

Hazard Communication

Communication for transporting hazardous materials has four basic elements: a Bill of Lading, Marking, Labeling and Placarding.

1. **Bill of Lading**—The loader and driver must make sure that each truck has an accurate bill of lading for each day and that any hazardous materials are accurately listed on the BOL. A sample BOL is attached.
2. **Marking**—Basic package marking requirements have the material description, ID number, instructions, UN marks or other descriptions of the hazardous materials contained in the package.
3. **Labeling**— Containers holding hazardous materials must be labeled properly and identify the specific hazards posed by the hazardous materials.
4. **Placarding**—Placards are required when transporting hazardous materials weighing 1,001 lbs. or more.

NOTE: Class 2 Gasses; Class 3 Flammables and Class 8 Corrosive are the most common types of Hazardous Materials transported by PK.

CLASS 2 Gases



CLASS 3 Flammable Liquid



CLASS 8 Corrosive



DOT CHART 15

Attached on the following pages for reference is the USDOT Chart 15 - Hazardous Materials Markings, Labeling and Placarding Guide. The attached guide provides guidance on Haz-Mat Container Labeling and required placarding when transporting 1,001 lbs. or more Hazardous materials.



U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration

DOT CHART 15

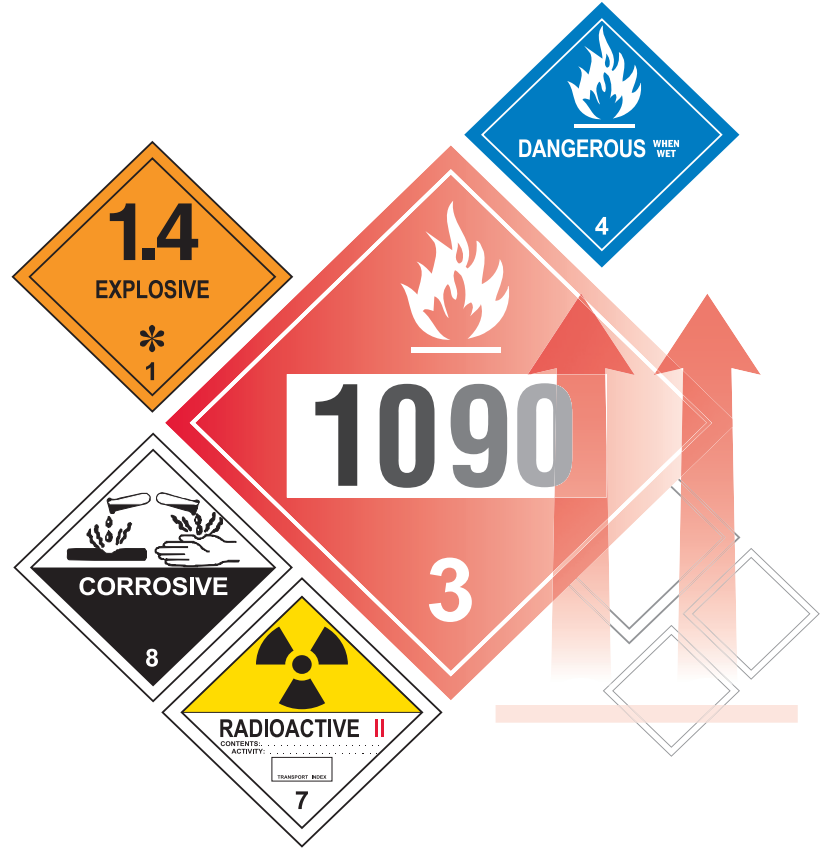
Hazardous Materials Markings, Labeling and Placarding Guide

Refer to 49 CFR, Part 172:

Marking - Subpart D







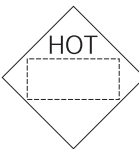
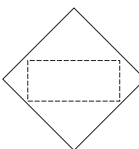

