

## Attachment 14

## MARKING HAZARDOUS MATERIALS

**A14.1. General Requirements.**

A14.1.1. Mark hazardous materials according to MIL-STD-129 and this manual.

A14.1.2. Labels may be used to meet marking requirements to the extent they meet all application, placement, size, legibility, and durability requirements for marking.

A14.1.3. To the greatest extent possible, place packages on aircraft pallets (e.g., 463L) and within vehicles/trailers so that markings required by this attachment and labels required by Attachment 15 are visible.


A14.1.4. When an aircraft pallet or vehicle/trailer contains like items, ensure at least one package has required markings/labels visible. When placement on an aircraft pallet, on a vehicle/trailer or within a freight container prevents marking and labeling to be visible, use a marking board according to A14.3.11.

A14.1.5. Use a marking board according to A14.3.11. to identify unpackaged large and robust Class 1 articles which are marked with a Proper Shipping Name authorized prior to 1 January 1990.

A14.1.6. The full name and address of the shipper and consignee is required. Attachment of a shipping label as required by MIL-STD-129 meets this requirement.

**A14.2. UN Packaging Specification Markings.** UN specification markings are mandatory for all packages of hazardous materials unless exempted by paragraph A3.1.1. or a separate approval. A description of the codes and sequence of information contained in the UN specification marking is identified in Table A14.1. for non-bulk packagings and Table A14.2 for large packagings (explosives only). A sample of how the UN specification markings look is in Figure A14.1., Figure A14.2., Figure A14.3., and Figure A14.4.


**Table A14.1. UN Specification Marking Codes and Sequence of Instruction.**

	The symbol used to certify that the packaging complies with UN recommendations. For embossed metal packagings the capital "UN" can be applied as the symbol.	
<b>4G</b>	This is a two to four position code.	
	The first position indicates the type of packaging and will be one of the following numbers:	
		1 = Drum
		2 = Wooden barrel
		3 = Jerrican
		4 = Box
		5 = Bag
		6 = Composite packaging
		7 = Pressure receptacle

	The second position indicates the type of material that the container is made of. For composite packagings, two capital letters (second and third positions) is used to indicate the type of materials. The first letter indicates the material of the inner receptacle and the second letter indicates the material of the outer packaging. For combination packagings, only the code for the outer packaging is used. The following letters indicate the type of materials:
	A = Steel (all types and surface treatments)
	B = Aluminum
	C = Natural wood
	D = Plywood
	F = Reconstituted wood
	G = Fiberboard
	H = Plastic materials
	L = Textile
	M = Paper, multi-wall
	N = Metal (other than steel or aluminum)
	P = Glass, porcelain, or stoneware
	The third position (fourth position for composite packagings) is a number indicating the category of packaging within the same type (e.g., 1A1 [non-removable head steel drum], 1A2 [removable head steel drum], 6HG1 [plastic receptacle with outer fiber drum] 6HG2 [plastic receptacle with outer fiberboard box]). <b>Note:</b> 4A1, 4A2, 4B1, and 4B2 are obsolete UN codes, but may continue to appear as part of the markings. Composite packagings with natural wood outers have no fourth position number indicating category within the type.
<b>The following special codes may follow the packaging type code:</b>	
<b>V</b>	Special packaging meeting the tests specified in 49 CFR Subparagraph 178.601(g)(2).
<b>W</b>	Packaging of the same type as specified by the UN requirements, but not meeting the same general construction requirements. The transport of such packagings is subject to written approval from the competent authority. For approval see 49 CFR Paragraph 178.601(h).
<b>U</b>	Packagings meeting the requirements of 49 CFR Subparagraph 178.609(i)(3)
<b>Class 6.2</b>	Packaging s meeting the requirements of 49 CFR Section 178.609
<b>X1.4 or X15</b>	Identified first is the PG the configuration has been successfully tested too. X is used for PG I. Y is used for PG II. Z is used for PG III. Items of a lesser (less hazardous) PG may be packaged in a packaging that has been tested to a higher PG provided the requirements of the test report are complied with. For single packagings, the relative density, rounded off to the first decimal follows the PG, for which the container has been tested. This may be omitted when the relative density does not exceed 1.2. for packagings without inner packagings intended to contain liquids. For packagings

