

UNITED STATES MARINE CORPS  
Marine Corps Base  
Camp Lejeune, North Carolina 28542-5001

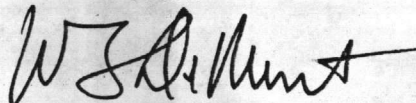
6240  
LOG  
23 Feb 1987

FIRST ENDORSEMENT on Director, Natural Resources and Environmental  
Affairs Division, Marine Corps Base ltr 6240  
over NREAD dtd 17 Feb 1987

From: Assistant Chief of Staff, Logistics  
To: OIC, Direct Support Stock Control

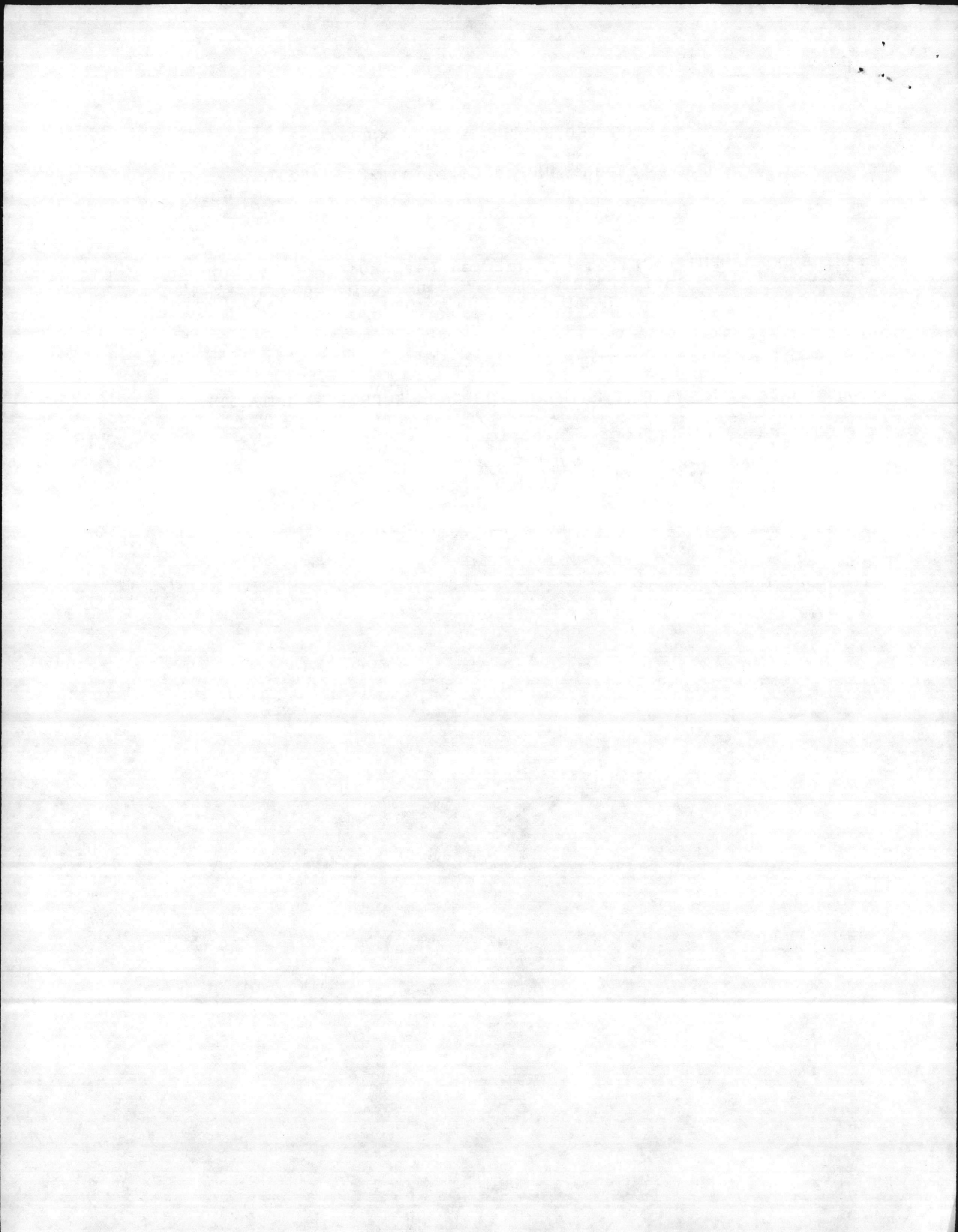
Subj: HAZARDOUS WASTE EMERGENCY RESPONSE SUPPLIES/CONTAINERS

1. Forwarded for appropriate action.



W. Z. DEMENT  
By direction

Copy to:  
Director, NREAD





**UNITED STATES MARINE CORPS**  
Natural Resources and Environmental Affairs Division  
Marine Corps Base  
Camp Lejeune, North Carolina 28542

