

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

UN 5 Gallon Tight Head (TH) Steel Drum

ORNL-CHK-32, Rev. 1

Issued: 5/15/1997

Revised: 1/15/2002

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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 5 gallon tight head steel drum 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., 1.6]. 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., 250 kPa (36 psig)]. Allowable vapor pressure applies to Packaging Groups II and 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 1A1/X 5 Gallon Carbon Steel TH Drum
Stores Catalog No. 02-112-6115**

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 into the drum is compatible with (will not react, soften, or attack) the drum's internal phenolic lining.
- _____ 3. Fill the drum with liquid hazardous materials/waste according to the requirements/limitations specified in [NOTE 2](#) and [NOTE 3](#) above.

NOTE: For liquid hazardous materials/wastes, sufficient void *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.

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**Operating
Personnel**

- _____ 4. (#) Ensure that bung gaskets are in place and are in good condition prior to inserting bungs into the drums.
- _____ 5. Insert the bungs into each bung fitting and tighten using the appropriate bung wrench for each specific fitting with sufficient torque to ensure there will not be a vapor/liquid leakage/seepage in storage or transit.
- _____ 6. Using a torque wrench, tighten each plastic bung fitting to 10 foot lbs for either the 3/4 inch or 2 inch fitting. ¹
- _____ 7. Ensure that the drum lid does not contain vents/relief devices when offered for shipment. Refer to [NOTE 4](#) on page one.
- _____ 8. 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 DOE marking and labeling.
- _____ 9. Sign and date the checklist in the appropriate signature block verifying that the activities have been performed and the checklist completed.
- _____ 10. Submit this completed checklist to the Operations Supervisor for approval for shipment.

¹ These "Closing Instructions" are specifically for 5 gallon steel drums manufactured by Van Leer -- Identification marking code on drum side is: VL5 or GBC5. [see [NOTE 5](#) on page one]

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**Operations
Supervisor**

- _____ 11. Verify that all defined activities have been successfully completed.
- _____ 12. Sign and date the checklist in the appropriate signature block, approving the container for shipment.

APPROVED FOR SHIPMENT:

Operating Personnel:	Date:
Operations Supervisor:	Date:

Prepared by: ORNL TPM Organization

Approved by: Jeff Shelton January 15, 2002

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