

### CATEGORY OF HAZARDOUS MATERIALS

Class No.	Division No. (if any)	Name of class or division	49 CFR reference for definitions
None		Forbidden materials	173.21
None		Forbidden explosives	173.54
1	1.1	Explosives (with a mass explosion hazard)	173.50
1	1.2	Explosives (with a projection hazard)	173.50
1	1.3	Explosives (with predominantly a fire hazard)	173.50
1	1.4	Explosives (with no significant blast hazard)	173.50
1	1.5	Very insensitive explosives, blasting agents	173.50
1	1.6	Extremely insensitive detonating substances	173.50
2	2.1	Flammable gas	173.115
2	2.2	Non-flammable compressed gas	173.115
2	2.3	Poisonous gas	173.115
3	3	Flammable and combustible liquid	173.123
4	4.1	Flammable solid	173.124
4	4.2	Spontaneously combustible material	173.124
4	4.3	Dangerous when wet material	173.124
5	5.1	Oxidizer	173.127
5	5.2	Organic peroxide	173.128
6	6.1	Poisonous materials	173.132
6	6.2	Infectious substance (Biologic agent)	173.134
7		Radioactive material	173.403
8		Corrosive material	173.138
9		Miscellaneous hazardous material	173.140
None		Other regulated material, ORM-D	173.141

### TABLE OF CONVERSION FACTORS FOR SI UNITS

Measurement	SI to U.S. standard	U.S. standard to SI
Activity	1 TBq = 27 Ci	1 Ci = 0.027 TBq
Length	1 cm = 0.3937008 in 1 m = 3.28084 ft	1 in = 2.54000 cm 1 ft = 0.304800 m
Thickness	1 mm = 0.03937008 in	1 in = 25.4000 mm
Mass (weight)	1 kg = 2.20462 lb 1 g = 0.03527397 oz	1 lb = 0.453592 kg 1 oz = 28.3495 g
Pressure	1 kPa = 0.1450377 psi 1 Bar = 100 kPa = 14.504 psi 1 kPa = 7.5 mm Hg	1 psi = 6.89476 kPa 1 psi = 0.06896 Bar 1 kPa = 7.5 mm Hg
Radiation level	1 Sv/hr = 100 rem/hr	1 rem/hr = 0.01 Sv/hr
Volume (liquid)	1 L = 0.2641720 gal 1 mL = 0.03381402 oz 1 m <sup>3</sup> = 35.31468 ft <sup>3</sup>	1 gal = 3.785412 L 1 oz = 29.57353 mL 1 ft <sup>3</sup> = 0.02831685 m <sup>3</sup>
Density	1 kg/m <sup>3</sup> = 0.06242797 lb/ft <sup>3</sup>	1 lb/ft <sup>3</sup> = 16.01846 kg/m <sup>3</sup>
Force	1 Newton = 0.2248 Pound-force	1 Pound-force = 4.448 N

### FLASH POINT FOR CLASS 3 FLAMMABLE LIQUIDS

Packing group	Flash point (closed cup)	Initial boiling point
I	>23 °C (73 °F)	<35 °C (95 °F)
II	>23 °C (73 °F)	>35 °C (95 °F)
III	>23 °C (73 °F), >60 °C (140 °F)	>35 °C (95 °F)

### QUICK REFERENCE

DEFINITIONS	PAGE 105 (171.8)
RULES OF CONSTRUCTION	PAGE 118 (171.9)
N CODES	PAGE 429
NON-BULK PACKAGE STANDARD	PAGE 1094 (178.500)
AMMO/EXPLOSIVE PACKING	PAGE 578 (163.62)

### BASIC DESCRIPTION FORMAT

UN Number, Proper Shipping Name, Hazard (subsidiary hazard), packing group

#### EXAMPLE

UN1662, NITROBENZENE, 6.1, II

#### IMPORTANT

Packing group in roman numerals. II **NOT 2**

IF Waste product

Put waste in front of proper shipping name

### OTHER INFORMATION

Initial training	Within 90 days
Refresher training	Every 2 years(3 years listed in cfr49)
difference between civil and criminal?	Criminal is willingly and recklessly
Ammo packing group?	None
Class 6.1	Cannot be a gas
Mixture	Going to separate during shipping
Solution	Won't separate during shipping
Packing paragraph	<b>Always put 173 first (173.??)</b>
Limited quantity exceptions weight	Cannot exceed 30kg total
Grandfather clause (class 1) exempted from marking and labeling requirements	owned prior to jan 1, 1990 providing nothing has been removed or added.



By **kifall**  
[cheatography.com/kifall/](http://cheatography.com/kifall/)

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