IN REPLY REFER TO:  
6240  
NREAD  
17 Feb 87

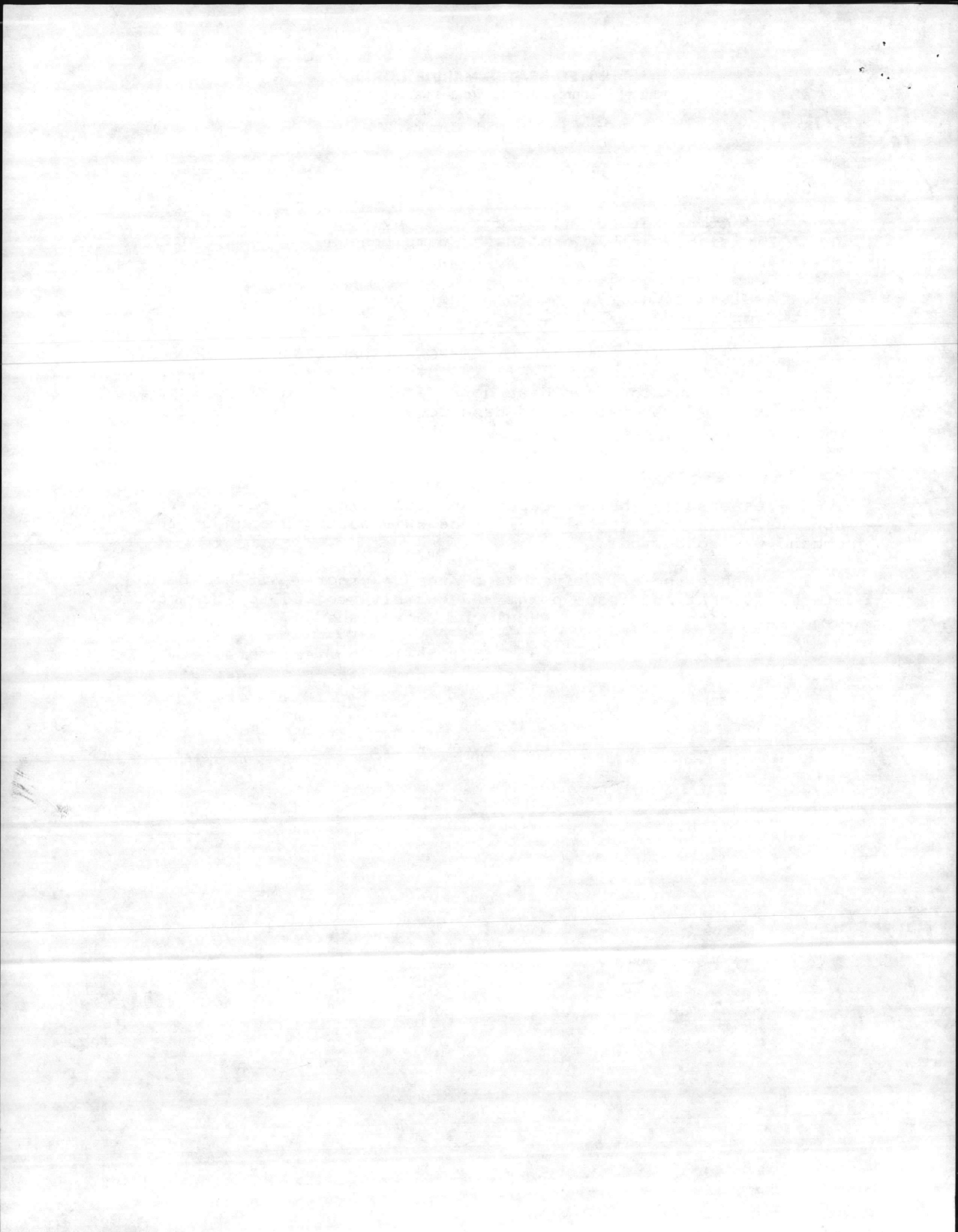
From: Director, Natural Resources and Environmental Affairs  
Division, Marine Corps Base, Camp Lejeune  
To: Assistant Chief of Staff, Logistics, Marine Corps Base,  
Camp Lejeune  
Via: Assistant Chief of Staff, Facilities, Marine Corps Base,  
Camp Lejeune: *Bulletin 2/20/87*  
Subj: HAZARDOUS WASTE EMERGENCY RESPONSE SUPPLIES/CONTAINERS  
Ref: (a) Discussion btwn Hazardous Material Disposal Officer,  
AC/S, Logistics and Hazardous Material Disposal Coordi-  
nator, NREAD on 16 Dec 86

Encl: (1) Projected annual usage of supplies/containers

1. In response to the reference, an evaluation of the necessary supplies/containers to be used in the HW Program throughout the command was conducted.
2. To enhance the effectiveness of the HW program, it has been determined that one issue point, adequately stocked to accommodate the needs of the commands, should be established.
3. It is recommended that the additional supplies/containers listed in the enclosure be stocked at Shop Stores or Self Service.

