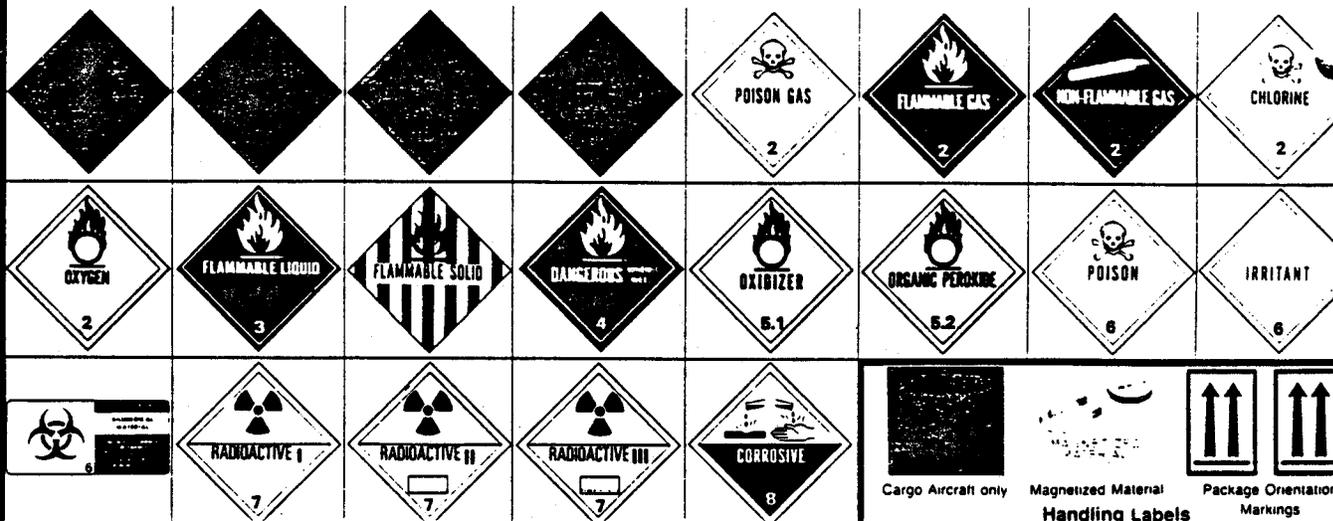


APPENDIX S
HAZARDOUS MATERIALS WARNING PLACARDS

Hazardous Materials Warning Labels

DOMESTIC LABELING



General Guidelines on Use of Labels

(CFR, Title 49, Transportation, Parts 100-177)

- Labels illustrated above are normally for *domestic shipments*. However, some air carriers may require the use of International Civil Aviation Organization (ICAO) labels.
- Domestic Warning Labels may display UN Class Number, Division Number (and Compatibility Group for Explosives only.) Sec. 172.407(g).
- Any person who offers a hazardous material for transportation **MUST** label the package, if required. [Sec. 172.400(a)].
- The Hazardous Materials Tables, Sec. 172.101 and 172.102, identify the proper label(s) for the hazardous materials listed.
- Label(s), when required, must be printed on or affixed to the surface of the package near the proper shipping name. [Sec. 172.406(a)].
- When two or more different labels are required, display them next to each other. [Sec. 172.406(c)].
- Labels may be affixed to packages (even when not required by regulations) provided each label represents a hazard of the material in the package. [Sec. 172.401].

Check the Appropriate Regulations

Domestic or International Shipment

UN Class Numbers

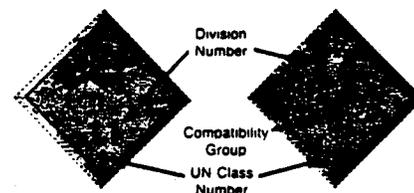
- Class 1—Explosives
- Class 2—Gases (compressed, liquified or dissolved under pressure)
- Class 3—Flammable liquids
- Class 4—Flammable solids or substances
- Class 5—Oxidizing substances
Division 5.1—Oxidizing substances or agents.
Division 5.2—Organic peroxides.
- Class 6—Poisonous and infectious substances
- Class 7—Radioactive substances
- Class 8—Corrosives
- Class 9—Miscellaneous dangerous substances

