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

Type A 7A Drums – 30 Gallon Size, Lever Lock Closure

ORNL-PKG-53, Rev. 0

Issued: 03/01/2004

Revised:

Page 1 of 3

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

NOTE 1: Type A 7A Drums are used for **solid material only**, any particle size (e.g., Form Nos. 1, 2,&3.)

NOTE 2: The maximum gross weight for UN1A2 is 235 kilograms (517 lbs.) for Type A use.

NOTE 3: The drum needs to retain its original configuration as purchased.

NOTE 4: Complete Type A documentation must be kept on file one (1) year after latest shipment of packaging. It is necessary for the shipper to compare the physical characteristics of the planned load with the test load to show compatibility. See [Attachment A](#).

**A. UN1A2 (30 Gallon Size, Lever Lock Closure)
Stores Catalog No. 02-112-6530**

**Operating
Personnel**



7 - Expanded ring being placed on Drum



8 - Lever being closed slowly

1. Visually inspect the drum, lid, and lever lock 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. Ensure that the gasket is properly fitted into the cover groove.
6. Position the cover on to the drum curl, being careful to ensure that the gasket sits around the bead.
7. Fully open the Toggle Lever and place the expanded ring on to the drum cover with the vertical-skirt hugging the drum body.
8. Slowly close the Toggle Lever so that the out ring engages the cover / body juncture.
9. Downward pressure along with tapping the outside of the ring may assist in an even closure.
10. Once closed for shipment, engage latch to lock the lever into place.
11. Mark the drum to indicate "Radioactive Material, USA DOT 7A TYPE A."

FOR INTERNAL USE ONLY

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**Operating
Personnel**

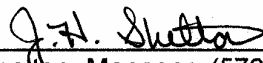
12. Attach a plain wire seal for nonaccountable materials or a controlled, numbered seal for accountable materials, if required.

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.

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

Prepared by: ORNL TPM Organization

Approved by:



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

March 1, 2004

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ATTACHMENT A



Testing Facility: Skolnik Engineering Lab
Chicago, Illinois

7A Type A Drum Qualification Test Report
SF036

Part#: CQ3007Q
Date Tested: May 1, 2003

Drum Description:			
Drum Type:	Open Head	Rolling Hoops:	Two
Material:	CRCQ Carbon Steel	Capacity:	30 Gallons
Head Thickness:	1.5mm (0.056")	Ring:	W.C. "C" Lever-Lock, UK
Body Thickness:	1.2mm (0.047")	Nut/Bolt Type:	N/A
Bottom Thickness:	1.2mm (0.047")	Gasket:	EPDM In-Cover "D"
Inside Diameter:	18.25	Chime Type:	Double Seam/Box
Overall Height:	29.125	Fittings:	N/A
Packaging Group:	7A, II	Nuclear Vent:	N/A
Specific Gravity:	1.2	Seam Construction:	Lap
Solids Gross Weight:	235 Kg	Ring gap:	N/A
Hydro Test Pressure:	N/A	Bolt Torque:	N/A

U.N. MARKING: 1A2/X235/S & 1A2/Y1.5/150

Pre-Testing Conditions:

Was each drum examined and deemed satisfactory according to section 4.0 of QAP036?	Yes
To what capacity were the drums filled to?	98%
What contents were used during testing?	Sodium Bicarbonate & Steel Scrap

Test Results:

Water Spray Test (173.465(b))

Test results prior to Penetration and Free Drop Test.		
Date: 04/29/03	Comments:	No traces of water were detected inside the drum
Results: <u>Passed</u>		
Test results prior to Stacking Test.		
Date: 04/29/03	Comments:	No traces of water were detected inside the drum
Results: <u>Passed</u>		

Penetration Test (173.465(e))

Date: 04/29/03	Comments:	Maximum dent pattern 0.500 x 0.310
Results of Drops: <u>Passed</u>		
Drop #1: <u>On the edge of cover</u>		
Drop #2: <u>On center of cover</u>		
Drop #3: <u>On body</u>		

Free Drop Test (173.465(c))

Date: 04/29/03	Comments:	No traces of fluorescent particles were detected by UV light
Results of Drop(s): <u>Passed</u>		
Drop Height: <u>1.2m</u>		
Drop #1: <u>Diag. on Lock Mech.</u>		
Crush Measurement: <u>12" x 4.5"</u>		

Stacking test (173.465(d))

Date: 4/29/03 to 5/7/03	Comments:	No visible or measurable damage was detected
Stacking Load: <u>2596 Lbs</u>		
Results: <u>Passed</u>		

This steel drum and similar models meet and/or exceed the UN testing requirements of 49 CFR 178.600-178.606 and 178.608

Test Performed By: [Signature]

Verified By: [Signature]

Date: 05-07-03

Where Commitments are Made... and Kept

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Rev. B

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