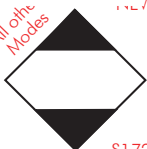






Labeling - Subpart E

Placarding - Subpart F



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

HAZARDOUS MATERIALS MARKINGS

<p>Package Orientation (Red or Black)</p>  <p>or</p>  <p>§172.312(a)</p>	<p>Keep Away from Heat</p>  <p>§172.317</p>	<p>OVERPACK</p>  <p>§173.25(a)(4)</p>	<p>Fumigant Marking (Red or Black)</p>  <p>§172.302(g) and §173.9</p>	<p>INHALATION HAZARD</p>  <p>§172.313(a)</p>	<p>HOT</p>  <p>§172.325</p>	<p>Marking of IBCs</p>  <p>§172.332(a)</p>	<p>Biological Substances, Category B</p>  <p>§173.199 (a)(5)</p>
<p>All other Modes</p>  <p>§172.315</p>	<p>Air Only</p>  <p>§172.316</p>	<p>ORM-D, Transition December 31, 2020</p>  <p>§172.316</p>	<p>UN1755</p>  <p>§172.316</p>	<p>Excepted Quantity</p>  <p>§173.4a(g)</p>	<p>Marking of IBCs</p>  <p>§178.703(b)(7)(i)</p>	<p>Marine Pollutant</p>  <p>§172.322</p>	

* The new limited quantity marking designates hazardous material packages prepared for air transport (Y) and packages not prepared for air transport (all other modes). The ORM-D classification and the use of packagings marked "Consumer commodity, ORM-D" is authorized until December 31, 2020, for domestic highway, rail, and vessel transportation. Transitional exception—Square-on-point with Identification Number: except for transportation by aircraft and until December 31, 2014, a package containing a limited quantity may be marked with identification number, preceded by the letters "UN" or "NA".

Hazardous Materials Warning Labels

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

CLASS 1 Explosives:

Divisions 1.1, 1.2, 1.3, 1.4, 1.5, 1.6



§ 172.411

* Include compatibility group letter.

** Include division number and compatibility group letter.

CLASS 2 Gases:

Divisions 2.1, 2.2, 2.3



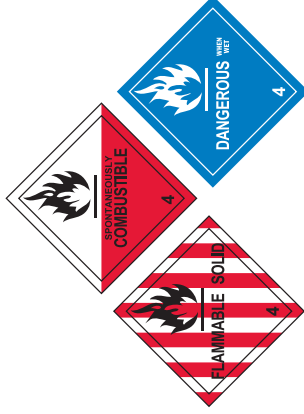
§ 172.405(b), § 172.415, § 172.416, § 172.417

CLASS 3 Flammable Liquid



§ 172.419

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



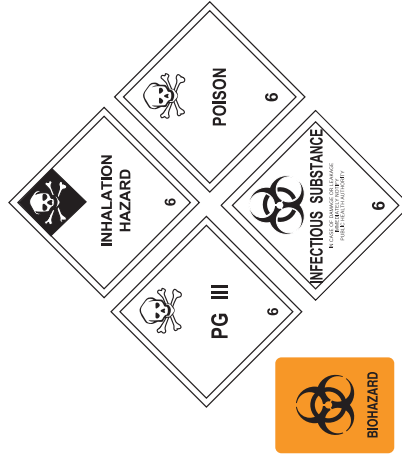
§ 172.420, § 172.422, § 172.423

CLASS 5 Oxidizer, Organic Peroxide: Divisions 5.1 and 5.2



§ 172.426, § 172.427

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



§ 172.323, § 172.405(c), § 172.429, § 172.430, § 172.432

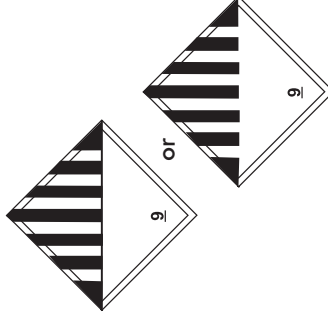
For Regulated Medical Waste (RMW), an Infectious Substance label is not required on an outer packaging if the OSHA Biohazard marking is used as prescribed in 29 CFR 1910.1030(g). A bulk package of RMW must display a BIOHAZARD marking.

CLASS 8 Corrosive



§ 172.442

CLASS 9 Miscellaneous Hazardous Material

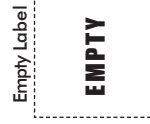


§ 172.446

Cargo Aircraft Only



§ 172.448



§ 172.450

Hazardous Materials Warning Placards

Actual placard size: at least 250 mm (9.84 inches) on all sides

CLASS 1 Explosives



§172.522
§172.523
§172.524
§172.525

* For Divisions 1.1, 1.2, or 1.3, enter division number 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.