*J. I. Wooten*  
J. I. WOOTEN

Copy to:  
AC/S, FAC



*Golden yellow Salvage Drum Logo*

DOT  
10  
15  
20  
30  
35  
55

*unlined steel black-white top*

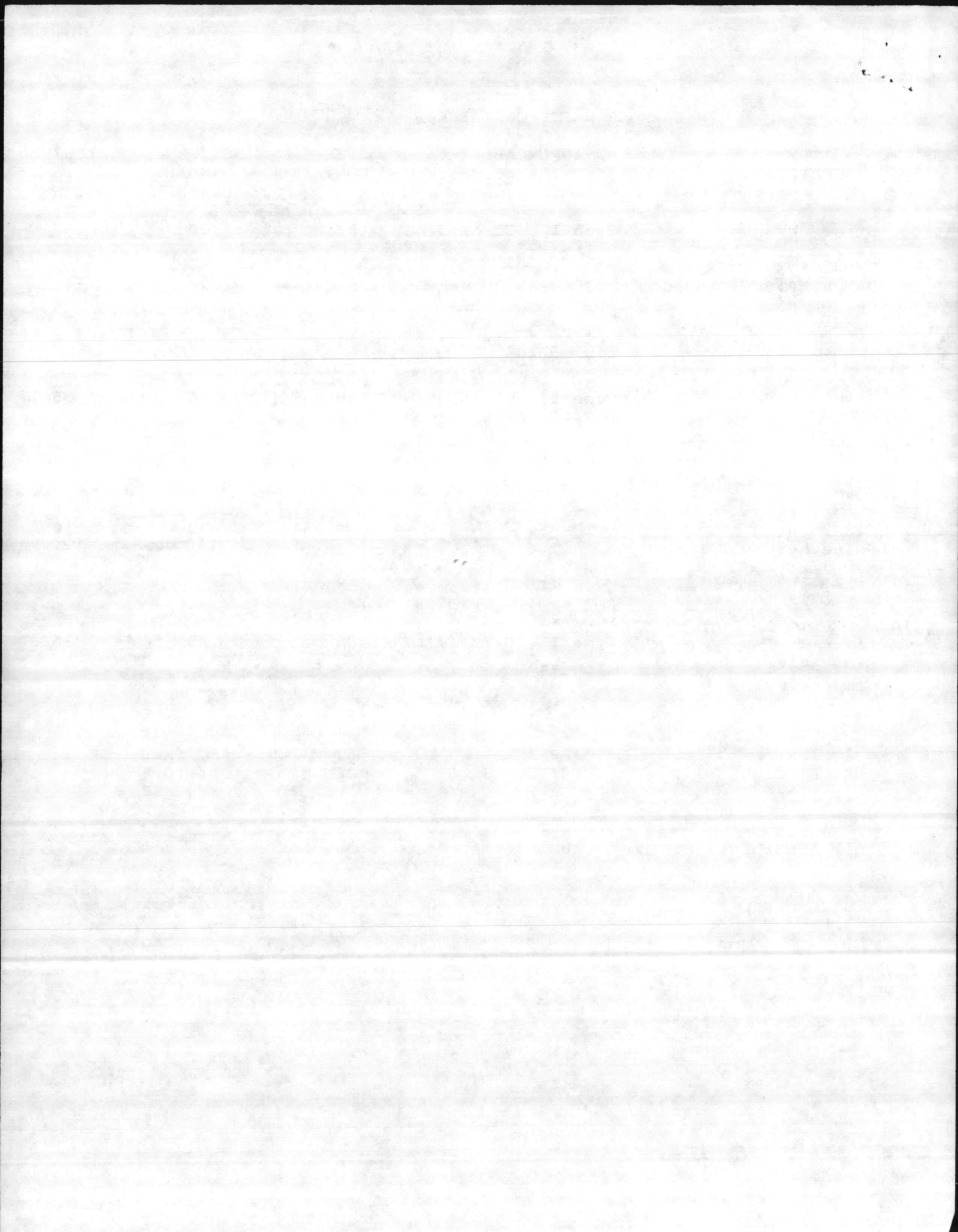
HAZARDOUS WASTE CONTAINERS

TYPE	ITEM DESCRIPTION	APPLICABLE SPECIFICATIONS	SIZE OF CONTAINER	ESTIMATED ANNUAL USAGE	REQUIRED QTY TO BE STOCKED
Drum	Steel, W/Bung	Type II, Class 3 & 9 DOT - 17E	5 gal <i>no</i>	500	150
Drum	Polyethylene Closed Head W/Bung	DOT - 34 <i>McMaster Can</i>	5 gal <i># 4119T/2</i>	220 <i>14.46 EA</i>	75
Drum	Steel, W/Bung	Type II, Class 3 & 9 DOT - 17C	20 gal	30 <i>11.81</i>	5
Drum	Steel, W/Bung	Type II, Class 3 & 9 DOT - 17E	30 gal <i>Sheif Bros.</i>	17.65 <i>ea</i>	40 <i>20 gage</i>
Drum	Steel, Shipping & Storage Removable Head	Type II, Class 3 & 9 DOT - 17E <i>not removable</i>	30 gal <i>Sheif Bros.</i>	100	15
Drum	Closed Head, Polyethylene W/Bung	DOT - 34 <i>Sheif Bros</i>	50 gal <i>mem 55</i>	50 <i>24.00 ea</i>	10
Drum	Steel, W/Bung	Type II, Class 3 & 9 DOT - 17E, PPPD729	55 gal	225 <i>21.89</i>	75
Drum	Steel Overpack Removable Head	Type II, Class 3 & 9 DOT - 17E	85 gal	95	15

SUPPLIES

TYPE	ITEM DESCRIPTION	APPLICABLE SPECIFICATIONS	ESTIMATED ANNUAL USAGE	REQUIRED QTY TO BE STOCKED
100	Oil Absorbent Matting	100 Sheets per roll, 36" x 150'	200 rolls	75 rolls
	Petro Mesh		10 boxes	5 boxes
	Sorbent Booms		25 bags	10 bags
	Sodium Bisulfate		30 lbs	10 lbs

*Mr. Halpern 1690*



type II is  
lined drum  
acceptable  
per M. Higgins  
1/6/98

1. Drum, steel, w/bung, DOT-17E, 5 gal., type II class 3+9 lined

~~8110-00-574-9641~~

