rejected IBCs shall be returned to the emptier as product and the emptier shall be advised of the reason for the rejection.

3.5 ***Inspection of incoming Intermediate Bulk Containers*.** The reprocessing firm must inspect each IBC when it is unloaded from the transport vehicle. All IBCs must be inspected to make certain they are empty, to determine the original specification of the IBC, and to determine whether the IBC is damaged or not able to be reprocessed and therefore, must be prepared for scrap in accordance with 9.0 below.

4.0 **IBC Reprocessing – General Requirements.**

4.1 ***General requirements.*** All prior contents must be removed. Minimal absorption in a rigid plastic or the bottle of a composite IBC of prior contents is acceptable if such residue does not affect the structural integrity of the IBC, or cause unsafe incompatibility problems with future contents.

4.2. ***Exterior cleaning.*** The exterior of the IBC, including pallets and cages, must be cleaned of all residues and contamination. Unless required for reuse programs, labels must be removed along with adhesives and coatings. Surface treatments may be applied to improve external appearance.

4.3 ***Inspection.*** After cleaning, an internal and external inspection of the IBC must be conducted. If any of the prior contents remain, except as noted in 4.1, the IBC must be

rejected, repaired or subjected to further processing. The exterior of the IBC and its associated components must be inspected for damage that would significantly weaken the IBC such as, stress cracking and surface damage that reduces the structural integrity of the unit. Units also should be inspected for permanent discoloration and excessive odors.

4.4 ***Equipment.*** All service and structural equipment must be cleaned and reinstalled, or replaced, if necessary. Filling, discharge, pressure relief and venting devices must show no damage and must ensure a leaktight seal.

4.5 ***Marking.*** Reprocessed IBCs must be marked with the symbol of the country in which the reprocessing was carried out, the reprocessor's identification number or registered symbol and, if "repaired" (as described in 6.0 below), the last two digits of the year of testing. The reprocessing firm's identity marking constitutes a certification that the IBC meets all applicable regulations and this Code of Operating Practice.

5.0 **IBC Remanufacturing**.

5.1 ***Definition***. IBCs that are produced as a UN type from a non-UN type, or that are converted from one UN design type to another UN design type, are remanufactured IBCs. All remanufactured IBCs are subject to the same regulatory requirements, including markings, as newly manufactured IBCs

5.2 ***Testing remanufactured IBCs.*** All applicable design type tests (i.e., bottom lift, stacking, leakproofness, hydraulic pressure and drop) shall be performed successfully on each new IBC design type.

5.3 ***Test reports.*** A test report must be prepared for each design type tested and certified as hazardous materials. The test report must be signed and retained by the tester, and a copy of the signed report shall be maintained at each facility at which the IBC design type is remanufactured for a period of not less than 2.5 years.

5.4 ***Periodic retests***. A manufacturer or remanufacturer of an IBC must retest and re-certify each active design type at least once every 12 months.

6.0 **IBC "Repair".**

6.1 ***"Repair" of IBCs.*** Metal, rigid plastic and composite IBCs that have been damaged by impact or otherwise show evidence of reduced strength (e.g., corroded metal, embrittled plastic), may be. repaired for reuse. IBCs so repaired must conform to the original design type and be able to withstand the design type tests. The bodies of rigid plastic IBCs, and the inner receptacle of composite IBCs, may not be repaired.

6.2 ***Replacement of inner receptacles.*** The term "repair" includes the replacement of the rigid inner receptacle of a composite IBC with another receptacle that conforms to the original manufacturer's specification. Replacement receptacles ("bottles") must be (as of 2011) of the same type and from the same manufacturer as the receptacle. Replacement bottles from other then the "original equipment manufacturer" (OEM) trigger requirements for ***IBC remanufacturing*** (e.g. full design type testing and certification).

6.3 ***Leakproofness testing of repaired IBCs.*** After repair, all IBCs intended to contain liquids or solids for filling and discharge under pressure, shall be leakproofness tested in accordance with 49 CFR 178.813 under a new inner receptacle inner receptacles that have been leakproofness tested by the seller, need not be re-tested by the reprocessors.

6.4 ***Marking repaired IBCs***. The person who tests and inspects an IBC that has been repaired shall durably mark the IBC to show the country in which the tests and inspections were carried out, the name or the registered symbol of the company responsible for the repair, and the month and year of the leakproofness tests and inspections.

6.5 ***Recordkeeping for repair activity.*** A test report shall be created for all IBCs that have been successfully repaired and leakproofness tested. The IBC owner shall retain the test report until the date of the next repair, or 2.5 years, whichever comes first.

"Routine Maintenance" of IBCs.

7.1 ***General***. Routine maintenance of IBCs includes cleaning, removal and reinstallation or replacement of body closures (including gaskets), or of service equipment (e.g., filling and discharge valves, pressure relief devices). Routine maintenance also includes restoration of structural equipment (e.g., fasteners, stabilizers) that does not directly perform a containment or discharge pressure retention function. For example, IBC legs and lifting attachments may be straightened.