	intended to contain solids or inner packagings, the PG is followed by the maximum gross weight, in kilograms, that the packaging configuration has been tested.
<b>100 or S</b>	For single packagings intended to contain liquids, the next marking indicates the maximum test pressure, in kPa, rounded down to the nearest 10 kPa which the container was tested (hydraulic test). For packagings intended to contain solids or inner packagings, use the letter "S." For air shipment of packagings intended to contain inner packagings, see A3.1.7.1. Also, if the inner packaging is plastic ensure the requirements of A3.1.3. are met.
<b>11</b>	The last two digits of the year during which the packaging was manufactured. Packagings of types 1H1, 1H2, 3H1, and 3H2 are also marked with the month of manufacture. The month of manufacture may be marked on the packaging in a different place than the UN specification packaging marking.
<b>USA</b>	The country authorizing the allocation of the mark.
<b>***</b>	The symbol of the party responsible for ensuring that the UN requirements have been met. The symbol is registered with the US DOT, Office of Hazardous Materials Transportation. In place of a symbol, the in-the-clear name of the party responsible for ensuring the UN requirements have been met can be used. The Department of Defense uses the symbol "DOD."
Reconditioned packagings are marked to indicate they have been properly reconditioned. This marking is applied near the initial marking and replaces the country and symbol of the party responsible for ensuring the UN requirements have been met, or be in addition to the initial marking. After reconditioning a packaging, the reconditioner applies the following markings in sequence:	
<b>USA</b>	The country in which the reconditioning was conducted.
<b>***</b>	The name or registered symbol of the reconditioner.
<b>93</b>	The year the packaging was reconditioned.
<b>R</b>	Enter the letter "R."
<b>L</b>	Enter the letter "L" for every packaging successfully passing the leakproofness test.

**Table A14.2. Large Packaging UN Specification Marking Codes and Sequence of Instruction.**

	The symbol used to certify that the packaging complies with UN recommendations. For embossed metal packagings the capital "UN" can be applied as the symbol.
<b>50A</b>	This is a three position code.
	The first two positions indicate the type of packaging and is one of the following numbers:
	50 = Rigid large packaging
	51 = Flexible large packaging
	The third position indicates the type of material that the container is made of. The following letters indicate the type of materials:
	A = Steel (all types and surface treatments)
	B = Aluminum

	C = Natural wood
	D = Plywood
	F = Reconstituted wood
	G = Fiberboard
	H = Plastic materials
	M = Paper, multi-wall
	N = Metal (other than steel or aluminum)
The following special codes may follow the packaging type code:	
<b>W</b>	Packaging of the same type as specified by the UN requirements, but not meeting the same general construction requirements. The transport of such packagings is subject to written approval from the competent authority. For approval see 49 CFR Section 178.955.
<b>X</b>	Identified the PG the configuration has been successfully tested too. X is used for PG I. Y is used for PG II. Z is used for PG III. Items of a lesser (less hazardous) PG may be packaged in a packaging that has been tested to a higher PG provided the requirements of the test report are complied with.
<b>MM YY</b>	The month (designated numerically) and year (last two digits) of manufacture.
<b>USA</b>	The country authorizing the allocation of the mark.
<b>***</b>	The symbol of the party responsible for ensuring that the UN requirements have been met. The symbol is registered with the US DOT, Office of Hazardous Materials Transportation. In place of a symbol, the in-the-clear name of the party responsible for ensuring the UN requirements have been met can be used. The Department of Defense uses the symbol "DOD."
<b>2500</b>	The stacking test load in kilograms (kg). For Large Packagings not designed for stacking the figure "0" is shown.
<b>1000</b>	The maximum permissible gross mass or for flexible Large Packagings, the maximum net mass in kg.

Figure A14.1. Sample of UN Non-bulk Specification Packaging Marking for Solids.

**Example of a Single or Combination Marking:**

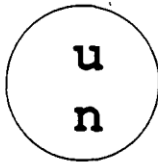
a	b	c	d	e	f	g	h
	<b>4G / Y 7.4 / S / 99 / USA / DOD</b>						
	(a) The United Nations Symbol (b) Type of Packaging Code (c) Packing Group: <div style="margin-left: 100px;">             X = PG I, II and III              Y = PG II and III              Z = PG III Only           </div>						
	(d) Maximum Gross Mass (In Kilograms) (e) Letter "S" , Solid or Inner Packagings (f) Year of Manufacture or assembly (g) State (Country) authorizing mark (h) Symbol of Manufacturer/Certifier						

Figure A14.2. Sample of UN Non-bulk Specification Packaging Marking for Liquids.