INTERNATIONAL LABELING



EXAMPLES OF INTERNATIONAL LABELS

- These are examples of International Labels not presently used for domestic shipments.
- Text, when used internationally may be in the language of the country of origin.
- Most of the domestic labels (illustrated above) may be used internationally



EXAMPLES OF EXPLOSIVE LABELS

- The NUMERICAL DESIGNATION represents the CLASS or DIVISION.
- ALPHABETICAL DESIGNATION represents the COMPATIBILITY GROUP (for Explosives Only)
- DIVISION NUMBERS and COMPATIBILITY GROUP combinations can result in over 30 different "Explosives" labels (see IMDG Code/ICAO).

For complete details refer to one or more of the following

- Code of Federal Regulations, Title 49, Transportation, Parts 100-199. [All Modes]
- International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by air. [Air]
- International Maritime Organization (IMO) Dangerous Goods Code. [Water]
- "Transportation of Dangerous Goods Regulations" of Transport Canada. [All Modes]



U.S. Department of Transportation
Research and Special Programs
Administration

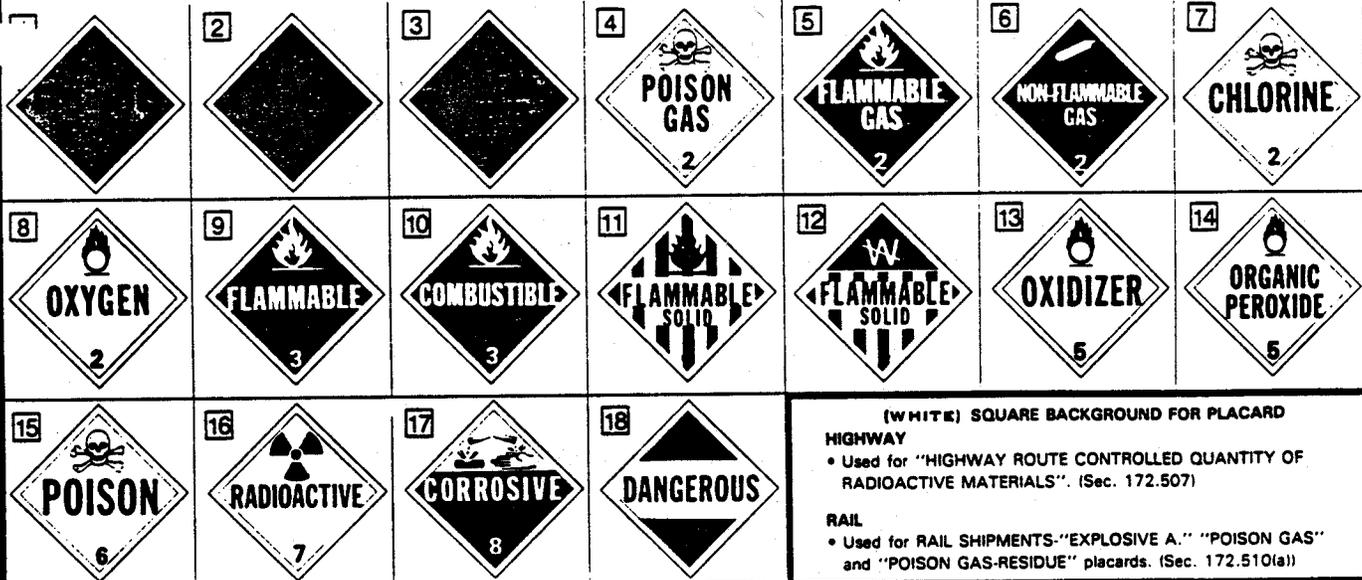
Washington, D.C. 20590

CHART 8
REV. FEBRUARY 1986

Hazardous Materials Warning Placards

DOMESTIC PLACARDING

Illustration numbers in each square (1 through 18) refer to TABLES 1 and 2 below.