7.2 ***Leaktightness verified***. The leaktightness of a routinely maintained IBC must be verified if body closures or service equipment have been removed or replaced. Checking for "leak tightness" can be done visually and need not require internal pressurization.

7.3 ***Marking routinely maintained IBCs.*** The person performing routine maintenance on IBCs shall durably mark the IBC near the manufacturer's design type mark to show the country in which the maintenance activity took place, and the name or the authorized symbol of the person performing such maintenance.

Periodic Inspections

8.1 ***General***. A leakproofness test must be performed every 2.5 years on all IBCs intended to contain liquids or solids loaded or discharged under pressure, starting from the date of manufacture or the most recent repair. In addition, an external inspection of the IBC must be performed to ensure the IBC is properly marked, service and structural equipment is sound and functioning, and the IBC is generally safe for use in the storage and transportation of hazardous materials. Missing or damaged marks must be restored.

IBCs must be inspected internally every 5 years for any defects which could render the unit unsafe in transportation. Metal IBCs must be checked to ensure that the unit continues to meet minimum wall thickness.

8.2 ***Periodic inspection marking requirements.*** Following a periodic inspection and retest, the person performing the inspection and retest must ensure that all required marks are on the IBC, and shall include in the full durable UN mark the date (month and year) of the inspection and retest.

8.3 ***Recordkeeping.*** A record of inspections, including tester's name, location, design type and results, must be kept for at least 2.5 years or until periodic inspection and retest is performed again.

9.0 **IBC Rejection.**

9.1 ***Rejected Intermediate Bulk Containers.***

IBCs that have been rejected during the inspection process and cannot be repaired for hazardous materials service are to be cleaned and directed to non-hazardous material service or prepared for scrap. When preparing IBCs for scrap, the interior and exterior must be cleaned using an effective cleaning agent, thereby removing all foreign matter, prior residues, labels and decorative coatings, and the IBC then must be mechanically prepared for scrap.

9.2 ***Granulation of plastic IBCs or the plastic inner receptacles of composite IBCs***.

IBCs that are granulated may need to be separated according to manufacturer and color, with consideration given to prior contents. Granulated material that is tainted (e.g., with paint, odor) should be packaged separately. Material intended for recycling should be handled in accordance with a written quality assurance program. Each batch should be verified to ensure it has the proper melt-flow rate, density and other factors necessary for the intended purpose. Material that fails any test should be rejected.

9.3 ***Disposal of off-specification material.*** Granulated material which cannot be sold to an end user for any reason should be disposed of in compliance with all applicable federal, State and local laws and regulations.

10.0 **Environmental and Employee Protection**

10.1 ***Storage of IBCs containing residues.*** Unreprocessed IBCs must be stored with all closures in place, and must be inspected periodically to assure no residual contents are leaking. All IBCs that are obviously unfit for reprocessing should be rejected immediately and should be prepared for scrap in accordance with the preceding paragraphs.

10.2 ***Accumulated residues from IBCs.*** All wastes generated in the reprocessing process must be managed in full compliance with applicable regulations governing such wastes.

10.3 ***Wastewater and air emissions***. Discharges of wastewater from the reprocessing plant to the environment or to the sewer system, and emissions to the atmosphere, must meet applicable water and air pollution regulations for that geographical area. Offensive odors must be minimized whether subject to government controls or not.

10.4 ***Employee protection.*** Exposure of employees to any chemicals in the workplace, including the contents of incoming IBCs, must be reduced to the extent practicable. At a minimum, this necessitates the reprocessing firm providing and requiring the use of effective personal protective equipment. The firm must have in place a program of Hazard Communication for employees, including federally mandated access to Material Safety Data Sheets (MSDS's).

10.5 ***Training.*** Employees must be trained in the proper performance of their jobs, including awareness of the hazards of the process chemicals to which they are exposed and of the importance of compliance with this Code and all government regulations.

10.6 ***Company vehicles and drivers.*** The reprocessing firm shall employ drivers to operate company vehicles in compliance with standards of the U.S. Federal Motor Carrier Safety Administration. The firm shall adhere to rules on the qualification of drivers, including provisions relating to alcohol or other substance testing. Company vehicles shall be maintained in safe operating condition.

10.7 ***Fire safety.*** All practical precautions against fires must be implemented, including having adequate fire extinguishing capability, contingency planning, effective coordination with local emergency response authorities, and good housekeeping to minimize opportunities for ignition and to facilitate employee evacuation in emergencies.

11.0 **Public Statements and Advertising**

11.1 ***Foster integrity.*** Each RIPA member shall foster the integrity and reputation of the industrial packaging industry generally and the RIPA membership specifically by refraining from publishing knowingly false, misleading or commercially disparaging statements or advertisements.

11.2 ***Public statements and advertising***. Members' public statements and advertisements shall not knowingly misrepresent fact or law, or create a negative impression or expectation about competitive products and services unless such statement or advertisement is based upon facts which are amendable to independent measurement and verification.