



Applying Labels and Marks

MODULE 5





Copyright© 2006, PMA.
All rights reserved.

Disclaimer

While the most strenuous efforts are made to ensure that information and recommendations contained in this publication represent the best current opinions on the subject, no guarantee, warranty or representation is made by the PMA or Envision Compliance Ltd. as to the absolute correctness or sufficiency of any representation contained in this publication. The PMA and Envision Compliance Ltd. assume no responsibility therewith.



Table of Contents

Introduction	1
Labels	1
Using the Hazardous Materials Table to Identify the Required Labels ...	1
Other Label Requirements	2
Marks	2
Technical Name	2
Labels and Marks on Overpacks	3
Limited Quantities	3
Consumer Commodities	4
Summary	4
Examples of Labels and Marks	5
Labels and Marks for Hazardous Material	5
Labels and Marks for Limited Quantity	5
Labels and Marks for Consumer Commodity	6
Labels and Marks for Hazardous Waste	6
Self Quiz Questions	7

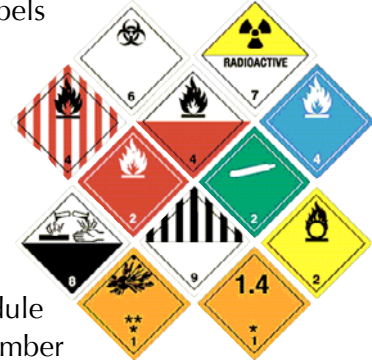
PMA
3000 Picture Place
Jackson, Michigan 49201
Phone: (517) 788-8100
Fax: (517) 788-8371
Internet: www.pmai.org



Module 5 Applying Labels and Marks

Introduction

All packages of hazardous materials must have the required DOT labels and safety marks applied or printed on the containers, before the materials can be shipped. Labels and marks let the emergency responders know what is contained in a given package and any special hazards associated with the material.



Labels

The term *labels* refers to the hazard class labels we reviewed in module 2. These labels are the diamond-shaped hazard symbols with the number of the class, 1 through 9. The label required on the package corresponds with the hazard class/division of the material within the package.

Using the Hazardous Materials Table to Identify the Required Label(s)

Column (6) of the Hazardous Materials Table identifies the label(s) to be applied to a container of hazardous material. A portion of the table is shown below. For the first shipping description, Corrosive liquids, n.o.s., column (6) contains the number 8. This 8 refers to the class 8 DOT diamond label, which would be the corrosive label. Since there's no other number in column (6), we know that the class 8 label is the only one that is required on the packaging.



Where two numbers appear in column (6), the first is the primary hazard class and the second is the subsidiary hazard class. Both labels must appear on the container, with the subsidiary class label within six inches to the right of the primary hazard class label.

Symbols (1)	Hazardous Materials Descriptions and Proper Shipping Name (2)	Hazard Class or Division (3)	Identification Numbers (4)	PG (5)	Label Codes (6)	Special Provisions (7)	Packaging §173.***		
							Ex-ceptions (8A)	Non-bulk (8B)	Bulk (8C)
G	Corrosive liquids, n.o.s.	8	UN1760	III	8	B3, T7, TP1, TP28	154	203	241
G	Corrosive liquid, acidic, organic, n.o.s.	8	UN3265	III	8	IB3, T7, TP1, TP28	154	203	241
G	Environmentally hazardous substances, liquid, n.o.s.	9	UN3082	III	9	8, 146, IB3, T4, TP1, TP29	155	203	241
R4	Potassium hydroxide, solution	8	UN1814	II	8	B2, IB2, T7, TP2	154	203	241
	Printing ink	3	UN1210	III	3	B1, 1B3, T2, TP1	150	173	242

Module 5 Applying Labels and Marks

Labels must be placed near the basic shipping description (discussed in the *marks* section of this module).

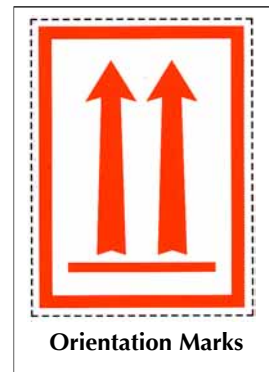
Other Label Requirements

Labels must meet the standards for size, design, color and durability, as specified in the HMR. Non-bulk containers only have to have one of each required label. Large skids containing multiple packages may need more than one set of required labels on the outer plastic wrap, (considered to be an *overpack* — overpacks are discussed in module 10).