**Example of marking for single packaging to contain liquid:**


a	b	c	d	e	f	g	h
	<b>1A1 / Y 1.3 / 100 / 99 / USA / DOD</b>						
	(a) The United Nations Symbol (b) Type of Packaging Code (c) Packing Group: <div style="margin-left: 100px;">             X = PG I, II, III              Y = PG II and III              Z = PG III Only           </div>						
	(d) Relative Density (Show if > 1.2) (e) Test Pressure (in Kilopascals) Ref: A 3.1.7.2 <div style="margin-left: 100px;">             PG I – not less than 250 kPa              PG III (Hazard class 3 or 6.1) – not less than 80 kPa              All others – not less than 100 kPa (example is PG II or PG III Haz Class 8)           </div>						
	(f) Year of Manufacture or assembly (g) State (Country) authorizing mark (h) Symbol of Manufacturer						

Figure A14.3. Sample of UN Specification Marking for UN Pressure Receptacles.

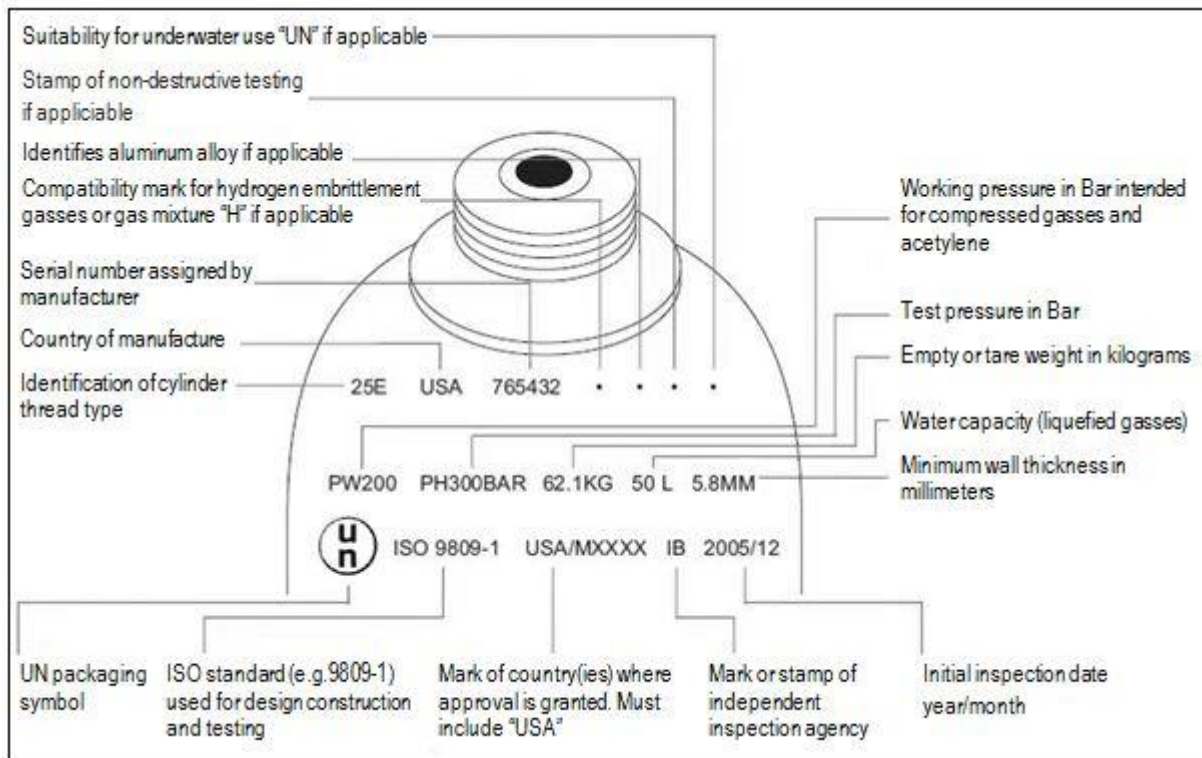
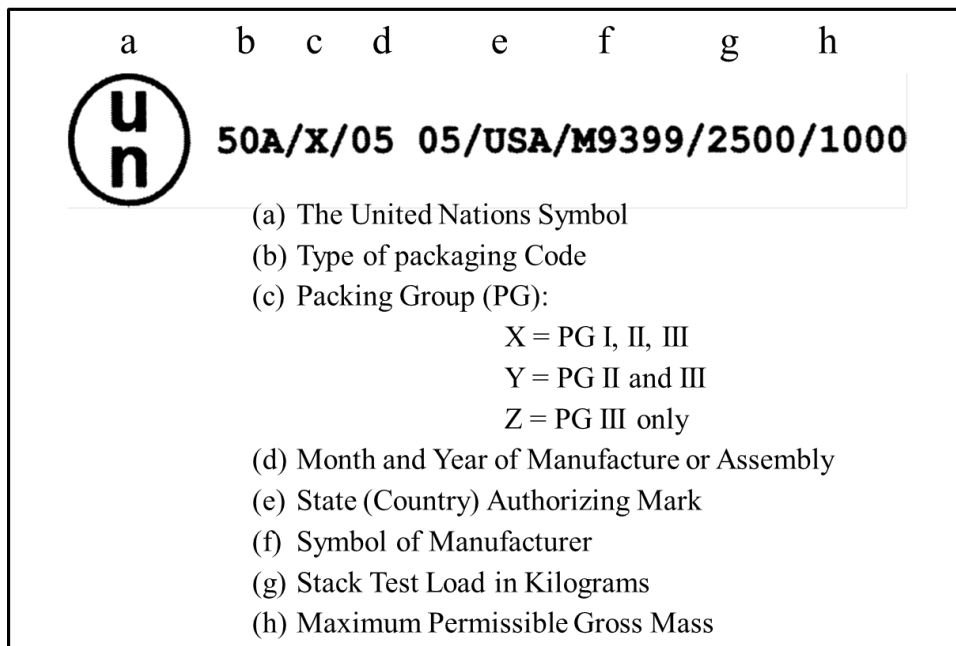


