



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

DOT CHART 12

Hazardous Materials Marking, Labeling & Placarding Guide



Refer to 49 CFR, Part 172:

Marking - Subpart D

Labeling - Subpart E

Placarding - Subpart F

Emergency Response - Subpart G

NOTE:

This document is for general guidance only and must not be used to determine compliance with 49 CFR, Parts 100-185.

Hazardous Materials Warning Labels

Actual label size: 100 mm (3.9 inches) on all sides

CLASS 1 Explosives:
Divisions 1.1, 1.2, 1.3, 1.4, 1.5, 1.6



CLASS 2 Gases:
Divisions 2.1, 2.2, 2.3



CLASS 3 Flammable
Liquid



CLASS 4 Flammable Solid, Spontaneously Combustible, and Dangerous When Wet:
Divisions 4.1, 4.2, 4.3



CLASS 5 Oxidizer, Organic Peroxide: Divisions 5.1 and 5.2



§172.411

- * Include compatibility group letter.
- ** Include division number and compatibility group letter.

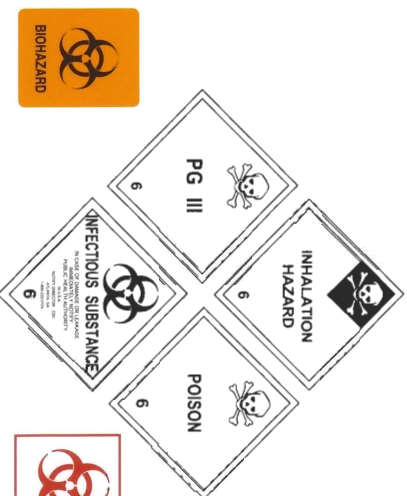
§172.415, §172.416, §172.417, §172.405(b)

§172.419

§172.420, §172.422, §172.423

§172.426, §172.427

CLASS 6 Poison (Toxic), Poison Inhalation Hazard, Infectious Substance: Divisions 6.1 and 6.2



CLASS 7 Radioactive



CLASS 8 Corrosive



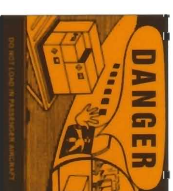
CLASS 9 Miscellaneous Hazardous Material



For Aircraft Only



Cargo Aircraft Only



Infectious Substance Label not required on an outer packaging, if the OSHA Biohazard Marking (29 CFR 1910.103(g)) is used. The CDC Etiologic Agent Label must be used as prescribed in 42 CFR 72.3 and 72.6.

§172.405(c), §172.429, §172.430, §172.432

§172.436, §172.438, §172.440, §172.450

§172.442

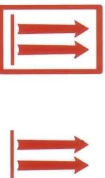
§172.446

§172.411

§172.448

INNER PACKAGES COMPLY WITH PRESCRIBED SPECIFICATIONS

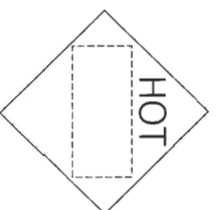
§173.25(c)(4)



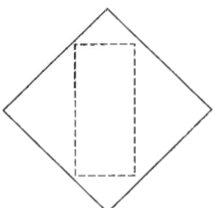
§172.312(c)



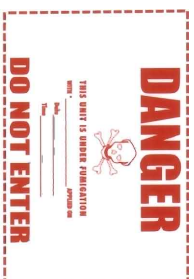
§172.322



§172.325



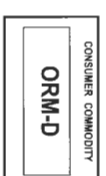
§172.332(c)



§172.302(g) and §173.9



§172.313(c)



§172.316(c)



§172.316(c)(1)

HAZARDOUS MATERIALS MARKINGS

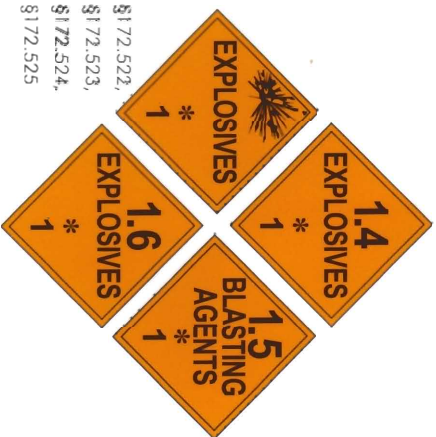
Fumigant Marking

Keep a copy of the Emergency Response Guidebook handy!

Hazardous Materials Warning Placards

Actual placard size: 273 mm (10.8 inches) on all sides

CLASS 1 Explosives



\$172.522,
\$172.523,
\$172.524,
\$172.525

*Enter Division Number 1, 1.2, or 1.3, and compatibility group letter, when required; placard any quantity. For Divisions 1.4, 1.5, and 1.6, enter compatibility group letter, when required; placard 454 kg (1,001 lbs) or more.

CLASS 5 Oxidizer & Organic Peroxide



\$172.550, \$172.552

For OXIDIZER and ORGANIC PEROXIDE (other than TYPE B, temperature controlled), placard 454 kg (1,001 lbs) or more. For ORGANIC PEROXIDE (Division 5.2), Type B, temperature controlled, placard any quantity.

