

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

UN 55 Gallon Tight Head (TH) Steel Drum

ORNL-CHK-18, Rev. 2

Issued: 5/15/1997

Revised: 7/22/2002

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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 55 gallon tight head steel drum is UN marked for filling with liquid hazardous materials.

NOTE 2: The maximum allowable specific gravity is embossed (bottom) and marked (side) on each drum [ex., 1.4]. Allowable specific gravity applies to Packaging Groups I, 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 I, 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 1A1/X 55 Gallon Carbon Steel TH Drum
Stores Catalog No. 02-112-6350**

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

**Operating
Personnel**

- _____ 1. (#) Inspect the drum, prior to filling, 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, corrode, or attack) the drum's internal surface.
- _____ 3. Fill the drum with liquid hazardous materials/wastes according to the requirements/limitations specified in [NOTE 2](#) and [NOTE 3](#) above.

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.

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A. UN 1A1/X 55 Gallon Carbon Steel TH Drum (cont'd) Stores Catalog No. 02-112-6350

Operating
Personnel

- _____ 4. (#) Ensure that bung gaskets are in place and are in good condition prior to inserting bungs into the drums. Ensure bungs are not cross threaded when inserting.
- _____ 5. Insert the bungs into each bung fitting, tightening using the appropriate bung wrench for each specific fitting.
- _____ 6(a). [*General*¹] Using a torque wrench, tighten each bung fitting to: (1) 12-foot lbs for the 3/4 inch fitting; (2) 20-foot lbs for the 2 inch fitting.
- _____ 6(b). [*Van Leer*²] Using a torque wrench, tighten each bung fitting to: (1) 12-foot lbs for the 3/4 inch fitting; (2) 20-foot lbs for the 2 inch fitting.
- _____ 7. 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.
- _____ 8. Ensure that the drum lid does not contain vents/relief devices when offered for shipment. Refer to [NOTE 4](#) on page one.
- _____ 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.

¹These "Closing Instructions" are specifically for 55 gallon steel drums manufactured by General Steel Drum—Identification marking code on drum side is: M4065. [see [NOTE 5](#) on page one]

²These "Closing Instructions" are specifically for 55 gallon steel drums manufactured Van Leer.— Identification marking code on drum side is: VL. [see [NOTE 5](#) on page one]

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**A. UN 1A1/X 55 Gallon Carbon Steel TH Drum (cont'd)
Stores Catalog No. 02-112-6350**

**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 July 22, 2002
Jeff Shelton, Manager (576-6401)
ORNL TPM - Packaging Operations