

# ORNL PE Tight Head Drum 5-Gallon Drum Specification

Press  to see Check List only.

Description	Stores Catalog Number	Packaging Filling Instructions	Plant
Drum, high density polyethylene, tight head, 70 mm solid screw cap with EPT/EPDM gasket, <b>5 gallon</b> , 11 5/16 inch ID, <b>UN 1H1/Y 1.8/100</b>	02-118-5000	<a href="#">ORNL-CHK-44</a>	ORNL

**Mfg. Details Per: ORNL Packaging Specifications**  
**No. 400-1H1-0000**  
**Issue Date: July 22, 2003**  
**Revised Date:**

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# Oak Ridge National Laboratory (ORNL)

## Packaging Specifications

### Tight Head Polyethylene Drum

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### REVISION LOG\*

(as of November 1, 2002)

DATE	REVISION NUMBER	REVISION (S) MADE
7/22/2003	-0000	Specification issued.

**Note:** Approval signatures available upon request. Contact Packaging Operations at (865) 574-9458.

\* Revision Log was initiated November 1, 2002 for ease in identifying revisions made to the specification.

# Tight Head Polyethylene Drum

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## 1.0 GENERAL DESCRIPTION

Tight head (TH) high density polyethylene (HDPE) drums, with solid threaded, HDPE caps.

### 1.1 United Nations Designation - UN 1H1/Y sg/ tp/ \* [per 49 CFR, ¶178.503]

- 1H1 = Tight head polyethylene drum.
- Y = Suitable for Packing Group II and III materials.
- sg = Maximum specific gravity for which drum design type was tested.
- tp = Hydrostatic test pressure (in kilopascals) for which drum design type was tested.  
*[250 kPa equivalent to 36.3 pounds per square inch (psi) pressure]*
- \* = The last two (2) digits of the calendar year in which the container was manufactured.

Specific UN markings as specified above and in the Catalog Description for the referenced Catalog Number are the ORNL minimum UN requirements.

### 1.2 Size:

Five Gallon: Inside diameter – 11 5/16” inches; inside height – 14 3/4” inches (*Stores Number 02-118-5000*)

### 1.3 Tare Weight:

Five Gallon – 2.7 lbs (1.25 kgs)

## 2.0 MATERIAL DETAILS

The tight head polyethylene drums are manufactured from one-piece, blow-molded HDPE material. The caps for the drums are manufactured from the same HDPE material.

The caps do not have openings --- but are plain (solid) caps.

### 2.1 Color:

The drums are natural color.

### 2.2 Closure:

Poly caps are solid screw caps, Reike model FS-70, with 3/4” thread reducer - 0.740” in height and 3.280 inches in diameter. Caps contain inserted EPT/EPDM gasket.

With each order, the **manufacturer/supplier** must furnish ORNL, in writing, closure requirements, as performed for the UN design test per 49 CFR ¶178.2(c)(1). It must be identified on the closure instructions specifically as to the ORNL container to which the instructions apply. Ref. [§9.0](#) for distribution.

### 2.3 Cleanliness:

Finished poly drums must be free of dirt, oil, solvents, stains and any foreign contaminants.

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### 3.0 CONTAINER PERFORMANCE CRITERIA

Manufacturer shall successfully test and certify that containers meet or exceed the requirements of 49 CFR, ¶178.600 - 178.608, for the Packing Group II level.

#### 3.1 Performance Test Documentation:

Upon request, the manufacturer must be capable of providing copies of the performance test documentation for purchased packagings, as required by 49 CFR, ¶178.601(l) for the UN certification marked packaging. Periodic audit copies will be requested randomly on purchased UN packagings. Ref: [¶9.0](#).

#### 3.2 Performance Tests:

The specified drums require the **US Department of Transportation** UN performance criteria for design qualification testing, periodic retesting, and production tests established in 49 CFR, ¶178.600 - 178.608.

**NOTE TO SELLER:** The UN/test marking certifications must be made by the drum manufacturer or a Department of Transportation approved third-party tester.

### 4.0 QUALITY ASSURANCE

The Seller shall assure, and be responsible, that the quality of the drums furnished under this document are of good quality, as pursuant to industry standard manufacturing practices for poly drums, including the materials/components used in the manufacturing of the stated drums.

The Seller shall meet the requirements stipulated in this document, and the specific requirements of the Catalog Description for the specific drums as specified in the purchase order.

#### 4.1 Manufacturer's Certification:

By the act of placing the UN performance criteria markings on each drum purchased, the manufacturer acknowledges he has certified, and accepted responsibility, that the stated drum design meets or exceeds the U.S. Department of Transportation's UN performance requirements as stipulated in [¶3.2](#) of this document, and in accordance with the markings prescribed in 49 CFR, ¶178.503.