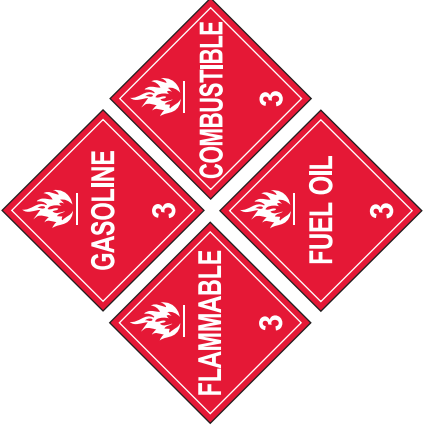
CLASS 2 Gases



§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 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 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.

CLASS 5 Oxidizer & Organic Peroxide

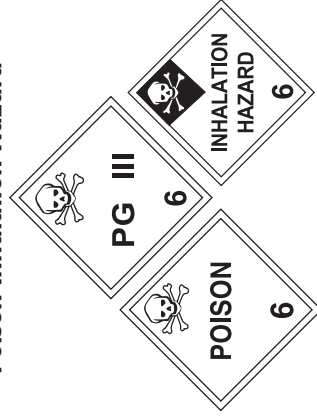


Organic Peroxide, Transition-2011 (rail, vessel, and aircraft)
2014 (highway)

§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 6 Poison (Toxic) and Poison Inhalation Hazard



§172.504(f)(10), §172.554, §172.555

For POISON (PGI or PGII, other than inhalation hazard) and POISON (PGIII), placard 454 kg (1,001 lbs) or more. For POISON-INHALATION HAZARD (Division 6.1), inhalation hazard only, placard any quantity.

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 §172.504(e) Table 1 and §173.427(a)(6).

CLASS 8 Corrosive



§172.558

For CORROSIVE, 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, on an orange panel, or a white square-on-point display.

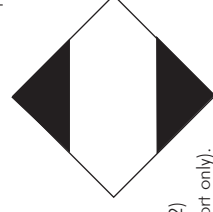
Dangerous



§172.521

A freight container, unit load device, transport vehicle, or rail car which contains non-bulk packages with two or more categories of hazardous materials that require different placards specified in Table 2 (§172.504(e)) 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.

Limited Quantity Marking



§172.315(a)(2)
(Vessel transport only).

Safety begins with communication!

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].
- For labeling mixed or consolidated packages, see §172.404.
- 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 primary or subsidiary 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, PG 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 §172.405(c).
- The ORGANIC PEROXIDE label [§172.427] indicates that organic peroxides are highly flammable. Use of the ORGANIC PEROXIDE label eliminates the need for a flammable liquid subsidiary label. The color of the border must be black and the color of the flame may be black or white.

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)].
- Except as otherwise provided, any bulk packaging, freight container, unit load device, transport vehicle or rail car containing any quantity of material listed in Table 1 must be placarded [§172.504].
- When the aggregate 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 when transported by highway or rail [§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.
- The new ORGANIC PEROXIDE placard became mandatory 1 January 2011 for transportation by rail, vessel, or aircraft and becomes mandatory 1 January 2014 for transportation by highway. The placard will enable transport workers to readily distinguish peroxides from oxidizers [§172.552].

PLACARDING TABLES

[§172.504(e)]

TABLE 1

Category of material (Hazard Class or division number and additional description, as appropriate)	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 (Materials poisonous by inhalation (see §171.8)).....	POISON INHALATION HAZARD.....
7 (Radioactive Yellow III label only).....	RADIOACTIVE ¹

¹RADIOACTIVE placard also required for exclusive use shipments of low specific activity material and surface contaminated objects transported in accordance with §173.427(b)(4) and (5) or (c) of the subchapter.

TABLE 2

Category of material (Hazard Class or division number and additional description, as appropriate)	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 materials poisonous by inhalation).....	POISON.....
6.2.....	(None).....
8.....	CORROSIVE.....
9.....	Class 9 (See §172.504(f)(9)).....
ORM-D.....	(None).....

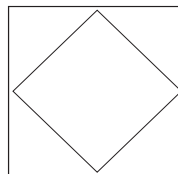
IDENTIFICATION NUMBER DISPLAYS



§172.332

Appropriate placard must be used with orange panel.

