1.0. General.

As a senior noncommissioned officer, you will be responsible for preparing and inspecting various munitions shipments using different types of transportation assets. The success of our forces depend on your ability to successfully supply/resupply munitions assets. It is very important that you enforce safety and prescribed regulatory guidelines in everyday operations. Requiring safe practices as well as adhering to regulatory guidance will ensure the mission is accomplished efficiently and effectively without injury to personnel or damage to munitions or equipment.

To effectively prepare and transport munitions you must have a working knowledge and understanding of all applicable movement regulations, technical manuals, and all of the necessary forms.

This lesson will cover Inspect Munitions Prepared for Air Shipment.

2.0. Prepare Shipper's Declaration For Dangerous Goods.

When preparing munitions for aircraft shipment, the Shipper's Declaration for Dangerous Goods form must be prepared in two copies. One copy must be attached to the aircraft commander's manifest and the other must be attached to the station file manifest. Only one Shipper's Declaration for Dangerous Goods is required when shipments involve an item with multiple hazards. In this case, certify the shipment to the highest hazard class and identify other hazards by providing the proper shipping name (PSN), hazard class, and quantity in the supplemental block of the Shipper's Declaration for Dangerous Goods form.

Personnel certifying air shipments must have successfully completed one of the following courses listed in TM 38-250:

- Technical Transportation of Hazardous Materials.
- Defense Packaging of Hazardous Materials.
- Installation Traffic Management of Hazardous Materials.

2.1. Completed Shipper's Declaration for Dangerous Goods.

Refer to supplementary reading pages SR-43 and SR-44 for a sample of completed forms and labeling requirements.

3.0. Inspect Packages or Pallets of Munitions.

When inspecting munitions prepared for air shipment, you must use the applicable AR's, TM's, and outload drawings. Hazardous material must be inspected by a qualified representative of the air cargo terminal function before it is accepted into the aircraft system, i.e. the airlift control element (ALCE), departure control element (DACG), or the transportation control unit (TCU).

CAUTION: Reject packages showing evidence of leakage (moisture or staining) or other suspected damage until corrective action is taken to ensure the item is safe for shipment. Properly store suspect packages containing explosive material pending disposal or repair.

NOTE: Explosive Items. If an explosive item is dropped or damaged, the Transportation or Packaging Office will immediately contact safety or munitions personnel to determine disposal.

3.1. Originating Activity.

The originating activity must prevent the entry of improper shipment of hazardous material into the transportation cycle. Activities must establish a quality control program and consider a 100 percent inspection to ensure that hazardous materials are packed, marked, labeled, and certified to satisfy regulatory guidelines and safety airlift criteria. The originating activity must:

- Inspect each package to determine that the container is authorized and in condition for military air shipment of the material contained therein.
- Check shipper's certification for overall accuracy. Make sure the correct paragraph and subparagraph are cited.
- Immediately remove damaged or improperly prepared packages from the transportation system.
- Ensure overseas shipments are in performance oriented packaging (POP) containers.
- Periodically inspect cylinders or spheres to ensure they have been retested and marked as required by 49 CFR 173.34(e) and DoD DSAR 4145.25/AR 700-68/NAVSUPINST 4440.128B/MCO 10330.2B/ AFR 67-12, *Storage of Handling of Compressed Gasses and Cylinders*. Do not offer for transportation any cylinder or sphere not meeting this requirement.

3.2. Other Than Originating Activity.

Inspectors at other than the originating activity must:

- Remove improperly prepared or damaged containers from the transportation system and advise the shipper to immediately coordinate corrective action. Properly store suspect packages containing explosive material pending repair or disposition.
- Ensure overseas shipments are in POP containers.
- Review all Shipper's Declarations for Dangerous Goods for accuracy. Make sure special instructions and warning labels are complete and being followed.

- Do not violate compatibility requirements in the consolidation or makeup of cargo loads.

- Prepare SF 361, Transportation Discrepancy Report, according to AR 55- 38/NAVSPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15. or a SF 364 Report of Discrepancy, according to DLAR 4140.55/AR 735-11-2/NAVMATINST 4355.73 B/AFR 400-54/MCO 4430.3H.

3.3. Unitized, Palletized, Consolidated, or Containerized Loads.

The following instructions apply for unitized, palletized, consolidated, or containerized loads:

- Shipper's offering the material for air shipment must ensure loads are capable of being handled at the aerial ports.

- Unitized loads must be configured to be as stable as a single container.

- The load must provide easy accessibility to any individual package in case of inflight emergency.

- Do not use fiberboard or plywood sideboards on loads unless specifically required by TM 38-250.

- The load must be compatible.

- Be packaged, marked, labeled, and certified to the requirements of this manual and MIL-STD-129.

- Prepare containerized loads to:

    - Ensure air transportation personnel have access to the contents for inspection and the hazardous materials are accessible to the flight crew during flight. Provide a key to unescorted, locked containers to the aircraft commander or designated representative. See attachment 21 for items that can be nonaccessible.

    - Ensure installed equipment meets the restraint criteria of MIL-A-8421.

- Consolidated loads must also have the PSN, identification number, and hazard label on the overpack container for each hazardous material inside.

4.0. Certifying the Shipment.

A shipper's certification must be completed on the Shipper's Declaration for Dangerous Goods form and placed next to the address markings of each container. The Shipper's Declaration for Dangerous Goods form must be protected and waterproofed according to MIL-STD-129. Information on the Shipper's Declaration for Dangerous Goods form must be typed or preprinted. Pen and ink changes may be made to any of the keys. Changes to keys 2, 3, 8, 9, and 19 can be made by anyone without effecting the certification. All other key changes must be made by the certifying official. All personnel making a key change must sign above the change.