SS: McManus Drums Co. 704-376-3786 \$ 6.68 EA  
124 S. Bruns Ave. Mr. Tom Lewis  
Chalotte, NC 28208

2. Drum, polyethylene, closed head w/bung, DOT-34, 5 gal.

SS: McMaster Carr # 4119T12 \$14.46 EA

201-329-3200

3. Drum, steel, w/bung, DOT-17C, 20 gal.

8110-00-030-7780 59G \$29.24 EA

4. Drum, steel, w/bung, DOT-17E, 30 gal., type II, class 3+9

SS: Greif Bros Corp. \$17.65 EA

Box 115

Bladenboro, N.C. 28320

919-863-4121

5. Drum, steel, shipping + storage, removable head, DOT-17-C, 30 gal., type II class 3+9

SS: Greif Bros. Corp. \$21.37 EA

6. Drum, closed head, polyethylene, w/bung, DOT-34, 55 gal.

SS: Greif Bros. Corp. \$24.00 EA

7. Drum, closed head, polyethylene, w/bung, DOT-34, 15 gal.

SS: McMaster-Carr Supply Co. \$43.39 EA

PN 4119T11

(over)

8. Drum, steel, w/bung, DOT-17E, 55 gal.

8110-00-292-9783 596 \$24.32 EA

9. Drum, steel, overpack, removable head, DOT-17E, 85 gal.

8110-01-101-4056 MLV70 \$67.91 EA



## MODULE VI

### DOT CLASSIFICATION

#### I. LEARNING OUTCOMES DESIRED

At the completion of this unit instruction, you should:

- A. Have an understanding of the DOT Classification System
- B. Have an understanding of the chemical and physical characteristics, and the hazards each class of hazardous material presents during handling and storage
- C. Be familiar with the reference materials available to determine the physical and chemical properties of various hazardous wastes.

#### II. INTRODUCTION

After all the hazardous waste streams have been identified, the next step in their management is to ensure that they are properly package and labeled.