IDENTIFICATION NUMBER MARKINGS ON ORANGE PANELS OR APPROPRIATE PLACARDS MUST BE DISPLAYED ON: (1) Tank Cars, Cargo Tanks, Portable Tanks, and other Bulk Packagings; (2) Transport vehicles or freight containers containing 4,000 kg (8,820 lbs) in non-bulk packages of only a single hazardous material having the same proper shipping name and identification number loaded at one facility and transport vehicle contains no other material, hazardous or otherwise; and (3) transport vehicles or freight containers containing 1,000 kg (2,205 lbs) of non-bulk packages of materials poisonous by inhalation in Hazard Zone A or B. See §§172.301(a)(3), 172.313(c), 172.326, 172.328, 172.330, and 172.331.



§172.527

Square white 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].

This Chart is available online at the following link: <http://phmsa.dot.gov/hazmat>



U.S. Department of Transportation

Pipeline and Hazardous Materials Safety Administration

USDOT/PHMSA/OHMIT/PHH-50
1200 New Jersey Avenue, SE
Washington, D.C. 20590
Phone: (202) 366-4900
Email: training@dot.gov

PHH50-0138-0413

STRAIGHT BILL OF LADING

(Name of Carrier) **P.K. Contracting, Inc.**

at **1965 Barrett, Troy, MI**

Date MAY 1, 2021

Shipper's No. 593

the property described below, in apparent good order, except as noted, marked, consigned, and destined as indicated below, which said company agrees to carry to its usual place of delivery at said destination as indicated below.

Consigned to:

P.K. Contracting, Inc. 1965 Barrett, Troy, MI 48084

Destination:

VARIOUS ROUTES

Route:

VARIOUS ROUTES

Delivering Carrier:		Truck No. 593		USDOT HAZMAT NO. : 061610 551 016SU			
No. of packages	Type of package	HM	Description of materials, special marks, and exceptions	Weight	Labels required	P.K. Designation	P.K. Category
1	Tank	X	UN1090, FLAMMABLE LIQUID, 3, PG II	95 LBS	FLAMMABLE	ACETONE	SOLVENT
1	Tank	X	UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (CYCLOHEXANAMINE,4,4-METHYLENEBIS(N-(1-METHYLPROPYL)-), 8, III	730 LBS	CORROSIVE	POLYUREA, LPM 5000 WHITE	PLURAL COMPONENT
1	Tank	X	UN2735, AMINES, LIQUID, CORROSIVE, N.O.S., (ALICYCLIC AMINE, 4,4 - BIS(SECBUTYLAMINO) DICYCLOHEXYLMETHANE), 8, II	175 LBS	CORROSIVE	POLYUREA, LPM 5001 YELLOW	PLURAL COMPONENT
1	Tank		NOT REGULATED	500 LBS	NONE	CROSSLINKER 5050, PART B	PLURAL COMPONENT
1	Tank		NOT REGULATED	400 LBS	NONE	GLASS BEADS, REFLECTORIZING	GLASS BEADS
1	Tank		UN1066, NITROGEN, COMPRESSED, 2, PG		Non-flammable	NITROGEN, COMPRESSED	NITROGEN
<p><i>This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.</i></p>						<p>HM EMERGENCY RESPONSE TELEPHONE NUMBER 1-800-424-9300 (CHEMTREC)</p>	<p>PLACARDS REQUIRED NONE</p>

Shipper: **P.K. Contracting, Inc.**

Agent: **P.K. Contracting, Inc.**

Per: _____ Date: _____

Per: _____ Date: _____



MAIN OFFICE
 1965 Barrett Drive
 Troy, MI 48084-5372
PHONE 248-362-2130
FAX 248-362-4969

West MI Office
 8139 Douglas Ave
 Kalamazoo, MI 49009
PHONE 269-385-3222
FAX 269-385-3264

North MI Office
 6344 Blue Road (M-55)
 Lake City, MI 49651
PHONE 231-839-4430
FAX 231-839-4737

Central MI Office
 3900 S. US-27
 St. Johns, MI 48879
PHONE 989-292-4400
FAX 989-292-4401

TOOL TALK SAFETY MEETING

TOPIC(S): HAZARD COMMUNICATION (May 17, 2021)

DATE: **DIVISION:**

Foreman/Presenter's Name:

The presenter is to record attendance by printing the first and last name of each person in attendance.

Printed Name	Printed Name

ADDITIONAL TOPICS AND/OR SUGGESTIONS FOR NEXT TOOL TALK
