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

UN 5 Gallon Open Head (OH) Steel Drum

ORNL-CHK-14, Rev. 2

Issued: 5/15/1997

Revised: 8/31/2001

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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 open head drum is UN marked for filling with either liquid or solid hazardous materials.

NOTE 2: The maximum allowable gross weight is embossed (bottom) and marked (side) on each drum in kilograms [ex., 43 kilograms (95 lbs)]. Allowable weight applies to Packaging Groups I, II, or III solid materials.

NOTE 3: The maximum allowable specific gravity is embossed (bottom) and marked (side) on each drum [ex., 1.2]. Allowable specific gravity applies to Packaging Groups II and III liquid materials.

NOTE 4: 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 Group II and III liquids.

NOTE 5: The drum needs to retain its original configuration as purchased.

NOTE 6: 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 - UN 1A2/Y 5 Gallon Carbon Steel Drum
Stores Catalog No. 02-112-6210**

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 phenolic coating.
- _____ 3. **IF** the hazardous materials/wastes is solid, **THEN**
Fill the drum according to the requirements/limitations specified in [NOTE 2](#) above.

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Operating
Personnel

- _____ 4. IF the hazardous materials/wastes is liquid, **THEN**
Fill the drum according to the requirements/limitations specified in
[NOTE 3](#) and [NOTE 4](#) 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 the gasket is in place, is in good condition, and is
adhered to the drum lid on filled drums *prior* to placing the lid on the
filled drum.

- _____ 6. Place cover on drum.

- _____ 7. 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.

- _____ 8. Insert the bolt through the lug without threads, screw on the jam nut,
and screw the bolt into the threaded lug.

- _____ 9. [*All-Pak*¹] Tap around the closing ring with a heavy rubber
mallet/hammer, and at the same time, tighten the bolt with a torque
wrench. The bolt should be tightened to 40 ft. lbs. torque (minimum).
The lid/locking ring must be tight such that it will not rotate/turn.

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 locking ring must
then be replaced.

- _____ 10. Tighten the “jam nut” to prevent unintentional loosening of the closure
during handling/transit. (“Jam nut” must be between the two lugs and
against the non-threaded lug holding the bolt head.)

¹These “Closing Instructions” are specifically for 5 gallon steel drums furnished by All-Pak which have
the identification marking code on drum side: M4492. [see [NOTE 6](#) on page one]

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**Operating
Personnel**

- _____ 11. **IF** generator/filler is responsible for preparing package for transport,
THEN
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.

IF generator/filler is *not* responsible for preparing package for transport, **THEN**

This item is not applicable and should be marked **N/A**.

- _____ 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.

**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:

Operating Personnel:	Date:
Operations Supervisor:	Date:

Prepared by: ORNL TPM Organization

Approved by: Jeff Shelton

August 31, 2001

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

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