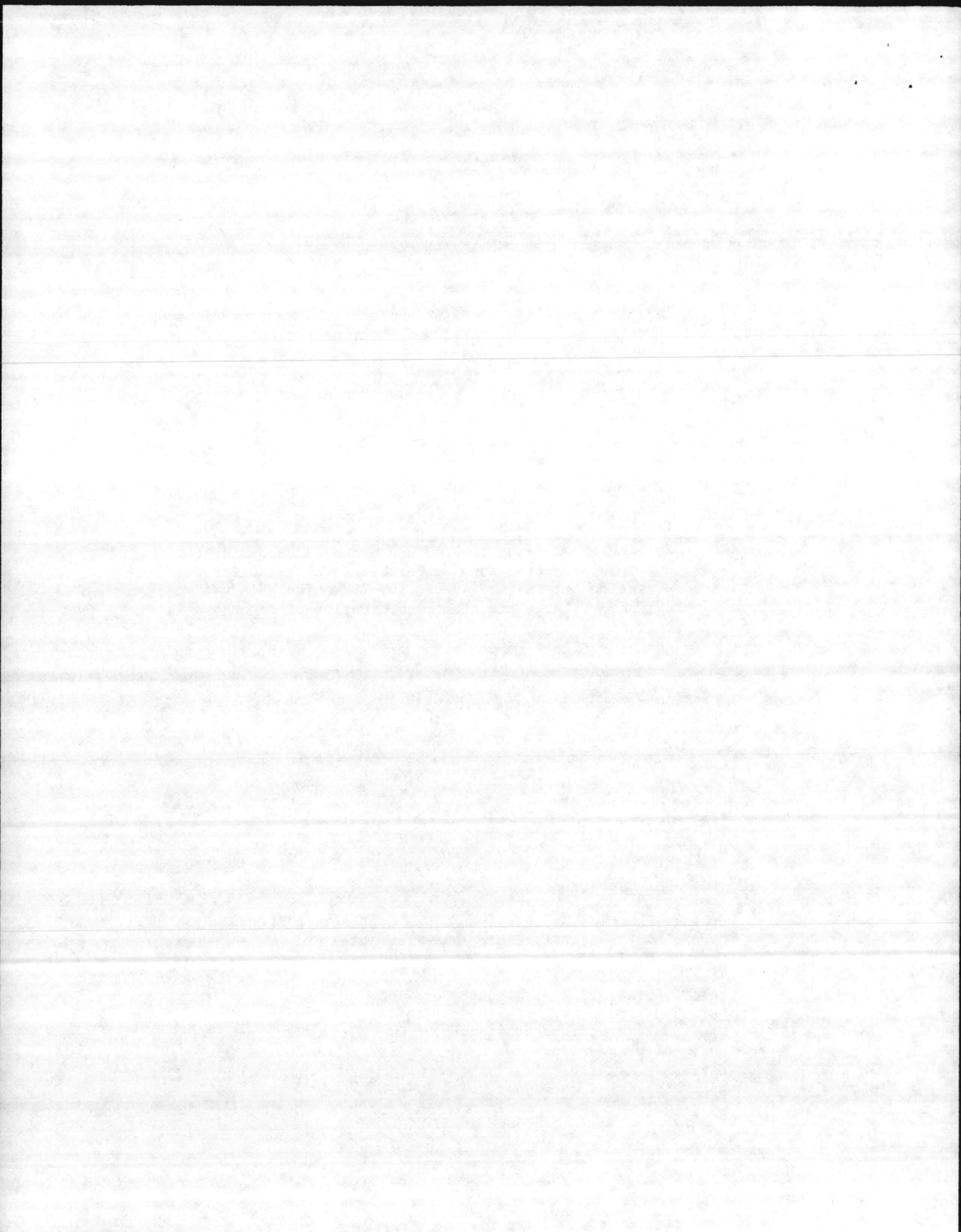
RCRA regulations require HW to be labeled and packaged according to the Department of Transportation (DOT) regulations for the Hazardous Material Transportation Act (HMTA), 49 CFR 100-199. The HMTA was originally established to regulate the transportation of hazardous materials. It specifies required packaging, labeling and transportation procedures for hazardous materials.

To use this DOT system, a waste must be classified into one of the nine DOT hazardous classes.

TABLE VI-1

Table of DOT Classes

<u>UN Class</u>	<u>DOT Class</u>
1	Explosives (Class A, Class B, Class C, Blasting Agents)
2	Compressed Gases (Flammable, Non-Flammable)
3	Flammable Liquids
4	Flammable Solids
5	Oxidizing Material or Organic Peroxide
6	Poisonous (Class A, Class B, Irritating Material; includes infectious substances)
7	Radioactive Material
8	Corrosive Material
9	Other Regulated Material (ORM-A through ORM-E)



3. Corrosive solids (sodium hydroxide, phenol, elemental sodium, and phosphorous). The dusts of these materials are particularly dangerous to skin, eyes, and respiratory system.
  4. Although some gases (formaldehyde, ammonia, sulfur dioxide, chlorine, ozone, and nitrogen dioxide) can cause damage to human tissue, none are classified corrosive by the DOT nor EPA. This does not make them any less dangerous. These gases are particularly hazardous to the respiratory system. Those which are very soluble (such as ammonia) affect the upper respiratory tract. Less soluble material (such as sulfur dioxide) affect the air sacs (alveoli) deep in the lungs where oxygen enters the bloodstream.
- I. Class 9--Miscellaneous dangerous substances. Any material that may pose an unreasonable risk to health, safety, or property when transported in commerce and that does not meet any of the definitions of the other hazardous classes specified. These substances are generally known as Other Regulated Materials (ORM).

There are five ORM categories: ORM-A, ORM-B, ORM-C, ORM-D, and ORM-E.

