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**Oak Ridge National Laboratory (ORNL)  
Transportation and Packaging Management (TPM)  
Container Preparation and Filling Instructions/Checklist**

**UN 85 Gallon Salvage (OH) Steel Drum**

**ORNL-CHK-28, Rev. 2**

Issued: 5/15/1997

Revised: 1/30/2003

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**INSTRUCTIONS:** Complete the activities below following the instructions in Section A. Activities should be checked off as performed. The completed checklist should then be signed by the Operating Personnel completing the checklist and submitted to the Operations Supervisor for approval for shipment.

**NOTE 1:** The 85 gallon Salvage Open Head Steel Drum is UN marked for containing hazardous material packagings as solid materials.

**NOTE 2:** The Salvage Drum is intended for use in the shipment of damaged, defective, or leaking packages, or packages that have leaked or spilled. The hazardous material must be compatible with the Salvage Drum, its internal lining, as well as the internal packagings, and contain sufficient cushioning and absorbent material. The Salvage Drum, and its contents, is authorized only for shipment for repackaging or disposal.

**NOTE 3:** The maximum allowable gross weight is embossed (bottom) and marked (side) on each drum in kilograms [ ex., 400 kilograms (880 lbs)]. Allowable weight applies to Packaging Groups I, II, or III solid materials.

**NOTE 4:** Salvage drum lids used during in-house storage which contain vents/pressure relief devices must be removed and replaced with the original non-vented lid prior to offering for shipment.

**NOTE 5:** Drums must be closed in accordance with the specific instructions furnished, and tested, by the manufacturer for each specific type/size drum, in order to be in compliance with DOT HAZMAT regulations. [49 CFR, &178.2(c)(1)]

**A. UN 1A2/X 85 Gallon Salvage OH Carbon Steel Drum  
Stores Catalog No. 02-112-6430**

*Note: Items marked (#) are solely generator's/filler's responsibility.*

**Operating  
Personnel**

- \_\_\_\_\_ 1. **(#)** Inspect the drum to be filled to ensure that it is in good physical condition and that no critical dents/damages, severe corrosion, etc. exist that could cause or develop into a leak during normal storage or in transportation.
  
- \_\_\_\_\_ 2. **WHEN** packaging hazardous materials/wastes in defective packaging as set-forth in **NOTE 2** above, **THEN**  
Ensure that the drum, with contents and internal packagings, meet the requirements/limitations specified in **NOTE 3** above.
  
- \_\_\_\_\_ 3. **(#)** Ensure there is sufficient and compatible absorbent material in the drum to eliminate any free liquid from the damaged packaging into the Salvage Drum at the time of closing.
  
- \_\_\_\_\_ 4. Ensure there is sufficient and compatible cushioning material to prevent excessive movement of the damaged package within the Salvage Drum.

**FOR INTERNAL USE ONLY**

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### A. UN 1A2/X 85 Gallon Salvage Carbon Steel Drum Stores Catalog No. 02-112-6430

Operating  
Personnel

- \_\_\_\_\_ 5. Ensure that the material being filled into the drum is compatible with (will not react, corrode, or attack) the inside epoxy-phenolic internal lining of the drum.
- \_\_\_\_\_ 6. (#) Ensure the gasket is in place, is in good condition, and is adhered to the drum lid when placing the lid on the packaged drum.
- \_\_\_\_\_ 7. Close the drum with the steel locking ring and 5/8 inch steel bolt and jam nut (supplied with drum).
- \_\_\_\_\_ 8. Snap closing ring over the cover and top lip of the drum. Ensure the bolt section of the locking ring is extended below the ring and *not* protruding above the drum lid.
- \_\_\_\_\_ 9. [*Greif*<sup>1</sup>] While tightening the bolt, tap the entire perimeter of the ring using a mallet, starting directly across from the bolt. Tighten the bolt until 50 ft-lb of torque is reached. The cover and ring should not spin, but the free ends of the rim should have a 1/4" maximum distance.

**NOTE:** If the locking ring butts itself when completely tightened, in lieu of leaving a gap, the ring is too large or the gasket is too thin--making the lid/locking ring unusable. The lid and/or the locking ring must then be replaced.

- \_\_\_\_\_ 10. Tighten the "jam nut" to prevent unintentional loosening of the closure during handling/transit; tighten against the lug without threads. ("Jam nut" must be located in between the two locking ring lugs.)
- \_\_\_\_\_ 11. Label and mark the drum in accordance with the markings on the damaged packagings and the current ORNL/Department of Transportation (DOT) requirements. For off-site shipments, contact the ORNL Transportation and Packaging Management Organization for appropriate marking and labeling (i.e., DOT, EPA, etc.)
- \_\_\_\_\_ 12. Sign and date the checklist in the appropriate signature block verifying that the activities have been performed and the checklist completed.
- \_\_\_\_\_ 13. Submit this completed checklist to the Operations Supervisor for approval for shipment.

<sup>1</sup>These "Closing Instructions" are specifically for 85 gallon salvage steel drums manufactured by Greif Brothers Corp.—Identification marking code on drum side is: GBC. [see [NOTE 5](#) on page one]

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**Operations  
Supervisor**

- \_\_\_\_\_ 14. Verify that all defined activities have been successfully completed.
- \_\_\_\_\_ 15. Sign and date the checklist in the appropriate signature block, approving the container for shipment.

**APPROVED FOR SHIPMENT:**

<b>Operating Personnel:</b>	<b>Date:</b>
<b>Operations Supervisor:</b>	<b>Date:</b>

**Prepared by:** ORNL TPM Organization

**Approved by:** Jeff Shelton January 30, 2003

Jeff Shelton, Manager (576-6401)  
ORNL TPM - Packaging Operations