Unless otherwise specified, the shipper's certification is required on all air shipments of hazardous materials. Where specification packaging, marking, and labeling are expected by TM 38-250, the completed certificate is still required. Only one Shipper's Declaration for Dangerous Goods form is required when shipments involve a single item with multiple hazards. Certify the shipment to the highest hazard. Identify all hazards as prescribed in TM 38-250, Table A4-1, in the supplementary reading.

In instances where there are not enough copies of the Shipper's Declaration for Dangerous Goods form, a certified true copy is authorized. When making a certified true copy:

- Type all information verbatim from the original form and annotate on the true copy, for example: John Doe, 2 Jun 98.

- On the reverse side of the form, type or clearly print the words "True Copy" and the name of the individual who is certifying the form to be a true copy. This official must sign his/her name in longhand above the typed or printed name. The individual need not be a qualified inspector to certify the Shipper's Declaration for Dangerous Goods form is a true copy.

- Certifying hazardous materials is performed using attachment 17 of TM 38-250, which is provided in the supplementary reading.

PRACTICAL EXERCISE
LESSON 55B40C10

This practical exercise will enforce the information covered in this lesson. Answer the following questions. Cite the appropriate page and paragraph in the lesson that supports your answer.

1. How do you prepare a Certified True copy of the Shipper's Declaration for Dangerous Goods form?

ANSWER: _____

_____

_____

_____

REFERENCE: _____

2. Using the TM 38-250 Sup Reading Extract & Joint Hazard Classification system from lesson C09 Handout, identify the proper munitions markings to include proper shipping name, identification number, labels, and group for the following nomenclatures:

NOMENCLATURE	PROPER SHIPPING NAME	HAZARD CLASS	UN/ID #	LABEL	PACKAGING PARAGRAPH
Grenade, Smoke Screen:					
Mine, Claymore M18A1:					
Ctg, 5.56mm Ball:					

REFERENCE: _____

3. Before an air shipment can be accepted what agency or agencies must inspect the palletized munitions load?

ANSWER: _____

_____

REFERENCE: _____

PRACTICAL EXERCISE SOLUTION

1. Answer:

   a. Type all the information verbatim from the original Shipper's Declaration for Dangerous Goods form.

   b. Use the typed information in the signature block from the original form and annotate it on the true copy. On the reverse side of the form, type or print clearly the words "TRUE COPY" and the name of the individual who is certifying the form to be a true copy. The official must sign his or her name in longhand above the typed or printed name. The individual need not be qualified as an inspector to certify the Shipper's Declaration for Dangerous Goods form is a true copy.

   Reference: TM 38-250, A17.1.8.

2. Answer:

PROPER SHIPPING NAME	HAZARD CLASS	UN/ID #	LABEL	PACKAGING PARAGRAPH
a. Ammunition, Smoke	Class 1.4.G Explosive	0303	F	A5.9
b. Mines	Class 1.1.D Explosive	0137	I	A5.76
c. Cartridges for Small Arms, Insert	Class 1.4.S Explosive	0012	3	A5.21

   Reference: TM 38-250, Table A4-1.

3. Answer: Hazardous materials must be inspected by a representative of the air cargo terminal function before it is accepted into the aircraft system i.e., the airlift control element (ALCE), departure airfield control element (DACG), or the transportation control unit (TCU).

   Reference: Paragraph 3.0.

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SUPPLEMENTAL READING 55B40C10

ITEMS LISTING

A4.1. General Requirements. This attachment contains an alphabetical listing of the items covered in attachments 5 through 13. It also lists items prohibited for air transportation. Do not ship items listed as "FORBIDDEN" or "NOT ACCEPTED" by military air. Some items may not be classified as hazardous materials under this manual. An item listed in table A4.1 may not be regulated because it does not meet the definition of the hazard class. When an item is determined to be nonhazardous, the shipper must alert the carrier by annotating, "NONHAZARDOUS" in the address block of the DD Form 1387, **Military Shipment Label.** Ship the item as general cargo and the hazardous materials certification (Shipper's Declaration) is not required.

A4.2. Using Table A4.1. Table A4.1 identifies "hazardous"materials for the purpose of transportation. Table A4.1 identifies the eligibility of the material for air shipment, the proper shipping name (PSN), the hazard class, the identification number, the packing group (PG), the labels required, special provisions applicable to the material, and the basic packaging paragraph. To use table A4.1, locate the PSN of the hazardous material and follow the information identified on the same line with the PSN. Information that can be found in each column of table A4.1 is as follows:

A4.2.1. **Column 1: Symbols.** Column 1 contains symbols that pertain to the PSN as follows:

- The † (dagger) identifies the PSN as an extremely dangerous material. Transport on cargo aircraft only. Passengers are not permitted.
- The θ (theta) identifies a material that is less hazardous than a dagger item, but still requires transportation on cargo aircraft only. DoD duty passengers may be transported with these items without a deviation (see 2.2).
- The letter "D" means that the PSN applies only to domestic shipments. These items are also identified by "NA" numbers in column 4. For international shipments, select an alternate PSN that is not preceded by a "D". These items are identified by a "UN" or "ID" number in column 4.
- The "*" (asterisk) identifies that a technical name is not required in association with the PSN.