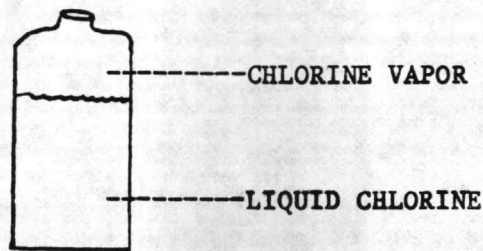
1. ORM-A. Anesthetic, toxic, noxious, or irritating materials (other than class 6) that can cause discomfort to personnel in the event of leakage. Example include: Acetaldehyde, ammonia, aldrin, and trichloroethylene.
2. ORM-B. Corrosive materials which may cause damage to transport vehicles (other than class 8). Examples include: metallic mercury, barium oxide, calcium oxide, and ferric chloride.
3. ORM-C. Materials with characteristics which make them unsuitable for shipment unless properly packaged, for example: excelsior (must not get wet), feed (wet, mixed - must stay clean) and fish scrap (very odorous).
4. ORM-D. Small quantities of hazardous materials that meet the definition of consumer commodity, such as: hair spray and shaving cream.
5. ORM-E. Material that is not included in any other hazard class, but is subject to the requirements of the DOT subchapter because it is a hazardous "waste or substance", for example PCBs or metal hydroxide sludge.

#### IV. ~~THE HAZARDOUS MATERIAL TABLE~~

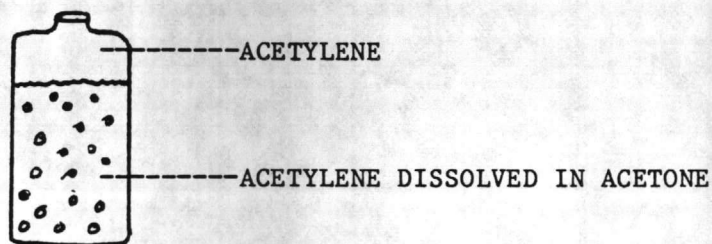
To assist in properly labeling, marking, packaging, and classifying hazardous materials, the DOT created the Hazardous Materials Table (HMT) which can be found in 49 CFR 172.101.