(WHITE) SQUARE BACKGROUND FOR PLACARD
HIGHWAY
 • Used for "HIGHWAY ROUTE CONTROLLED QUANTITY OF RADIOACTIVE MATERIALS". (Sec. 172.507)
RAIL
 • Used for RAIL SHIPMENTS—"EXPLOSIVE A," "POISON GAS" and "POISON GAS-RESIDUE" placards. (Sec. 172.510(a))

TABLE 1

HAZARD CLASSES	NO.
Class A explosives	1
Class B explosives	2
Poison A	4
Flammable solid (DANGEROUS WHEN WET label only)	12
radioactive material (YELLOW III label)	16
Radioactive material: Uranium hexafluoride fissile (containing more than 1.0% U ²³⁵)	16 & 17
Uranium hexafluoride, low-specific activity (containing 1.0% or less U ²³⁵)	16 & 17

NOTE: For details on the use of Tables 1 and 2, see Sec. 172.504 (See footnotes at bottom of tables.)

Guidelines

(CFR, Title 49, Transportation, Parts 100-177)

- Placard *motor vehicles, freight containers, and rail cars* containing *any quantity* of hazardous materials listed in TABLE 1.
- Placard *motor vehicles, freight containers and rail cars* containing 1,000 pounds or more gross weight of hazardous materials classes listed in TABLE 2.
- Placard *freight containers* 640 cubic feet or more containing *any quantity* of hazardous material classes listed in TABLES 1 and/or 2 when offered for transportation by air or water. Under 640 cubic feet see Sec. 172.512(b).

CAUTION

CHECK EACH SHIPMENT FOR COMPLIANCE WITH THE APPROPRIATE HAZARDOUS MATERIALS REGULATIONS
 Proper Classification Marking Placarding
 Packaging Labeling Documentation
 PRIOR TO OFFERING FOR SHIPMENT

TABLE 2

HAZARD CLASSES	NO.
Class C explosives	18
Blasting agent	3
Nonflammable gas	6
Nonflammable gas (Chlorine)	7
Nonflammable gas (Fluorine)	15
Nonflammable gas (Oxygen, cryogenic liquid)	8
Flammable gas	5
Combustible liquid	10
Flammable liquid	9
Flammable solid	11
Oxidizer	13
Organic peroxide	14
Poison B	15
Corrosive material	17
Irritating material	18

INTERNATIONAL PLACARDING

- Most International placards are similar (color and pictorial symbol(s) to the Domestic placards illustrated above.
- International placards are enlarged ICAO or IMO labels (See International Labeling—Overside).
- Placard MUST correspond to *hazard class* of material.

- Placard *ANY QUANTITY* of hazardous materials when loaded in FREIGHT CONTAINERS, PORTABLE TANKS, RAIL CARS and HIGHWAY VEHICLES.

- International placards may be used in addition to DOT placards for international shipments.

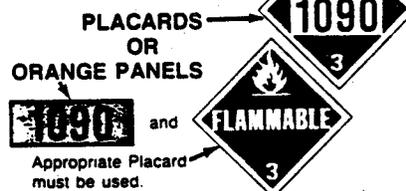
When required, *Subsidiary Risk placards* must be displayed in the same manner as *Primary Risk placards*. Class numbers are *not shown* on Subsidiary Risk placards.

- COMPATIBILITY GROUP DESIGNATORS must be displayed on EXPLOSIVES PLACARDS.
- UN CLASS NUMBERS and DIVISION NUMBERS MUST be displayed on hazard class placards when required.

UN and NA Identification Numbers

- The four digit UN or NA numbers must be displayed on all hazardous materials packages for which identification numbers are assigned. Example: ACETONE UN 1090.
- UN (United Nations) or NA (North American) numbers are found in the Hazardous Materials Tables, Sec. 172.101 and 172.102 (CFR, Title 49, Parts 100-199)
- Identification numbers may not be displayed on "POISON GAS," "RADIOACTIVE" or "EXPLOSIVE" placards. (Sec. 172.334)
- UN numbers are displayed in the same manner for both Domestic and International shipments.
- NA numbers are used only in the USA and Canada.

When hazardous materials are transported in Tank Cars, Cargo Tanks and Portable Tanks, UN or NA numbers must be displayed on:



EUROPEAN NUMBERING SYSTEM—

Top Number—Hazard Index (Identification of Danger, 2 or 3 figures) Example: 33 = highly inflammable liquid.



Bottom Number—UN Number of substance Example: 1088 ACETAL

For more complete details on identification Numbers see Sec. 172.300 through 172.338.