Marks

The term *marks* refers to all of the other information that must be printed or put on a package of hazardous materials. Marks include the following: (refer to the *Hazardous Materials Table* on page 1)

- Proper shipping name, as shown in column (2) of the Hazardous Materials Table
- Technical name, when a G appears in column (1) of the Hazardous Materials Table
- Identification number, as shown in column (4) of the Hazardous Materials Table
- Name and address of the shipper or the receiver
- Orientation marks (upward arrows for liquids in inner packaging) - must be shown on two sides of the container (unless a cylinder)
- RQ when the hazardous material is listed as a hazardous substance and is being shipped in a quantity exceeding its reportable quantity threshold
- Marine pollutant, where applicable
- UN packaging mark and specification code



Technical Name

Refer to the portion of the Hazardous Materials Table shown on page 1. For the first proper shipping name, Corrosive liquids, n.o.s., column (1) contains the letter G. This means that the proper shipping name must be amended to include the name of the chemical that is causing the

Module 5 Applying Labels and Marks

liquid to be corrosive. In the case of some photographic color paper bleach-fix solutions, that technical name would be *ferric ammonium EDTA*. Therefore, the proper shipping name + technical name would be: **Corrosive liquids, n.o.s., (ferric ammonium EDTA)**.

Labels and Marks on Overpack

An overpack is any wrapping or packaging on the outside of the UN-certified package. Overpacks include plastic wrap, shrink wrap or any box or container that holds properly packaged hazardous materials.

Limited Quantities

A limited quantity is a type and amount of a hazardous material, packaged in a certain manner, that is not considered to be hazardous. For example, look at the section of the Hazardous Material Table shown below. In column (8A) exceptions, we've circled **154**. 49 CFR 173.154 states that this material (corrosive liquids, n.o.s., packing group III) does NOT have to be labeled and marked as long as the following conditions are met:

- No inner packaging contains more the 5 liters of liquid
- The entire package (inner and outer containers) does not exceed 30 kg (66 pounds)
- The packaging is be strong enough to transport the materials safely
- The outer container is marked with orientation marks on two sides (because it's a liquid)
- The outer container is marked with either the proper shipping name or the ID number (UN 1760)

A properly marked box of limited quantity material is shown on the page 5.

Symbols (1)	Hazardous Materials Descriptions and Proper Shipping Name (2)	Hazard Class or Division (3)	Identification Numbers (4)	PG (5)	Label Codes (6)	Special Provisions (7)	Packaging §173.***		
							Ex-ceptions (8A)	Non-bulk (8B)	Bulk (8C)
G	Corrosive liquids, n.o.s.	8	UN1760	III	8	IB3, T7, TP1, TP28	154	203	241
G	Corrosive liquid, acidic, organic, n.o.s.	8	UN3265	III	8	IB3, T7, TP1, TP28	154	203	241
G	Environmentally hazardous substances, liquid, n.o.s.	9	UN3082	III	9	8, 146, IB3, T4, TP1, TP29	155	203	241
R4	Potassium hydroxide, solution	8	UN1814	II	8	B2, IB2, T7, TP2	154	203	241
	Printing ink	3	UN1210	III	3	B1, IB3, T2, TP1	150	173	242



Module 5 Applying Labels and Marks

Consumer Commodity

A consumer commodity is a limited quantity that is packaged for sale through a retail outlet. Some inkjet inks, that in larger volumes may be considered hazardous materials (e.g., flammable liquid), may be classified as a consumer commodity. Where this classification is allowed by the HMR, the container must be marked as a class ORM-D, Consumer commodity. Consumer commodity is the proper shipping name. An example of a properly marked package of consumer commodity is shown on page 5.

Summary

The marks and labels on packages of hazardous materials are used by several people in the process of safe transportation. Shippers can offer information to carriers for how to load the materials on to the truck; carriers are aware of the materials they are transporting; receivers can recognize any special accommodations they need to make in storing the materials; and, emergency responders will know the hazards of the materials in the packages, in the event of an emergency. Labels represent the type of hazard and the class number (e.g., flammable liquid, class 3), while marks are the other words and symbols that appear on the package. Limited quantities of hazardous materials and consumer commodities have reduced marking and labeling requirements.

On the next two pages we show examples of properly labeled and marked non-bulk packages of hazardous materials for transport.

Test your understanding of this section by answering the self-quiz questions on the last page.