2. Liquified compressed gas. A liquid and the vapors of the liquid under pressure (see drawing).

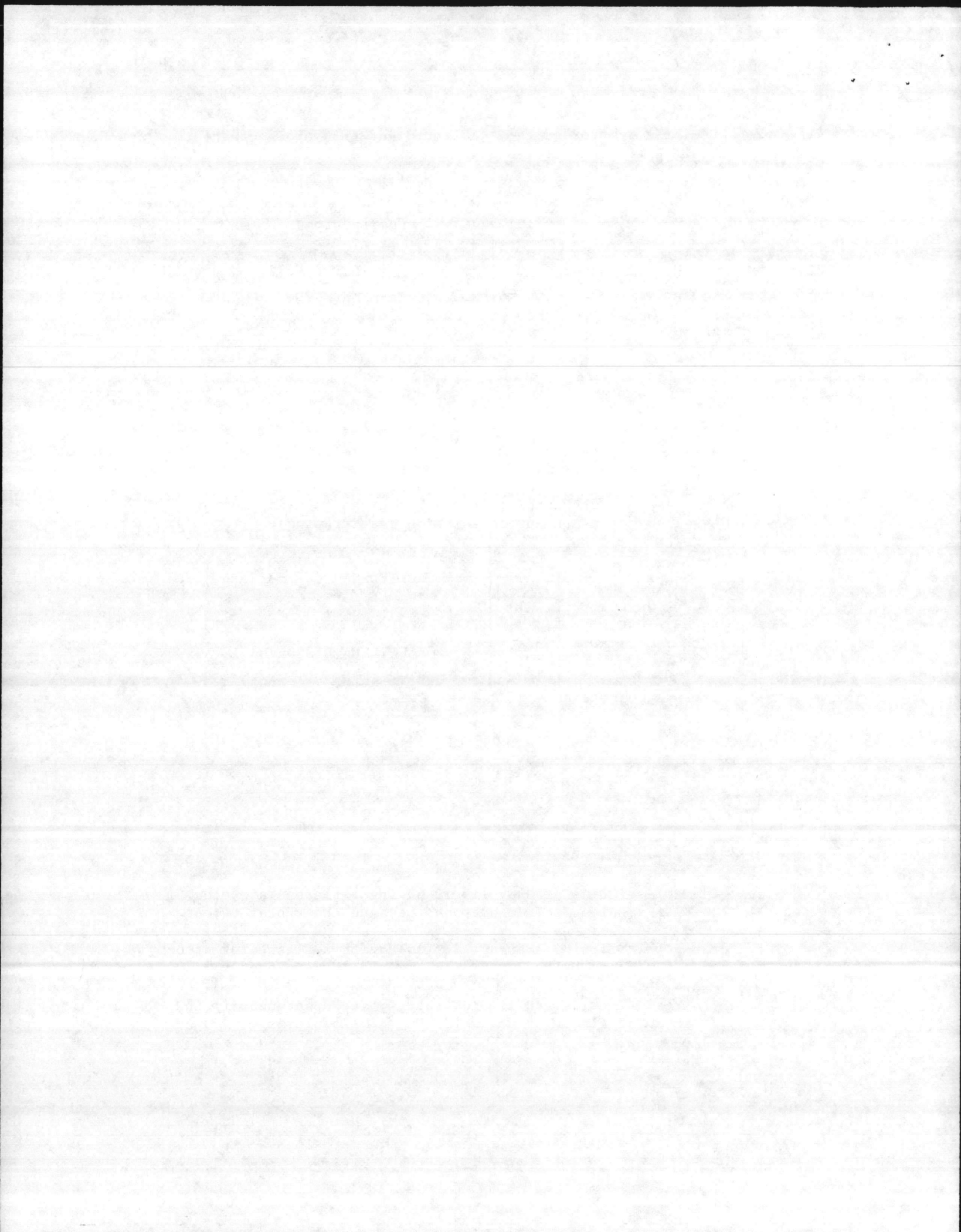


3. Compressed gas in solution. Containers which contain a gas dissolved in another material. As the gas is used, more dissolved gas comes out of solution (see drawing).



C. Class 3 - Flammable Liquids.

1. Flammable liquids are any liquid having a flashpoint below  $100^{\circ}\text{F}$ . Examples include acetone, benzene and rubber cement.
2. Combustible liquids are any liquids having a flashpoint at or above  $100^{\circ}\text{F}$  and below  $200^{\circ}\text{F}$ . An example is kerosene.
3. Pyrophoric liquids are liquids that ignite spontaneously in dry or moist air at or below  $130^{\circ}\text{F}$ . An example is pentaborane.



have an understanding of the DOT markings since this information can help you in determining:

1. What hazards are associated with the item (by enabling you to use technical information sources such as the DOT Commodity List or the Hazardous Materials Information System).
2. If the packaging is adequate.
3. If the waste is stored properly.

#### VI. DOT SPECIFICATION CONTAINERS.

You should be able to recognize DOT specified containers. If you can tell if a container meets DOT requirements, you can predict whether or not packaging or storage problems are likely. You can also tell if your facility is storing hazardous wastes correctly under RCRA regulations. Since DOT containers are required for storing or transporting hazardous wastes, you can also determine if hazardous waste is being shipped in accordance with DOT regulations. While actual specifications for approved DOT containers are complex (see appendix C for an example), they must be followed by manufacturers to meet DOT requirements. Look at the pictures in figures 1-4 in Appendix A, to see some typical examples of containers meeting DOT regulations. A table cross referencing DOT container specifications with DOD container specifications is found in Appendix B.

#### VII. OVERPACK DRUMS.

Overpack drums are used to store or dispose of leaking containers. Rather than completely repackage leaking hazardous waste containers, they can be placed in overpack drums, thereby, eliminating health and environmental problems. These drums are slightly larger than a standard 55-gallon drum and can be used to hold leaking drums, other leaking containers, and spill or other contaminated materials. Procurement. Overpack drums are now in the Federal supply system. There are two types available. Both types meet DOT standards and are 16-gage steel. Type 1 is a one-trip drum designed for disposal purposes. It has no lining and is not suitable for long-term storage. ~~Type 2 is a reusable drum.~~ It has a sprayed on epoxy phenolic lining designed for long-term storage and disposal purposes. It can be triple-rinsed for reuse.

1. NSN 8110-01-101-4055, 85-gallon disposal drum.
2. NSN 8110-01-101-4056, 85-gallon recovery drum.

#### VIII. PACKING CONCEPTS.

In order to assist you in determining whether or not an item is properly packaged, it's necessary to have some understanding of the packing process that should be used for any item. With this





8/19/91

PPP-D-729E  
April 22, 1977  
SUPERSEDING  
Fed. Spec. PPP-D-729D  
September 15, 1972 and  
Fed. Spec. PPP-D-700C  
November 10, 1970

FEDERAL SPECIFICATION

DRUMS, SHIPPING AND STORAGE, STEEL, 55-GALLON (208 LITERS)

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the requirements for new 55-gallon (208 liters) drums (see 6.1).