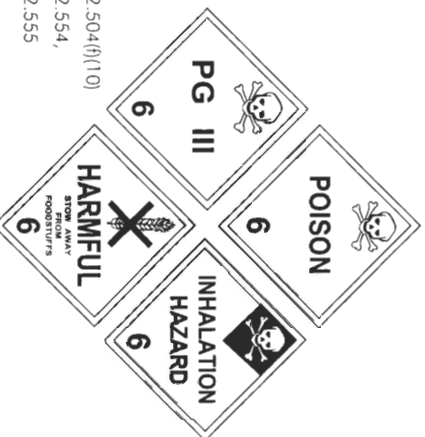
CLASS 2 Gases



\$172.528,
\$172.530,
\$172.532,
\$172.540

For NON-FLAMMABLE GAS, OXYGEN (compressed gas or refrigerated liquid), and FLAMMABLE GAS, placard 454 kg (1,001 lbs) or more gross weight. For POISON GAS (Division 2.3), placard any quantity.

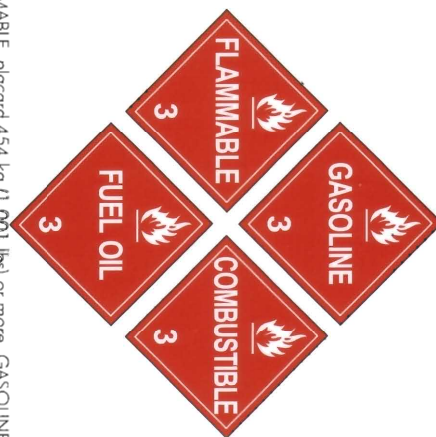
CLASS 6 Poison (Toxic) and Poison Inhalation Hazard



\$172.504(f)(1)(i)
\$172.554,
\$172.555

POISON-INHALATION HAZARD (Division 6.1), Zone A or B inhalation hazard only, placard any quantity. For POISON, (PGI or PGII, other than Zone A or B inhalation hazard only) and KEEP AWAY FROM FOOD (PGIII), placard 454 kg (1,001 lbs) or more. For Transition 2003, see §171.14(b)(3).

CLASS 3 Flammable Liquid and Combustible Liquid



\$172.542
\$172.544

For FLAMMABLE, placard 454 kg (1,001 lbs) or more. GASOLINE may be used in place of FLAMMABLE placard displayed on a cargo tank or portable tank transporting gasoline by highway. Placard combustible liquid transported in bulk. See §172.504(f)(2) for use of FLAMMABLE placard in place of COMBUSTIBLE. FUEL OIL may be used in place of COMBUSTIBLE on a cargo or portable tank transporting fuel oil not classed as a flammable liquid by highway.

CLASS 7 Radioactive



\$172.556

Placard any quantity - packages bearing RADIOACTIVE YELLOW-III labels only. Certain low specific activity radioactive materials in "exclusive use" will not bear the label, but the radioactive placard is required for exclusive use shipments of low specific activity material and surface contaminated objects transported in accordance with §173.427(b)(3) or (c).

CLASS 8 Corrosive



\$172.558

Placard 454 kg (1,001 lbs) or more.

CLASS 9 Miscellaneous



\$172.560

Not required for domestic transportation. A bulk packaging containing a Class 9 material must be marked with the appropriate ID number displayed on a Class 9 placard, an orange panel, or a white square-on-point display.

Dangerous



\$172.521

A freight container, unit load device, transport vehicle, or rail car which contains non-bulk packagings with two or more categories of hazardous materials that require different placards specified in Table 2 may be placarded with DANGEROUS placards instead of the specific placards required for each of the materials in Table 2. However, when 1,000 kg (2,205 lbs) or more of one category of material is loaded at one loading facility, the placard specified in Table 2 must be applied.

CLASS 4 Flammable Solid, Spontaneously Combustible, and Dangerous When Wet



\$172.546, \$172.547, \$172.548

For FLAMMABLE SOLID and SPONTANEOUSLY COMBUSTIBLE, placard 454 kg (1,001 lbs) or more. For DANGEROUS WHEN WET (Division 4.3), placard any quantity.

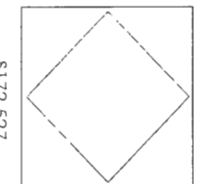
IDENTIFICATION NUMBER DISPLAYS



\$172.332

Appropriate placard must be used.

MUST BE DISPLAYED ON: (1) Tank Cars, Cargo Tanks, Portable Tanks, and other Bulk Packagings; (2) Vehicles or containers containing 4000 kg (8,820 lbs) in non-bulk packages of only a single hazardous material having the same proper shipping name and identification number; and (3) 1,000 kg (2,205 lbs) of materials poisonous by inhalation in Hazard Zone A or B. See §172.301(a)(3) and §172.313(c).



\$172.527

White square background required for placard for highway route controlled quantity radioactive material and for rail shipment of certain explosives and poisons, and for flammable gas in a DOT 113 tank car (§172.507 and §172.510).