In addition, this certification marking acknowledges that the drum manufacturer has complied with the specific standards for poly drums specifically listed in 49 CFR ¶178.509.

#### 4.2 Receiver Inspections:

The following inspections will be performed on the incoming drums by receiver to determine the drums meet quality standards and the requirements of this document. However, the receiver is not limited to the following inspections to determine quality and specification conformance. Conformance will be indicated by a **Y** or **N** in the yes/no column, and negative responses documented on the Nonconformance Report (NCR), *ORNL-311*, items 1b - 16, attached to the checklist, and submitted to ORNL's Packaging Operations (PkgOps) for necessary action.

**NOTE:** Checklist for this specification is on following page.

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*This checklist is to be reproduced for QC Inspections.*

### Receiver Inspection Quality Control (QC) Checklist for Incoming Polyethylene Drums

QC Conformance	Y/N	<< "No's" to be documented on form ORNL-311 with checklist
1		Drum is the capacity specified in the Catalog Description.
2		Clean, no significant scratching, dings or oil stains, etc. on the drum surfaces
3		Closing instructions are included with each shipment per <a href="#">§2.2</a> .
		Drums are able to be closed according to closing instructions.
4		Caps are plain (solid), and show no damage, or significant warping.
		Caps screw tightly onto drum.
		Gasket is in good condition.
5		The minimum UN markings are specified per the Catalog Description.
		The complete UN markings are legible, and durably marked on either the bottom or the side of poly drum, per 49 CFR, §178.503.
6		Quantity of containers shown on packing list was on hand at time of QC inspection.
7		Drum has not been manufactured from/with counterfeit materials.

Catalog Number \_\_\_\_\_

P. O. Number \_\_\_\_\_

Total Units Received \_\_\_\_\_

Inspection Method: Per ORNL QC Inspection Plan

Sample Size \_\_\_\_\_ [Based on ANSI/ASQC Z1.4-1993]

NCR No. \_\_\_\_\_

Inspector/Date \_\_\_\_\_

Additional comments on back: \_\_\_\_\_ check, if yes.

The above QC inspection check list shall be accomplished for each order based on random samples of incoming poly drums, by QC personnel to determine manufacturer's conformance to these specified Packaging Specifications.

Shipments of poly drums not meeting specified requirements will be returned to the seller for credit.

QC inspections resulting in noncompliance with the Packaging Specifications will be cause for rejection of the entire shipment.

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### 5.0 MARKING

As a minimum, each drum shall be marked with the UN markings in accordance with 49 CFR, ¶178.2, 178.3, and 178.503 in a conspicuous location on exterior surface of the drum. Markings shall have a minimum letter height of 1/2 inch per 49 CFR.

### 6.0 INTENDED USE

Containers are intended for Packing Group II, and III hazardous materials in *liquid* form. Maximum specific gravity of the material in the drum shall not exceed the tested specific gravity marked on the drum.

### 7.0 SUGGESTED MANUFACTURERS

The following list of suggested manufacturers have demonstrated ability to comply with the requirements set forth in this document. However, this list does not guarantee current or continued availability as a suggested manufacturer source:

- Lab Safety Supply; Janesville, Wisconsin
- Southern Container, Ltd.; Dalton, Georgia

The Seller must advise the Company prior to any change in the current source (manufacturer) of packaging materials described in these Packaging Specifications.

Any manufacturer that satisfactorily demonstrates to the Company the capability to furnish packaging in compliance with these Packaging Specifications may be added to the above listing.

### 8.0 AUTHORIZED CHANGES

Changes/revisions in the requirements specified in this document shall be coordinated with and authorized by ORNL Packaging Operations.

### 9.0 DISTRIBUTION OF UN PERFORMANCE TEST REPORTS (per [13.1](#)) and CLOSURE INSTRUCTIONS (per [12.2](#))

A) Closure instructions must be furnished with each order for each type/size plastic drum purchased by ORNL; *either* directly to the Packaging Operations Manager at the address or fax number below, *or* included with the packing list accompanying each shipment.

B) Upon specific request, UN performance test documentation for specified order/shipment will be submitted directly to the Packaging Operations Manager at the address, or fax number, below:

**Oak Ridge National Laboratory (ORNL)**  
**Packaging Operations Manager**  
**Bldg. 7001, MS 6288**  
**P.O. Box 2008, 1 Bethel Valley Road**  
**Oak Ridge, Tennessee 37831-6288**  
**(865) 574-7098 [fax]**