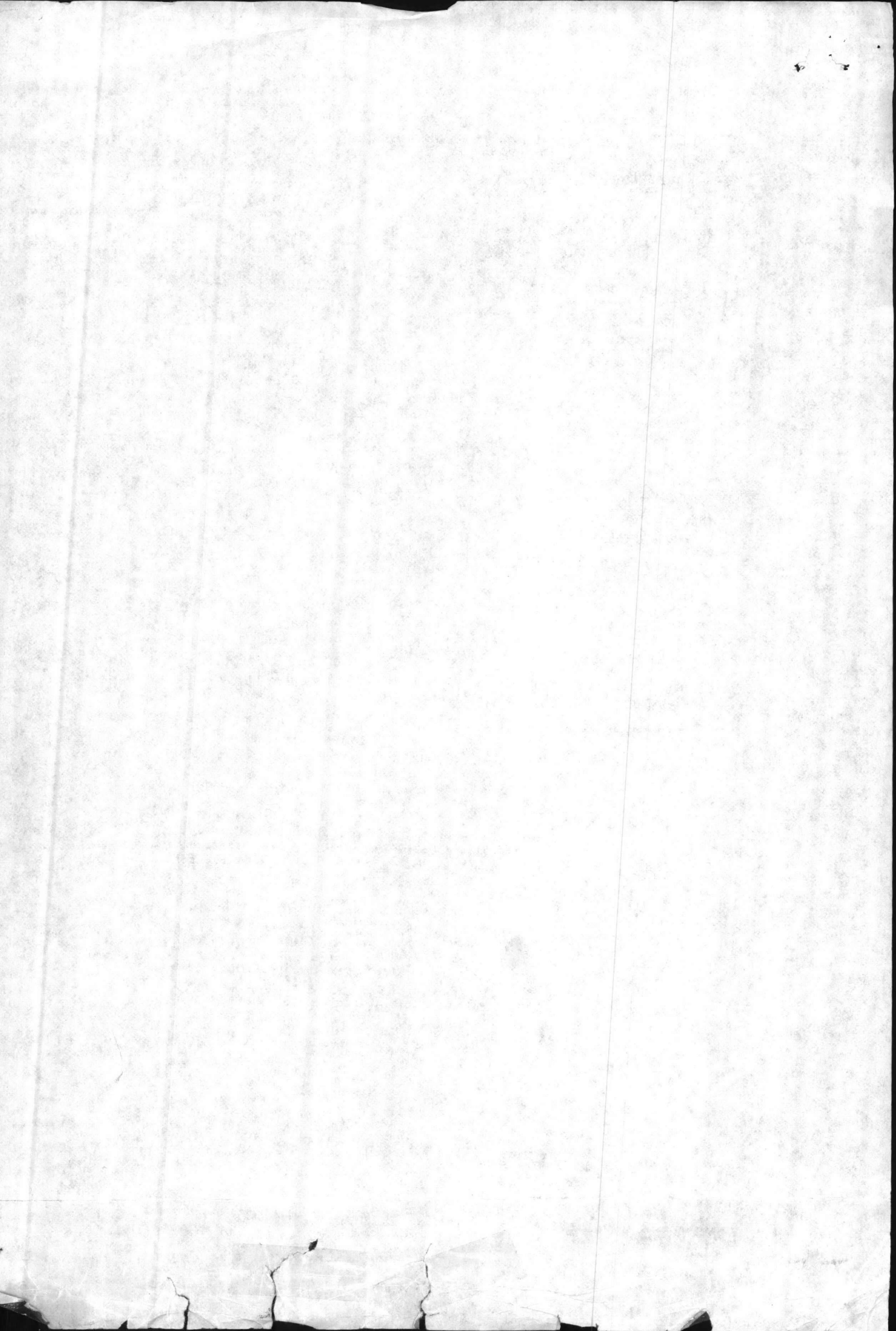
1.2 Classification.

1.2.1 Types. The drums covered by this specification shall be of the following types and class, as specified (see 6.2).

- Type I - DOT 5B
- Class A - Closedhead straight side, with two rolling hoops rolled or expanded in the cylindrical drum body; double seamed chimes, with chime reinforcements.
- Class B - Openhead straight side, with three rolling hoops rolled or expanded in the cylindrical drum body; double seamed bottom chime with chime reinforcement, full removable cover, provided with removable bolted type locking ring.
- Type II - DOT 17E - Straight side, with two rolling hoops rolled or expanded in the cylindrical drum body; double seamed chimes, without chime reinforcements.
- Type IV - DOT 17H - Straight side, with three rolling hoops rolled or expanded in the cylindrical drum body; bottom chime, without chime reinforcement, full removable cover, provided with removable bolted type locking ring.

FSC 8110

THIS DOCUMENT CONTAINS 21 PAGES



PPP-D-729E

- Type V - DOT 5A - Straight side, unlined steel for acid and corrosive liquids.
- Type VI - DOT 5C - Straight side, corrosion-resistant steel for acid and corrosive liquids.
- Type VII - DOT 5D - Closehead straight side, lined steel for acid and corrosive liquids.

## 2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

### Federal Specifications:

- TT-E-485 - Enamel; Semigloss, Rust-Inhibiting.
- VV-L-800 - Lubricating Oil, General Purpose, Preservative, (Water Displacing, Low Temperature).
- PPP-P-420 - Plugs and Flanges (For Drum Closures).

### Federal Standards:

- FED-STD-101 - Preservatives, Packaging and Packing Materials: Test Procedures.
- FED-STD-123 - Marking for Shipment (Civil Agencies).
- FED-STD-141 - Paint, Varnish, Lacquer, and Related Materials: Methods of Inspection, Sampling and Testing.
- FED-STD-595 - Colors.

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

(Single copies of this specification and other Federal specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers at the General Services Adminis-