A4.2.2. **Column 2: Proper Shipping Names (PSN).** PSNs are listed alphabetically in all capital letters in table A4.1. They may be used in the singular or plural. New and revised PSNs in 49 CFR, part 172 are authorized PSNs under this manual, provided the packaging requirements do not change. Words which appear in lower case letters are descriptive words that do not constitute part of the PSN. A technical or chemical group name may be required in association with the PSN. When a technical name is required, enter it in parenthesis immediately following the PSN when marking and certifying the shipment.

A4.2.2.1. **Technical or Chemical Group Names.** The following exceptions constitute instances where entry of the technical or chemical group name is mandatory:

- **Not Otherwise Specified (N.O.S.) Items.** The term "N.O.S." in a PSN stands for not otherwise specified. Select a N.O.S. PSN based on the general hazard of the material when a more specific PSN is not listed in table A4.1. A technical name is required unless the proper shipping name is identified with an * in column 1 (see A4.2.1). See A4.4 for more information on generic N.O.S. items.
- **Organic Peroxides.** The technical name is required for Organic Peroxides. Technical names are listed below the appropriate generic PSN (in lower case letters) in table A4.1. Generic PSNs begin with the words "Organic Peroxide."
- **Mixtures and Solutions.** If the hazardous material is a mixture or solution of two or more hazardous materials, enter the technical names of at least two components most contributing to the hazards of the mixture or solution in parentheses after the PSN.

A4.2.2.2. **The Word "OR" in Table A4.1.** The word "or" in a sequence of PSNs means that PSNs in the sequence are synonymous. Therefore, use of any of the PSNs in the series is appropriate. Do not list all of the PSNs in the series when certifying the shipment.

A4.2.2.3. **The Word "SEE" in Table A4.1.** When one item references another item (by use of the word "see") and both names are in capital letters, either name may be used as the PSN. The dagger (†), theta (θ), not accepted, and forbidden designations applicable to the referenced entry also apply to the "see" entry.

A4.2.2.4. **Concentration Ranges.** When a shipping name includes a concentration range as part of the shipping description, the actual concentration being shipped (if it is in the range stated) may be used in place of the concentration range. For example, ship a hydrogen peroxide solution containing 30 percent peroxide as either "Hydrogen peroxide aqueous solution (with not less than 20 percent but not more than 40 percent hydrogen peroxide)" or "Hydrogen peroxide aqueous solution (with 30 percent hydrogen peroxide)."

A4.2.2.5. **Hazardous Wastes.** The PSN for a hazardous material that is a hazardous waste must include the word "waste" preceding the name of the material (i.e., waste, acetone). All packaging and certification requirements outlined in this manual must be met for hazardous waste. Label hazardous waste shipments with the appropriate hazard class label and a properly completed hazardous waste label. Mark shipments according to 49 CFR 172, 40 CFR 262.32, and MIL-STD-129.
A4.2.2.6. **Paint or Paint Related Material.** Except when otherwise specified, use the PSN "PAINT" for paint, lacquer, enamel, stain, shellac, varnish, liquid aluminum, liquid bronze, liquid gold, liquid wood filler, and liquid lacquer base. Use the PSN "PAINT-RELATED MATERIAL" for paint thinning, reducing, or removing compound. However, if a substance is specifically listed by name in table A4.1, use that PSN and corresponding packaging paragraph.
A4.2.3. **Column 3: Hazard Class and Division.** Column 3 contains class and division information. "FORBIDDEN" and "NOT ACCEPTED" items are also identified in this column. Do not transport "FORBIDDEN" and "NOT ACCEPTED" items by military aircraft. The hazard class and division is a numerical identification which describes the class (type) of primary hazard involved and if appropriate, its division within the class. When this manual references hazard class, that includes any division number if appropriate. For Class 1 (explosives), the compatibility group is also given. See A4.5 for further information on class/divisions.
A4.2.4. **Column 4: Identification Number.** Column 4 lists the identification number assigned to each PSN. Items with "UN" (United Nations) or "ID" (identification) numbers can be shipped domestically or internationally. Items with "NA" (North American) numbers can only be shipped domestically, or to and from Canada. New or revised UN or NA numbers in 49 CFR, part 172 are recognized in this manual.
A4.2.5. **Column 5: Packing Group (PG).** Column 5 specifies one or more packing groups assigned to each PSN and hazard class. Hazard classes 2, 7, and ORM-D do not have packing groups. Packing groups I, II, and III indicate the degree of hazard associated with the materials and are used to identify the severity of Performance Oriented Packaging (POP) tests associated with the item.
A4.2.6. **Column 6: Labels.** Column 6 lists hazard warning label requirements. Label requirements may vary, depending on the applicable PG. Apply all of the labels listed for the PG, unless otherwise excepted by attachment 15. The first label shown indicates the primary hazard, additional labels indicate subsidiary hazards. See attachment 15 for more labeling information.
A4.2.7. **Column 7: Special Provisions.** Column 7 specifies codes for special provisions that are applicable for each PSN and hazard class. Special provision codes may vary, depending on the PG. The codes may reflect packaging provisions, restrictions, and exceptions from requirements for particular quantities or forms of materials. The codes are divided into three categories: numeric codes, codes beginning with "N", and codes beginning with "A". Requirements of the special provision codes are identified in table A4.2. When a special provision dictates an additional packaging requirement, the requirement is mandatory. Certify to the appropriate packaging paragraph, even if the packaging paragraph does not include the special provision.
A4.2.8. **Column 8: Packaging Paragraph.** This column lists the applicable packaging paragraph. "FORBIDDEN" or "NOT ACCEPTED" items are also identified in this column. Except when otherwise specified, prepare hazardous material shipments according to the appropriate packaging paragraph for military air transportation.

