

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

**UN 30 Gallon Composite Open Head (OH) Steel Drum**

**ORNL-CHK-31, Rev. 2**

Issued: 5/15/1997

Revised: 7/31/2002

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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 30 gallon composite OH steel drum with polyethylene insert liner is UN marked for filling with liquid hazardous materials.

**NOTE 2:** The maximum allowable density is embossed (bottom) and marked (side) on each drum [ex., 1.8]. Allowable density applies to Packaging Groups II or III liquid materials.

**NOTE 3:** The maximum allowable vapor pressure is embossed (bottom) and marked (side) on the drum in kilopascals [ex., 100 kPa (15 psig)]. Allowable vapor pressure applies to Packaging Groups II or III liquids.

**NOTE 4:** Drum heads, that during in-house storage have vents/pressure relief devices inserted into the bung fittings, must be removed and replaced with the original (standard) bung fitting for the closure 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 6HA1/Y 30 Gallon Composite Carbon Steel OH Drum  
Stores Catalog No. 02-112-5920**

*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. **(#)** Ensure that the material being filled in the drum is compatible with (will not react, soften, or attack) the drum's internal polyethylene insert (liner).
- \_\_\_\_\_ 3. Inspect the polyethylene bung closures to ensure the plastic threads are not damaged, cross-threaded, or warped, etc. such that the closure will not seal.

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### A. UN 6HA1/Y 30 Gallon Composite Carbon Steel Drum Stores Catalog No. 02-112-5920

Operating  
Personnel

- \_\_\_\_\_ 4. Fill the drum with liquid hazardous materials/waste according to the requirements/limitations specified in [NOTE 2](#) and [NOTE 3](#) on page one.
- NOTE:** For liquid hazardous materials/wastes, sufficient outage *MUST BE* left in the drum such that the drum will not completely fill if the contents were to reach a temperature of 55°C (131°F) in storage or transit.
- \_\_\_\_\_ 5. (#) Ensure that bung gaskets are in place and are in good condition prior to inserting bungs into the drums.
- \_\_\_\_\_ 6. Insert bungs into each bung fitting and ensure that poly bungs are not cross-threaded while inserting the closures.
- \_\_\_\_\_ 7(a). [*Greif*<sup>1</sup>] Using a torque wrench, tighten each plastic bung fitting to: (1) 9 foot-pounds for the 3/4 inch fitting; (2) 20 foot-pounds for the 2 inch fitting.
- \_\_\_\_\_ 7(b). [*Russell-Stanley*<sup>2</sup>] Using a torque wrench, tighten each plastic bung fitting to: (1) 50 inch-pounds for the 3/4 inch fitting; (2) 175 inch-pounds for the 2 inch fitting.
- \_\_\_\_\_ 8. Ensure that the drum lid does not contain vents/relief devices when offered for shipment. Refer to [NOTE 4](#) on page one.
- \_\_\_\_\_ 9. Ensure that the bolted locking ring lid closure is still completely tight. (Shipped installed/closed on drum)
- \_\_\_\_\_ 10. Label and mark the drum in accordance with the current ORNL/Department of Transportation (DOT) requirements. For off-site shipments, contact the ORNL Transportation and Packaging Management Organization for appropriate DOT marking and labeling.
- \_\_\_\_\_ 11. Sign and date the checklist in the appropriate signature block verifying that the activities have been performed and the checklist completed.
- \_\_\_\_\_ 12. Submit this completed checklist to the Operations Supervisor for approval for shipment.

<sup>1</sup>These "Closing Instructions" are specifically for 30 gallon composite drums manufactured by Greif Brothers Corp. — Identification marking code on drum side is: GBC. [see [NOTE 5](#) on page one.]

<sup>2</sup>These "Closing Instructions" are specifically for 30 gallon composite drums manufactured by Russell-Stanley — Identification marking code on drum side is: M4233. [see [NOTE 5](#) on page one.]

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**Operations  
Supervisor**

- \_\_\_\_\_ 13. Verify that all defined activities have been successfully completed.
- \_\_\_\_\_ 14. 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 July 31, 2002

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