Response begins with identification!

General Guidelines on Use of Warning Labels and Placards

LABELS

See 49 CFR, Part 172, Subpart E for complete labeling regulations.

- The Hazardous Materials Table [§172.101, Col. 6] identifies the proper label(s) for the hazardous material listed.
- Any person who offers a hazardous material for transportation **MUST** label the package, if required [§172.400(a)].
- Labels may be affixed to packages when not required by regulations, provided each label represents a hazard of the material contained in the package [§172.401].
- The appropriate hazard class or division number must be displayed in the lower corner of a primary and subsidiary hazard label [§172.402(b)].
- For classes 1,2,3,4,5,6, and 8, text indicating a hazard (e.g., "CORROSIVE") IS NOT required on a label. The label must otherwise conform to Subpart E of Part 172 [§172.405].
- Labels must be printed on or affixed to the surface of the package near the proper shipping name marking [§172.406(a)].
- When primary and subsidiary labels are required, they must be displayed next to each other [§172.406(c)].
- For a package containing a Division 6.1, Packing Group III material, the POISON label specified in §172.430 may be modified to display the text PG III instead of POISON or TOXIC. Also see [§172.313(d)].
- The class number must be displayed on a subsidiary label. For Transition 2005, see [§172.402(b)].

PLACARDS

See 49 CFR, Part 172, Subpart F, for complete placarding regulations.

- Each person who offers for transportation or transports any hazardous material subject to the Hazardous Materials Regulations must comply with all applicable requirements of Subpart F [§172.500].
- Placards may be displayed for a hazardous material, even when not required, if the placarding otherwise conforms to the requirements of Subpart F of Part 172 [§172.502(c)].
- For other than Class 7 or the DANGEROUS placard, text indicating a hazard (e.g., "FLAMMABLE") is not required. Text may be omitted from the OXYGEN placard only if the specific ID number is displayed on the placard [§172.519(b)(3)].
- For a placard corresponding to the primary or subsidiary hazard class of a material, the hazard class or division number must be displayed in the lower corner of the placard [§172.519(b)(4)].
- Any transport vehicle, freight container, or rail car containing any quantity of material listed in Table 1 must be placarded [§172.504].
- When the gross weight of all hazardous materials in non-bulk packages covered in Table 2 is less than 454 kg (1,001 lbs), no placard is required on a transport vehicle or freight container [§172.504(c)].
- Notes: See [§172.504(f)(10)] for placarding Division 6.1, PG-III materials.
- Placarded loads require registration with USDOT. See [§107.601] for registration regulations.

Inhalation Hazard Materials



§172.540



§172.555



§172.313

Materials which meet the inhalation toxicity criteria have additional "communication standards" prescribed by the HMR. The words "Poison-Inhalation Hazard" must be entered on the shipping paper, as required [§172.203(m)(2)]. Packagings must be marked "Inhalation Hazard" or, alternatively, when the words "Inhalation Hazard" appear on the label or placard, the "Inhalation Hazard" marking is not required on the package. Transport vehicles, freight containers, portable tanks and unit load devices that contain a poisonous material subject to the "Poison-Inhalation Hazard" shipping description, must be placarded with a POISON INHALATION HAZARD or POISON GAS placard, as appropriate. This shall be in addition to any other placard required for that material [§172.504].

Placarding Tables

[§172.504(e)]

Table 1 (Placard any quantity)

Hazard class or division	Placard name
1.1	EXPLOSIVES 1.1
1.2	EXPLOSIVES 1.2
1.3	EXPLOSIVES 1.3
2.3	POISON GAS
4.3	DANGEROUS WHEN WET
5.2 (Organic peroxide, Type B, liquid or solid, temperature controlled)	ORGANIC PEROXIDE
6.1 (Inhalation Hazard, Zone A or B)	POISON INHALATION HAZARD
7 (Radioactive Yellow III label only)	RADIOACTIVE

Table 2 (Placard 1,001 lbs or more)

Hazard class or division	Placard name
1.4	EXPLOSIVES 1.4
1.5	EXPLOSIVES 1.5
1.6	EXPLOSIVES 1.6
2.1	FLAMMABLE GAS
2.2	NON-FLAMMABLE GAS
3	FLAMMABLE
Combustible Liquid	COMBUSTIBLE
4.1	FLAMMABLE SOLID
4.2	SPONTANEOUSLY COMBUSTIBLE
5.1	OXIDIZER
5.2 (Other than organic peroxide, Type B, liquid or solid, temperature controlled)	ORGANIC PEROXIDE
6.1 (Other than inhalation hazard, Zone A or B)	POISON
6.2	(None)
8	CORROSIVE
9	CLASS 9 [§172.504(f)(9)]
ORM-D	(None)

For complete details, refer to one or more of the following:

- Code of Federal Regulations, Title 49, Transportation, Parts 100-185. [All modes]
- International Civil Aviation Organization (ICAO) Technical Instructions for 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]



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Copies of this Chart may be obtained by contacting:

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Phone: 202-366-2301
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Web site: www.rspa.dot.gov