A4.3. Hazardous Substances. Materials are designated hazardous substances under Section 101 (14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). See attachment 1 for a detailed definition of a hazardous substance. Hazardous substances are found in the appendix to 49 CFR 172.101. The reportable quantity (RQ) is used to determine if material is considered to be a hazardous substance. The RQ is the quantity found in column 3 of the appendix to 49 CFR 172.101. This number specifies, in pounds and kilograms, the minimum quantity of the material that constitutes an RQ. For example: sodium arsenate (RQ-1.0/0.454) means the RQ is 1.0 pounds or 0.454 kilograms. A substance in a mixture or solution is considered to be a "hazardous substance" when the concentration by weight equals or exceeds the concentration listed in figure A1.1. If the material meets these requirements, it must be regulated as a hazardous material and a hazardous substance. If the technical name of the hazardous substance appears in table A4.1, then the technical name is the PSN. If the hazardous substance does not appear in table A4.1 and is not a forbidden material, select an appropriate generic (N.O.S.) PSN. Specify the technical name in parenthesis after the PSN. Show the letters "RQ" after the PSN in Key 11 of the Shipper's Declaration for Dangerous Goods when the quantity of material in one package equals or exceeds the RQ.

A4.4. Items Not Specifically Listed:
A4.4.1. **Not Otherwise Specified (N.O.S.).** Some items are not listed in table A4.1 by their specific name. To include all such items would make the list too lengthy; therefore, general class listings have been established for the hazard. These general classes cover items "Not Otherwise Specified" (N.O.S.). Examples of such are: "FLAMMABLE LIQUID, N.O.S.;

POISONOUS SOLID, N.O.S." To determine the PSN for N.O.S. material, compare the characteristics of the items with the definitions of the various classes in this manual. Hazardous material definitions can be found in attachment 1. Even though a specific name may not be listed in table A4.1, a technical name must be determined by looking at the item or material safety data sheet.

A4.4.2. **Tentative PSN Assignment.** A material for which the hazard class must be determined by testing, or a material that is a hazardous waste, the shipper may assign a tentative shipping name, based on:

- The defining criteria of the hazard class.
- The hazard precedence prescribed in A4.5.
- The shipper's knowledge of the material.
- A3.2.1.2 for new explosives.
- Under the requirements of A4.4.1. If a N.O.S. PSN is assigned, a technical name is not required.

A4.5. Classifying Hazardous Materials:

A4.5.1. **Hazard Class Names.** The hazard class of a hazardous material is indicated either by class and division number, class name, or ORM-D (domestic shipments only). Figure A4.1 lists class and division numbers and the corresponding class and division names.

HAZARD CLASS/DIVISION NUMBER	HAZARD CLASS/DIVISION NAME
1.1	Explosives (with mass explosion hazard)
1.2	Explosives (with a projection hazard)
1.3	Explosives (with predominately a fire hazard)
1.4	Explosives (with no significant blast hazard)
1.5	Very insensitive explosives; blasting agents
1.6	Extremely insensitive detonating substances
2.1	Flammable gas
2.2	Nonflammable gas
2.3	Poisonous gas
3	Flammable liquid
4.1	Flammable solid
4.2	Spontaneously combustible material
4.3	Dangerous when wet material
5.1	Oxidizer
5.2	Organic peroxide
6.1	Poisonous material
6.2	Infectious substances (etiologic agents)
7	Radioactive material
8	Corrosive material
9	Miscellaneous hazardous material

Figure A4.1. Hazard Classes.

A4.5.2 **Precedence of Hazard.** Assign any material specifically identified and listed in table A4.1 the hazard class identified in column 3 of table A4.1. Classify a hazardous material that is not specifically identified and listed in table A4.1 (or is a mixture of materials), and meets the definition of more than one hazard, according to the following order of precedence:

- Class 7 (Radioactive material, other than limited quantities). When limited quantities are involved the other hazardous properties take precedence.
- Class 1 (Explosives).
- Class 2.3 (poisonous gas).
- Class 2.1 (flammable gas). See note.
- Class 2.2 (nonflammable gas). See note.
- Class 5.2 (organic peroxide).
- Class 6.2 (infectious substances or etiologic agents).

- Class 4.1 (flammable solid). Only self-reactive substances and wetted explosives. For other Class 4.1 materials, see figure A4.2.
- Class 4.2 (substances liable to spontaneous combustion). Only pyrophoric substances. For other Class 4.2 materials, see figure A4.2.
- Class 6.1 (poisonous substances), PG I, poisonous by inhalation only. For other Class 6.1 materials, see figure A4.2.

A4.5.2.1. Classify the following hazard classes according to figure A4.2. *Precedence of Hazard*:

- Class 3 (flammable liquids).
- Class 4.1 (flammable solids), other than Class 4.1 in A4.5.2.
- Class 4.2 (substances liable to spontaneous combustion), other than Class 4.2 in A4.5.2.
- Class 4.3 (substances which, in contact with water, emit flammable gases).
- Class 8 (corrosive material).
- Class 5.1 (oxidizers).
- Class 6.1 (poisonous substances), other than Class 6.1 in A4.5.2.
- Combustible liquid (combustible liquid does not have a class number).
- Class 9 (miscellaneous hazardous material).