Figure A14.4. Sample of UN Large Packaging Specification Packaging Marking



**A14.3. General Hazard Communication and Handling Markings.**

A14.3.1. Proper Shipping Name and Identification Number. Unless otherwise specified, mark all packages, including overpacks, containing hazardous materials with the PSN and identification number shown in the alphabetical listing of items in Table A4.1. The identification number marking preceded by “UN”, “NA”, or “ID” as appropriate is marked in characters at least 12 mm (0.47 inches) high. Packages with a maximum capacity of 30 liters (8 gallons) or less, 30 kg (66 pounds) maximum net mass, or cylinders with a water capacity of 60 liters (16 gallons) or less are marked with characters at least 6 mm (0.24 inches) high. Packages with a maximum capacity of 5 liters (1.32 gallons) or 5 kg (11 pounds) or less are marked in a size appropriate for the size of the package.

A14.3.1.1. Unless excepted by this attachment, articles not requiring packaging require the PSN and identification number displayed on the item itself or on a cradle, handling, storage or launching device.

A14.3.1.2. Mark the appropriate technical name in parenthesis following the proper shipping name when required by A4.5.3.

A14.3.1.3. Italicized descriptive words (see A4.5.3.) used as part of the PSN are optional.

A14.3.1.4. Accessorial hazards do not require marking.

A14.3.1.5. Do not use abbreviations except "w" (with), "w/o" (without), and "N.O.S." (Not Otherwise Specified).

A14.3.2. Hazardous Substance. Mark all packages containing a hazardous substance with the letter “RQ” in association with the PSN. If the PSN does not identify the hazardous substance by name, mark one of the following descriptions on the package , in parentheses, in association with the PSN:

A14.3.2.1. The technical name of the hazardous substance.

A14.3.2.2. The waste stream number.

A14.3.2.3. The letters “EPA” followed by the word “ignitability,” “corrosivity,” “reactivity,” or “EP toxicity,” as appropriate, or the corresponding “D” number, as appropriate.

A14.3.3. Hazardous Waste. Mark hazardous waste shipments according to this manual, 49 CFR Part 172, 40 CFR Section 262.32, and MIL-STD-129. Proper Shipping Name does not require the word “waste” if the package bears the EPA markings as prescribed in 40 CFR Section 262.32.

A14.3.4. Inhalation Hazard. Mark each package containing any material that is poisonous by inhalation "Inhalation Hazard." The marking is not required if the words “INHALATION HAZARD” appear on the label.

A14.3.5. Permits, CAAs, and COEs. Mark each package authorized by a DOT Special Permits, or a COE with permit or COE number. CAAs are marked with the approval number in association with the PSN and ID number, if required by the CAA. A package marked with a DOT Exemption number (e.g., “DOT E-4368”) is authorized in place of a Special Permit number provided use is allowed by the accompanying Special Permit document required by paragraph 2.4.