Module 5 Applying Labels and Marks

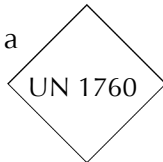
Labels and Marks for Hazardous Material



Labels and Marks for Limited Quantity

For shipments of limited quantities, use only:

- The proper shipping name + technical name (where required), OR
- The identification number, marked in a diamond, square-on-point, AND
- Orientation labels on two sides of the container



Module 5 Applying Labels and Marks

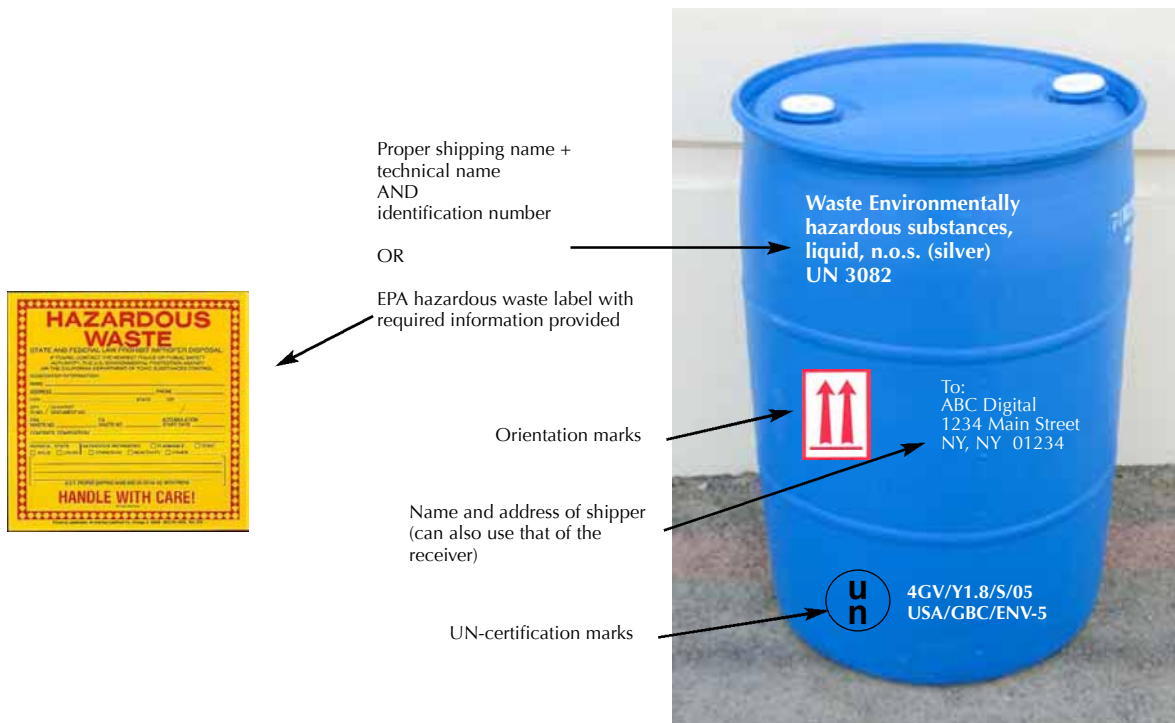
Labels and Marks for Consumer Commodity



For shipments of consumer commodities, (limited quantities packaged for retail sale), use only:

- The proper shipping name (consumer commodity), AND
- The ORM-D mark, AND
- Orientation labels on two sides of the package, unless it is a manufactured article and leakproof in all orientations.

Labels and Marks for Hazardous Waste



Module 5 Applying Labels and Marks

Self Quiz Questions

1. All containers of hazardous materials:
 - a) must use a label corresponding to the brand name of the product
 - b) must have a DOT label and safety marks before the container can be shipped
 - c) must be able to be stacked
 - d) must be shrink-wrapped to ensure security during transport
2. A DOT label:
 - a) is a visual indicator of the hazard associated with the package
 - b) must be applied to the transport vehicle
 - c) is defined in the hazard communication regulations
 - d) can be applied anywhere on the box and in any orientation
3. A DOT class 3 labels signifies:
 - a) the material inside is corrosive
 - b) the material inside is an oxidizer
 - c) the material inside is flammable
 - d) the material inside is poisonous
4. The term *mark* refers to all other information that must appear on the container. This includes:
 - a) proper shipping name
 - b) orientation label for liquids
 - c) UN packaging mark and specification code
 - d) all of the above
5. When the labels and marks are not visible through the overpack, the shipper must apply a set of marks and labels to the overpack:
 - a) true
 - b) false
6. When shipping hazardous materials that are defined as limited quantities, the proper marks and labels include:
 - a) proper shipping name, ID number, hazard label, orientation label, UN packaging
 - b) proper shipping name or ID number, orientation label
 - c) proper shipping name AND ID number, hazard label
 - d) hazard label, UN packaging, orientation label