NOTE: Small quantities of compressed gas such as starter fluid (Class 2.1) or fire extinguisher (Class 2.2) installed on a vehicle do not take precedence over the flammable liquid (Class 3).

A4.5.3. **How To Use Figure A4.2.** Find one of the hazard classes (including the appropriate PG) of your material in the horizontal or vertical column. For example, Class 4.2, PG II in the vertical column. Then find the other hazard class (including the appropriate PG) in the other column. For example, Class 8, solid, PG II in the horizontal column. Where these two columns intersect identifies the primary hazard class that must be used when shipping this material. The PG of the primary hazard class is also identified at the intersection of the two columns. In the example, the primary hazard class is 4.2 and the PG is II. Include the other class as the subsidiary hazard. In our example, the subsidiary hazard would be Class 8. The PG for the subsidiary hazard is not applicable to the shipment.

SYM-BOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASS/DIV (3)	UN/ID NUMBER (4)	PG (5)	LABELS (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	Accellerene; see p-NITROSODIMETHYLANILINE						
	Accumulators, electric; see BATTERIES, etc.						
D	ACCUMULATORS, PRESSURIZED, PNEUMATIC or HYDRAULIC (containing nonflammable gas)	2.2	NA1956		NONFLAM-MABLE GAS		A6.10
	ACETAL	3	UN1088	II	FLAMMABLE LIQUID		A7.3
θ	ACETALDEHYDE	3	UN1089	I	FLAMMABLE LIQUID	A3	A7.3
	ACETALDEHYDE AMMONIA	9	UN1841	III	CLASS 9		A13.3
	ACETALDEHYDE OXIME	3	UN2332	II	FLAMMABLE LIQUID		A7.3
	ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid, by mass	8	UN2789	II	CORROSIVE	A3,A6, A7,A10	A12.3
	ACETIC ACID SOLUTION, more than 10%, but not more than 80% acid, by mass	8	UN2790	II	CORROSIVE	A3,A6, A7,A10	A12.3
	ACETIC ANHYDRIDE	8	UN1715	II	CORROSIVE	A3,A6, A7,A10	A12.3
	Acetic oxide; see ACETIC ANHYDRIDE						
	Acetoin; see ACETYL METHYL CARBINOL						
	ACETONE	3	UN1090	II	FLAMMABLE LIQUID		A7.3
†	ACETONE CYANOHYDRIN, STABILIZED	6.1	UN1541	I	POISON	2,A3,N34	A10.7
	ACETONE OILS	3	UN1091	II	FLAMMABLE LIQUID		A7.3
	Acetonitrile; see METHYL CYANIDE						
	Acetyl acetone peroxide with more than 9% by mass active oxygen	FORBIDDEN					FORBIDDEN
	Acetyl benzoyl peroxide, solid, or more than 40% in solution	FORBIDDEN					FORBIDDEN
	ACETYL BROMIDE	8	UN1716	II	CORROSIVE		A12.3

SYM-BOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASS/DIV (3)	UN/ID NUMBER (4)	PG (5)	LABELS (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	AMMUNITION, ILLUMINATING, with or without burster, expelling charge or propelling charge	1.4G	UN0297	II	EXPLOSIVE		A5.9
θ	AMMUNITION, INCENDIARY liquid or gel, with burster, expelling charge or propelling charge Ammunition, incendiary (water-activated contrivances) with burster, expelling charge or propelling charge; see CONTRIVANCES, WATER-ACTIVATED, etc.	1.3J	UN0247	II	EXPLOSIVE		A5.9
θ	AMMUNITION, INCENDIARY, WHITE PHOSPHOROUS,with burster, expelling charge or propelling charge	1.2H	UN0243	II	EXPLOSIVE		A5.9
θ	AMMUNITION, INCENDIARY, WHITE PHOSPHOROUS,with burster, expelling charge or propelling charge	1.3H	UN0244	II	EXPLOSIVE		A5.9
θ	AMMUNITION, INCENDIARY, with or without burster, expelling charge, or propelling charge	1.2G	UN0009	II	EXPLOSIVE		A5.9
θ	AMMUNITION, INCENDIARY, with or without burster, expelling charge, or propelling charge	1.3G	UN0010	II	EXPLOSIVE		A5.9
	AMMUNITION, INCENDIARY, with or without burster, expelling charge or propelling charge Ammunition, incendiary (water-activated contrivances); see CONTRIVANCES, WATER-ACTIVATED, etc. Ammunition, industrial; see CARTRIDGES, OIL WELL or CARTRIDGES, POWER DEVICE Ammunition, lachrymatory; see AMMUNITION, TEAR-PRODUCING, etc.	1.4G	UN0300	II	EXPLOSIVE		A5.9
	AMMUNITION, PRACTICE	1.4G	UN0362	II	EXPLOSIVE		A5.9
θ	AMMUNITION, PRACTICE	1.3G	UN0488	II	EXPLOSIVE		A5.9
	AMMUNITION, PROOF Ammunition, rocket; see WARHEADS, ROCKET, etc. Ammunition, SA (small arms); see CARTRIDGES FOR WEAPONS, etc.	1.4G	UN0363	II	EXPLOSIVE		A5.9

SYMBOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASS/DIV (3)	UN/ID NUMBER (4)	PG (5)	LABELS (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	Ammunition, smoke (water-activated contrivances), white phosphorus, with burster, expelling charge or propelling charge; see CONTRIVANCES, WATER-ACTIVATED, etc.						
	Ammunition, smoke (water-activated contrivances), without white phosphorus or phosphides, with burster, expelling charge or propelling charge; see CONTRIVANCES, WATER-ACTIVATED, etc.						
θ	AMMUNITION, SMOKE, WHITE PHOSPHORUS, with burster, expelling charge, or propelling charge	1.3H	UN0246	II	EXPLOSIVE		A5.9
θ	AMMUNITION, SMOKE, WHITE PHOSPHORUS, with burster, expelling charge, or propelling charge	1.2H	UN0245	II	EXPLOSIVE		A5.9
θ	AMMUNITION, SMOKE, with or without burster, expelling charge or propelling charge	1.3G	UN0016	II	EXPLOSIVE, CORROSIVE		A5.9
	AMMUNITION, SMOKE, with or without burster, expelling charge or propelling charge	1.4G	UN0303	II	EXPLOSIVE, CORROSIVE		A5.9
θ	AMMUNITION, SMOKE, with or without burster, expelling charge or propelling charge	1.2G	UN0015	II	EXPLOSIVE, CORROSIVE		A5.9
	Ammunition, sporting; see CARTRIDGES FOR WEAPONS, etc. (UN0012, 0328, 0339)						
θ	AMMUNITION, TEAR-PRODUCING, NONEXPLOSIVE, without burster or expelling charge, nonfuzed	6.1	UN2017	II	POISON, CORROSIVE		A10.6
θ	AMMUNITION, TEAR-PRODUCING, with burster, expelling charge or propelling charge	1.2G	UN0018	II	EXPLOSIVE, CORROSIVE, POISON		A5.9
θ	AMMUNITION, TEAR-PRODUCING, with burster, expelling charge or propelling charge	1.3G	UN0019	II	EXPLOSIVE, CORROSIVE, POISON		A5.9
	AMMUNITION, TEAR-PRODUCING, with burster, expelling charge or propelling charge	1.4G	UN0301	II	EXPLOSIVE, CORROSIVE, POISON		A5.9

SYM-BOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASS/DIV (3)	UN/ID NUMBER (4)	PG (5)	LABELS (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURES with not more than 6% ethylene oxide	2.2	UN1952		NONFLAM-MABLE GAS		A6.5
	CARBON DIOXIDE AND NITROUS OXIDE MIXTURES	2.2	UN1015		NONFLAM-MABLE GAS		A6.3,A6.5
	CARBON DIOXIDE AND OXYGEN MIXTURES	2.2	UN1014		NONFLAM-MABLE GAS		A6.3,A6.5
	CARBON DIOXIDE, REFRIGERATED LIQUID (cryogenic liquid)	2.2	UN2187		NONFLAM-MABLE GAS		A6.3,A6.12
	CARBON DIOXIDE, SOLID or DRY ICE	9	UN1845	III	CLASS 9		A13.9
	CARBON DISULPHIDE	NOT ACCEPTED					NOT ACCEPTED
θ	CARBON MONOXIDE	2.3	UN1016		POISON GAS, FLAMMABLE LIQUID	4	A6.7
†	CARBON MONOXIDE AND HYDROGEN MIXTURE	2.3	UN2600		POISON GAS, FLAMMABLE GAS	5	A6.7
D†	CARBON MONOXIDE, REFRIGERATED LIQUID (cryogenic liquid)	2.3	NA9202		POISON GAS, FLAMMABLE GAS	4	A6.12
	Carbon oxysulphide; see CARBONYL SULPHIDE						
	CARBON TETRABROMIDE	6.1	UN2516	III	KEEP AWAY FROM FOOD		A10.6
	CARBON TETRACHLORIDE	6.1	UN1846	II	POISON	N36	A10.5
	Carbonyl chloride; see PHOSGENE						
†	CARBONYL FLUORIDE	2.3	UN2417		POISON GAS	2	A6.7
θ	CARBONYL SULPHIDE	2.3	UN2204		POISON GAS, FLAMMABLE GAS	2	A6.5
	Cartridge cases, empty primed; see CASES, CARTRIDGE, EMPTY WITH PRIMER						

SYMBOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASS/DIV (3)	UN/ID NUMBER (4)	PG (5)	LABELS (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	Cartridges, actuating for aircraft ejector seat catapult, fire extinguisher, canopy removal or apparatus; see CARTRIDGES, POWER DEVICE						
	Cartridges, explosive; see CHARGES, DEMOLITION						
†	CARTRIDGES, FLASH	1.1G	UN0049	II	EXPLOSIVE		A5.20
θ	CARTRIDGES, FLASH	1.3G	UN0050	II	EXPLOSIVE		A5.20
†	CARTRIDGES FOR WEAPONS, BLANK	1.1C	UN0326	II	EXPLOSIVE		A5.21
θ	CARTRIDGES FOR WEAPONS, BLANK	1.2C	UN0413	II	EXPLOSIVE		A5.21
θ	CARTRIDGES FOR WEAPONS, BLANK; or CARTRIDGES, SMALL ARMS, BLANK	1.3C	UN0327	II	EXPLOSIVE		A5.21
	CARTRIDGES FOR WEAPONS, BLANK; or CARTRIDGES, SMALL ARMS, BLANK	1.4C	UN0338	II	EXPLOSIVE		A5.21
	CARTRIDGES FOR WEAPONS, BLANK; or CARTRIDGES, SMALL ARMS, BLANK	1.4S	UN0014	II	EXPLOSIVE	112	A5.21
θ	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.2C	UN0328	II	EXPLOSIVE		A5.21
	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS, CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.4S	UN0012	II	EXPLOSIVE	112	A5.21
θ	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.4C	UN0339	II	EXPLOSIVE		A5.21
θ	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.3C	UN0417	II	EXPLOSIVE		A5.21
†	CARTRIDGES FOR WEAPONS, with bursting charge	1.1F	UN0005	II	EXPLOSIVE		A5.21
θ	CARTRIDGES FOR WEAPONS, with bursting charge	1.2F	UN0007	II	EXPLOSIVE		A5.21
	CARTRIDGES FOR WEAPONS, with bursting charge	1.4F	UN0348	II	EXPLOSIVE		A5.21
	CARTRIDGES FOR WEAPONS, with bursting charge	1.4E	UN0412	II	EXPLOSIVE		A5.21
†	CARTRIDGES FOR WEAPONS, with bursting charge	1.1E	UN0006	II	EXPLOSIVE		A5.21
θ	CARTRIDGES FOR WEAPONS, with bursting charge	1.2E	UN0321	II	EXPLOSIVE		A5.21
	Cartridges, illuminating; see AMMUNITION, ILLUMINATING, etc.						
θ	CARTRIDGES, OIL WELL	1.3C	UN0277	II	EXPLOSIVE		A5.22
	CARTRIDGES, OIL WELL	1.4C	UN0278	II	EXPLOSIVE		A5.22
θ	CARTRIDGES, POWER DEVICE	1.3C	UN0275	II	EXPLOSIVE		A5.23

SYMBOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASS/DIV (3)	UN/ID NUMBER (4)	PG (5)	LABELS (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	CARTRIDGES, POWER DEVICE	1.4C	UN0276	II	EXPLOSIVE	110	A5.23
θ	CARTRIDGES, POWER DEVICE	1.2C	UN0381	II	EXPLOSIVE		A5.23
	CARTRIDGES, POWER DEVICE	1.4S	UN0323	II	EXPLOSIVE	110,112	A5.23
	Cartridges, safety; see CARTRIDGES, FOR WEAPONS, INERT PROJECTILES						
	Cartridges, safety, blank; see CARTRIDGES FOR WEAPONS, BLANK						
θ	CARTRIDGES, SIGNAL	1.3G	UN0054	II	EXPLOSIVE		A5.20
	CARTRIDGES, SIGNAL	1.4G	UN0312	II	EXPLOSIVE		A5.20
	CARTRIDGES, SIGNAL	1.4S	UN0405	II	EXPLOSIVE		A5.20
	CARTRIDGES, SMALL ARMS; see CARTRIDGES FOR WEAPONS, INERT PROJECTILE						
	CARTRIDGES, SMALL ARMS, BLANK; see CARTRIDGES FOR WEAPONS, BLANK						
	Cartridges, sporting; see CARTRIDGES FOR WEAPONS, INERT PROJECTILE						
	Cartridges, starter, jet engine; see CARTRIDGES, POWER DEVICE						
	CASES, CARTRIDGE, EMPTY WITH PRIMER	1.4S	UN0055	II	EXPLOSIVE		A5.24
	CASES, CARTRIDGE, EMPTY WITH PRIMER	1.4C	UN0379	II	EXPLOSIVE		A5.24
θ	CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	1.3C	UN0447	II	EXPLOSIVE		A5.24
	CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	1.4C	UN0446	II	EXPLOSIVE		A5.24
	Casinghead gasoline; see NATURAL GASOLINE						
	CASTOR BEANS or CASTOR MEAL or CASTER POMACE or CASTOR FLAKE	9	UN2969	II	CLASS 9		A13.3
	CAUSTIC ALKALI LIQUIDS, N.O.S.	8	UN1719	I	CORROSIVE	A7	A12.3
				II	CORROSIVE		
				III	CORROSIVE		
	Caustic antimony; see ANTIMONY TRICHLORIDE						
	Caustic arsenic chloride; see ARSENIC TRICHLORIDE						
	Caustic oil of arsenic; see ARSENIC TRICHLORIDE						
	Caustic potash; see POTASSIUM HYDROXIDE SOLUTION						

SYMBOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASS/DIV (3)	UN/ID NUMBER (4)	PG (5)	LABELS (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	Grenades, smoke; see AMMUNITION, SMOKE, etc.						
	GUANIDINE NITRATE	5.1	UN1467	III	OXIDIZER	A1	A9.8
	Guanyl nitrosaminoguanylidene hydrazine (dry)	FORBIDDEN					FORBIDDEN
†	GUANYL NITROSAMINO-GUANYLIDENE HYDRAZINE, WETTED with not less than 30% water, by mass	1.1A	UN0113	II	EXPLOSIVE	111,117	A5.67
	Guanyl nitrosaminoguanyltetrazene (dry)	FORBIDDEN					FORBIDDEN
†	GUANYL NITROSAMINOGUANYLTETRAZENE, WETTED; OR TETRAZENE, WETTED with not less than 30% water, or mixture of alcohol and water, by mass	1.1A	UN0114	II	EXPLOSIVE	111,117	A5.67
	GUNPOWDER, COMPRESSED or GUNPOWDER IN PELLETS; see BLACK POWDER (UN0028)						
	GUNPOWDER, granular or as a meal; see BLACK POWDER (UN0027)						
	Gutta percha solution; see RUBBER SOLUTION						
	HAFNIUM POWDER, DRY	4.2	UN2545	I	SPONTANEOUSLY COMBUSTIBLE	A19,A20, N34	A8.4
				II	SPONTANEOUSLY COMBUSTIBLE	A19,A20, N34	
				III	SPONTANEOUSLY COMBUSTIBLE		
	HAFNIUM POWDER, WETTED with not less than 25% water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	4.1	UN1326	II	FLAMMABLE SOLID	A6,A19, A20,N34	A8.4
	Hair, wet; see FIBRES, etc.						