A14.3.6. Orientation Marking (This Side Up). Pack inside containers used to ship liquid hazardous material within a combination packaging or overpack with filling holes up.

A14.3.6.1. Mark with orientation arrows meeting the requirements of 49 CFR Section 172.312, on two opposite sides of the outer package or overpack and ensure the arrows point in the correct upright direction. Orientation labels may be used to meet this marking requirement. The lettering "THIS SIDE UP", "THIS END UP" or "UP" may be used in conjunction with orientation labels.

A14.3.6.2. This requirement does not apply to materials in inside metal cans of the nonrefillable type with spun-in head and base without replaceable caps or other closing device, liquids contained in manufactured articles which are leak-tight in all orientations, and packages with hermetically-sealed inner packagings.

A14.3.6.3. Orientation Markings are not required for single packaging when package orientation is obvious (e.g., drums, barrels, etc) or on freight containers.

A14.3.7. When an overpack (generally wooden or fiberboard) is used to consolidate one or more air eligible packages to form a single unit for convenience of handling or storage during transportation, apply markings required by this manual for individual containers, with the exception of UN specification markings. Also, mark "OVERPACK" on the outer container. The "OVERPACK" marking is at least 12 mm (0.5 inches) high.

A14.3.8. Freight Containers. Freight containers do not require PSN and UN numbers of the contents. Ensure contents are accessible (see paragraph 1.11) and be labeled to indicate the hazard class/division of the contents, and if the contents are cargo aircraft only in accordance with Attachment 15. A marking board may be used in lieu of applying markings directly to the freight container. (see A14.3.11).

A14.3.9. Unitized Cargo. Ensure identical hazardous materials unitized on a warehouse pallet or skid has at least one package with the UN specification markings exposed on the outside of the unit load (unless exempt by paragraph A3.1.1.).

A14.3.10. Shrink Wrap Packages. When stretch or shrink wrap film is used to secure a warehouse pallet or skid, ensure proper shipping name, identification number, and UN specification markings (if applicable) are visible. Use pressure-sensitive labels or a marking board to identify contents if proper shipping name and identification number markings are not visible on one or more packages. If UN specification markings are not visible on at least one of like packages, comply with A14.3.7.

A14.3.11. Marking Boards. Marking boards (wood, fiberboard, tags, etc.) may only be used in lieu of individual package markings required by this attachment and labels required by Attachment 15 for items on warehouse pallets/skids prepared according to Service approved unit load drawings under both the following conditions:

A14.3.11.1. When it is determined to be impractical or uneconomical to mark/remark each package on a pallet or skid.

A14.3.11.2. The entire pallet/skid need not be broken down at any time during transportation until delivery to the customer.



A14.3.12. Limited Quantities. In addition to proper shipping name and UN identification number, and other markings required by this attachment, mark packages used for hazardous materials in limited quantities with the limited quantities marking identified in the following Figure.

**Figure A14.5. Limited Quantity Marking**



A14.3.12.1. Ensure the marking is durable, legible and of a size relative to the package as to be readily visible. Apply the marking on at least one side or one end of the outer packaging. Ensure the width of the border forming the square-on-point is at least 2 mm and the minimum dimension of each side is 100 mm unless the package size requires a reduced size marking that may be no less than 50 mm on each side and the width of the border forming the square on point may be reduced to a minimum of 1 mm.

A14.3.12.2. The top and bottom portions of the square-on-point and the border forming the square-on-point is black and the center white or of a suitable contrasting background and the symbol “Y” is black and located in the center of the square-on-point and clearly visible.

A14.3.13. Excepted Quantities. Mark packages used for hazardous materials in excepted quantities as required by A19.2.13. Excepted quantities do not require other package markings required by this attachment.

A14.3.14. Consumer Product Warnings. An article, package, or container may bear a manufacturer’s consumer warning symbol or statement. Presence of such a symbol or statement does not necessarily mean the article or contents meet the classification criteria as a hazardous material for military air transportation. Reference the Hazardous Material Information Resource System (HMIRS) or the product’s Safety Data Sheet if hazard classification information is needed.

A14.3.15. Engines and machinery UN3528, UN3529, and UN3530 do not require markings unless packaged, crated, or otherwise enclosed to prevent ready identification.

**A14.4. Marking Requirements Applicable to Class.** These markings are in addition to the General Markings required by A14.3.

A14.4.1. Class 1.

