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

**Type A 7A Drums – 5 Gallon Size**

**ORNL-PKG-02, Rev. 1**

**Issued: 2/27/1997**

**Revised: 8/15/2001**

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**INSTRUCTIONS:** Complete the activities requested below following the instructions in Section A.

**NOTE 1:** Type A 7A Drums are used for *solid material only*.

**NOTE 2:** The maximum gross weight for UN1A2 is 80 pounds for Type A use. [ORNL drum UN marked 43 kg (95 lb) minimum.]

**NOTE 3:** The 5 gallon open head drum has the correct gauge, bolt closure, and gasket to meet Type A requirements. The drum matches specifications in the "Test and Evaluation Documentation for DOT Specification 7A, Type A Packaging," DOE/RL-96-57, Westinghouse Hanford Company test report book. The DOE/RL-96-57 has test documentation and user requirements for DOT Specification drums (6C) which are no longer manufactured. Since ORNL TPM has procured UN1A2 drums to match the specifications of the tested drum(s), the DOE/RL-96-57 documentation also applies to this drum.

**NOTE 4:** The drum needs to retain its original configuration as purchased.

**NOTE 5:** The DOE/RL-96-57 test report book defines three forms of solid materials. The shipper must determine the most appropriate form for the contents to be shipped. The three forms are as follows:

- " Form No. 1 - Solids: any particle size.
- " Form No. 2 - Solids: large particle size only (e.g., sand, concrete, debris, soil).
- " Form No. 3 - Solids: objects with no significant dispersible or removable contamination (see 49 CFR ¶173.443).

**A. UN1A2 (5 Gallon Size)  
Stores Catalog No. 02-112-6210**

**Operating  
Personnel**

1. Visually inspect the drum, lid, and locking ring for rust, damage, dents, and defects.
2. Visually inspect the lid gasket for wearing or tears.
3. Report any deficiencies to the Packaging Supervisor.
4. Securely position the contents.
5. **IF** the contents are "Form No. 1," **THEN**  
Apply the RTV Sealant (or equivalent) to the surface of the gasket in contact with the drum body.
6. Place cover on drum.

**FOR INTERNAL USE ONLY**

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### A. UN 1A2 (5 Gallon Size) Stores Catalog No. 02-112-6210

**Operating  
Personnel**

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. Tap around the closing ring with a hammer, and tighten the bolt to less than 40 ft -lb torque (but not less than 15 ft -lb).

The jam nut should be tightened to prevent unintentional loosening during transit.

10. Mark the drum to indicate "Radioactive Material, USA DOT 7A TYPE A."
11. Attach a plain wire seal for nonaccountable materials or a controlled, numbered seal for accountable materials, if required.

Seal wires should be threaded through the lugs in the closing ring or through holes provided in the bolt and/or lugs as appropriate for each container. The seal must be installed so that it has to be broken to open a container.

12. Record the controlled, numbered seal information on the Seal Log Sheet, if applicable.

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