A14.4.1.1. Containers packaged before January 1, 1990 may be shipped both domestically and internationally by military air without the UN specification markings according to paragraph A3.3.1.10. Comply with all other marking requirements of this attachment. Ensure packages requiring a DOT or military/federal specification number specified by packaging paragraph in Attachment 27 are properly marked.

A14.4.1.2. Mark packages of explosives with an EX number or National Stock Number (as listed in the Joint Hazard Classification System) for each explosive. This does not apply if the explosive has an interim hazard classification issued according to A3.3.1.4. The EX number need not be marked when not required by 49 CFR Section 173.56. The EX number is an explosive classification approval number, it is not the same as a DOT-SP number.

A14.4.1.3. Mark "THIS SIDE UP" on the top of packages of explosives containing liquids capable of being improperly oriented.

A14.4.1.4. When explosives are installed according to A3.3.1.9., mark the following statement near each explosive device: "WARNING - EXPLOSIVE DEVICE EMBEDDED IN \*\*\*" (\*\*\*) identifies location of device; e.g., window, door, frame, etc).

A14.4.1.5. Display the PSN and UN number on explosives authorized by this manual to be shipped unpacked. That marking may be on the item, its cradle, or handling, storage, or launching device. This marking is not required for items hand-carried (see paragraph 3.5.), unpackaged for airdrop (see A5.2.1.), or secured in a tactical vehicle or equipment (see A5.2.2.).

A14.4.1.6. For Grandfathered shipments, mark packages with DOT or military/federal specification number when specified by packaging paragraph in Attachment 27.

#### A14.4.2. Class 2.

A14.4.2.1. For ethylene oxide prepared and certified according to A6.13.4., mark the top head of the drum "THIS END UP."

A14.4.2.2. Mark fire extinguishers prepared and certified according to A6.7.3. to indicate year of test and "MEETS DOT REQUIREMENTS." The words "This extinguisher meets all requirements of 49 CFR Section 173.306" may be displayed in place of "MEETS DOT REQUIREMENTS" on extinguishers manufactured before January 1, 1976.

A14.4.2.3. Each outer packaging of cryogenic liquids prepared and certified according to A6.11. require orientation arrows to indicate upright position and special orientation instructions marked on the cylinder (e.g., THIS END UP). Ensure cryogenic liquids meet the marking requirements in 49 CFR Section 178.57. The total rate of venting in standard cubic feet per hour (SCFH) is marked on the top head or valve protection band in letters at least one-half inch high as follows "VENT RATE\*\*SCFH" (with the asterisks replaced by the number representing the total rate of venting, in SCFH). Packages meeting ICAO packing instruction 202 are marked with the words "DO NOT DROP – HANDLE WITH CARE," and place the words "KEEP UPRIGHT" at 120 degree intervals around the package or on each side of the package.

A14.4.2.4. Mark outer package "INSIDE CONTAINERS COMPLY WITH PRESCRIBED SPECIFICATIONS" for the following:

A14.4.2.4.1. Aerosols and compressed gases prepared and certified according to A6.2.

A14.4.2.4.2. Refrigerant gases or engine-starting fluid prepared and certified according to A6.4.6. and A6.4.7.

A14.4.2.4.3. Receptacles and cylinders identified in A3.3.2.7. requiring a strong outer packaging.

A14.4.2.4.4. Cylinders packaged according to A3.3.2.3.2 to protect valves from damage or accidental functioning during transport.

A14.4.2.4.5. Liquefied Petroleum Gas prepared according to A6.6.2.

A14.4.2.5. Aerosols (UN1950) may be marked with a PSN authorized by 49 CFR, IATA, or ICAO, not identified in Table A4.1.

A14.4.2.6. Mark cylinders containing unodorized Liquefied Petroleum Gas (LPG) "NON-ODORIZED" or "NOT ODORIZED" in letters not less than 6.3 mm (0.25 inches) in height near the marked proper shipping name. This marking is not required on Specification 2P or 2Q container or a Specification 39 cylinder containing LPG.

#### A14.4.3. Class 3.

A14.4.3.1. When shipping flammable liquids, mark the shipping container with the flash point.

#### A14.4.4. Class 5.

A14.4.4.1. For bromine pentafluoride or bromine trifluoride prepared and certified according to A9.11. using a DOT 3E1800 cylinder, mark the outer packaging "INSIDE CONTAINERS COMPLY WITH PRESCRIBED SPECIFICATIONS."

A14.4.4.2. Oxygen generator, chemical. Mark the outside surface of a chemical oxygen generator to indicate the presence of an oxygen generator (e.g., "oxygen generator, chemical"). Clearly mark the outside surface of equipment containing a chemical oxygen generator that is not readily apparent (e.g., a sealed passenger service unit) to indicate the presence of the oxygen generator (example: "Oxygen Generator Inside").

#### A14.4.5. Class 6.

A14.4.5.1. Permanently mark outside plastic containers used as single or composite packaging for materials meeting the definition of Division 6.1 toxic (poisonous materials), by embossment or other durable means, with the word "POISON" in letters of at least 6.3 mm (1/4 inch) in height. Additional text or symbols may be included in the marking. The marking is located within 15 cm (6 inches) of the packaging's closure.

A14.4.5.2. Mark Category A Infectious Substance meeting the requirements specified in 49 CFR Section 178.609 as follows:

A14.4.5.2.1. A UN specification marking affixed by the manufacturer with the text "Class 6.2" noted per packaging manufacturer requirements. Class 6.2 packaging may also include the letter "U" inserted immediately following the packaging identification code marking in the UN specification marking when the packaging meets the requirements of 49 CFR Subparagraph 178.609(i)(3).

A14.4.5.2.2. Mark all packages containing infectious substances durably and legibly on the outside of the package with the name and telephone number or a person responsible for the shipment.

A14.4.5.3. For packages containing UN3373, mark outer packagings with the words “BIOLOGICAL SUBSTANCE, CATEGORY B.” and “UN3373.” Mark UN3373 within a square-on-point shaped border with each side at least 50mm (2 inches). Ensure the width of the border line is at least 2mm, and the letters and numbers are at least 6mm in height. Ensure the background is of a contrasting color from the package.

A14.4.5.4. Packages containing “BIOLOGICAL SUBSTANCE, CATEGORY B” are marked to identify name and phone number for contact in an emergency.

A14.4.6. Class 7.

A14.4.6.1. General Requirements. In addition to other markings required by this attachment, the following markings are required on all Excepted packages, Types IP-1, IP-2, IP-3, Type A, Type B(U) or Type B(M) packages:

A14.4.6.1.1. Mark each package of radioactive materials over 50 kg (110 pounds) to show the gross weight including the unit of measurement marked on the outside of the package.

A14.4.6.1.2. When dry ice is used as a refrigerant, mark the PSN, UN Number, and net quantity on the outer package.

A14.4.6.1.3. Markings are at least 12 mm high, except for packages of 30 L or 30 kg capacity or less have a minimum height of 6 mm.

A14.4.6.2. Excepted Packages.

A14.4.6.2.1. Mark packages containing radioactive material meeting the definition of an excepted package with “Radioactive Material, Excepted Package.” A commercial label may be used for this marking.

A14.4.6.2.2. For limited quantities prepared and certified according to A11.5.4., the package is not required to be marked with the PSN provided it is marked with the identification number preceded by the letters “UN” within a diamond.

A14.4.6.3. Industrial Packages.

A14.4.6.3.1. Mark each package of radioactive material that meets the requirements for Types IP-1, IP-2, or IP-3 packaging on the outside of the package with the words “TYPE IP-1” “TYPE IP-2” or “TYPE IP-3” as appropriate. Do not mark a package that does not meet these requirements.

A14.4.6.3.2. Mark on the outside of Type IP-1, Type IP-2, or Type IP-3 packaging with the international vehicle registration code of the country of origin of the design. The international vehicle registration code for packages designed in the United States is the symbol “USA.”

A14.4.6.3.3. Mark on the outside of Type IP-1, Type IP-2, or Type IP-3 packaging with the name of the package manufacturer, or other identification markings as required by approval certificate issued by the competent authority.

A14.4.6.4. Type A Packages.

A14.4.6.4.1. Mark each package of radioactive material that meets the requirements for a Type A package with the words "TYPE A". Do not mark a package that does not meet these requirements.

A14.4.6.4.2. Mark on the outside of Type A packagings with the international vehicle registration code of the country of origin of the design. The international vehicle registration code for packages designed in the United States is the symbol "USA."

A14.4.6.4.3. Mark on the outside of Type A packages with the name of the package manufacturer, or other identification markings as required by approval certificate issued by the NRC or the US Competent Authority.

A14.4.6.5. Type B Packages.

A14.4.6.5.1. Mark each package of radioactive material that meets the requirements for Type B(U) or Type B(M) packaging on the outside of the package with the words "TYPE B(U)" or "TYPE B(M)" as appropriate. Do not mark a package that does not meet these requirements.

A14.4.6.5.2. Identification mark allocated to the design by the NRC or the US Competent Authority.

A14.4.6.5.3. Serial number to uniquely identify each packaging which conforms to the design.

A14.4.6.5.4. Mark each outer packaging with a trefoil radiation symbol meeting the requirements of 49 CFR Part 172 Appendix B.

A14.4.7. Class 8.

A14.4.7.1. Mark the outer container of chemical kits prepared and certified according to A12.6. "CHEMICAL KITS" or "FIRST AID KITS" as applicable.

A14.4.8. Class 9.

A14.4.8.1. Wheelchairs for which the battery is removed and boxed for shipment according to A13.6., mark the outer container containing the battery "THIS SIDE UP." This applies any time a battery is authorized to be removed from its holder, boxed, and shipped with equipment.

A14.4.8.2. Unless packaged, crated, or otherwise enclosed to prevent ready identification, the marking of the article or equipment of Class 9 with the proper shipping name and identification number is not required.

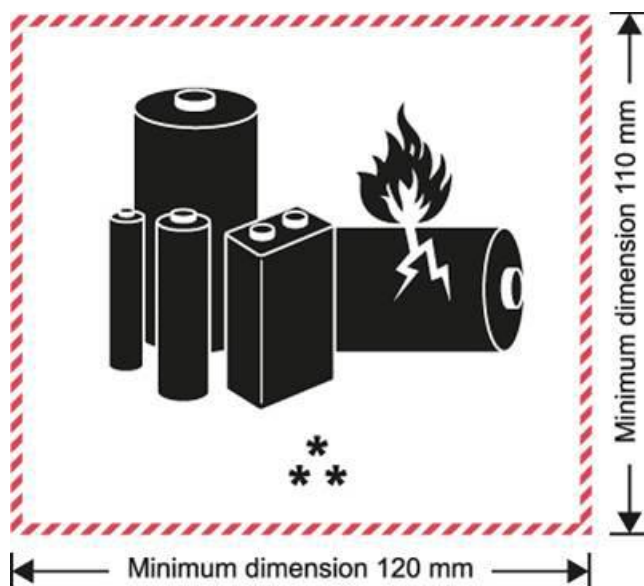
A14.4.8.3. Dangerous Goods in Machinery or Apparatus. For items shipped under the PSN "Dangerous Goods in Machinery" or "Dangerous Goods in Apparatus" mark the PSN and UN number on the machinery, apparatus, or packaging (unless exempted by A14.4.8.).

A14.4.8.4. Dry Ice. For checked baggage, mark package with "DRY ICE" or "CARBON DIOXIDE, SOLID" and net mass, or an indication the net mass is less than 2.5 kg (5.5 pounds). For all other packages, mark the outer package with "DRY ICE" or "CARBON DIOXIDE SOLID," "UN1845," and the net mass of the dry ice.

A14.4.8.5. Excepted Lithium Batteries. Mark each package with the lithium battery mark. This requirement would not apply to a package containing button cell batteries installed

in equipment (including circuit boards) or when no more than four lithium cells or two lithium batteries are installed in the equipment.

**Figure A14.6. Lithium Battery Mark**



A14.4.8.5.1. The mark is in the form of a rectangle with hatched edging. The mark may be not less than 120 mm (4.7 inches) wide by 110 mm (4.3 inches) high and the minimum width of the hatching is be 5 mm (0.2 inches) except markings of 105 mm (4.1 inches) wide by 74 mm (2.9 inches) high may be used on a package containing lithium batteries when the package is too small for the larger mark;

A14.4.8.5.2. The symbols and letters are black on white or suitable contrasting background and the hatching is red; and

A14.4.8.5.3. The “\*” is be replaced by the appropriate UN number(s) and the “\*\*\*” is replaced by a telephone number for additional information.

A14.4.8.5.4. Lithium metal cells and batteries (UN3090) are forbidden for transport aboard commercial passenger-carrying aircraft by 49 CFR. Mark the outer container(s) “LITHIUM METAL BATTERIES – FORBIDDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT” or label them with a “CARGO AIRCRAFT ONLY” label to be eligible for both commercial and military aircraft. Markings do not prohibit the movement of passengers on military or contracted cargo aircraft.