SYM-BOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASS/DIV (3)	UN/ID NUMBER (4)	PG (5)	LABELS (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	1-METHYLPIPERIDINE	3	UN2399	II	FLAMMABLE LIQUID		A7.3
	METHYL PROPIONATE	3	UN1248	II	FLAMMABLE LIQUID		A7.3
	METHYL PROPYL ETHER	3	UN2612	II	FLAMMABLE LIQUID		A7.3
	METHYL PROPYL KETONE	3	UN1249	II	FLAMMABLE LIQUID		A7.3
	Methyl sulfate, see DIMETHYL SULFATE						
	Methyl sulfide, see DIMETHYL SULFIDE						
	METHYLTETRAHYDROFURAN	3	UN2536	II	FLAMMABLE LIQUID		A7.3
	METHYL TRICHLOROACETATE	6.1	UN2533	III	KEEP AWAY FROM FOOD		A10.5
θ	METHYLTRICHLOROSILANE	3	UN1250	I	FLAMMABLE LIQUID, CORROSIVE	A7,N34	A7.3
	methyl trimethylol methane trinitrate	FORBIDDEN					FORBIDDEN
	ALPHA-METHYLVALERALDEHYDE	3	UN2367	II	FLAMMABLE LIQUID		A7.3
	METHYL VINYL KETONE	3	UN1251	II	FLAMMABLE LIQUID		A7.3
	mine rescue equipment containing carbon dioxide, see CARBON DIOXIDE						
†	MINES with bursting charge	1.1F	UN0136	II	EXPLOSIVE		A5.76
†	MINES with bursting charge	1.1D	UN0137	II	EXPLOSIVE		A5.76
θ	MINES with bursting charge	1.2D	UN0138	II	EXPLOSIVE		A5.76
θ	MINES with bursting charge	1.2F	UN0294	II	EXPLOSIVE		A5.76
	mixed acid, see NITRATING ACID, MIXTURES						
	MOLYBDENUM PENTACHLORIDE	8	UN2508	III	CORROSIVE		A12.4
	monochloroacetone (unstabilized)	FORBIDDEN					FORBIDDEN
	monochloroethylene, see VINYL CHLORIDE, INHIBITED						
	monoethylamine, see ETHYLAMINE						

SYMBOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASS/DIV (3)	UN/ID NUMBER (4)	PG (5)	LABELS (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	MORPHOLINE	3	UN2054	III	FLAMMABLE LIQUID		A7.3
	morpholine, aqueous, mixture, see CORROSIVE LIQUID, N.O.S.						
	motorcycles, see ENGINES, INTERNAL COMBUSTION						
θ	MOTOR FUEL ANTI-KNOCK MIXTURES	6.1	UN1649	I	POISON, FLAMMABLE LIQUID	14	A10.5
	MOTOR SPIRIT, see GASOLINE						
	motor vehicle, see ENGINES, INTERNAL COMBUSTION						
	muriatic acid, see HYDROCHLORIC ACID SOLUTION						
	MUSK XYLENE, see 5-TERT-BUTYL-2,4,6-TRINITO-M-XYLENE						
	NAPHTHA	3	UN2553	I	FLAMMABLE LIQUID		A7.3
				II	FLAMMABLE LIQUID		
				III	FLAMMABLE LIQUID		
	NAPHTHALENE, CRUDE or REFINED	4.1	UN1334	III	FLAMMABLE SOLID	A1	A8.4
	naphthalene diozonide	FORBIDDEN					FORBIDDEN
	NAPHTHALENE, MOLTEN	4.1	UN2304	III	FLAMMABLE SOLID	A1	A8.4
	NAPHTHA, petroleum	3	UN1255	I	FLAMMABLE LIQUID		A7.3
				II	FLAMMABLE LIQUID		
				III	FLAMMABLE LIQUID		

SYM-BOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASS/DIV (3)	UN/ID NUMBER (4)	PG (5)	LABELS (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	Silicofluoric acid, see FLUOSILICIC ACID						
	Silicon chloride, see SILICON TETRACHLORIDE						
	SILICON POWDER, AMORPHOUS	4.1	UN1346	III	FLAMMABLE SOLID	A1	A8.4
	SILICON TETRACHLORIDE	8	UN1818	II	CORROSIVE	A3,A6	A12.3
θ	SILICON TETRAFLUORIDE	2.3	UN1859		POISON GAS, CORROSIVE	4	A6.7
	Silver acetylide (dry)	FORBIDDEN					FORBIDDEN
	SILVER ARSENITE	6.1	UN1683	II	POISON		A10.6
	Silver azide (dry)	FORBIDDEN					FORBIDDEN
	Silver chlorite (dry)	FORBIDDEN					FORBIDDEN
	SILVER CYANIDE	6.1	UN1684	II	POISON		A10.6
	Silver fulminate (dry)	FORBIDDEN					FORBIDDEN
	SILVER NITRATE	5.1	UN1493	II	OXIDIZER		A9.8
	Silver oxalate (dry)	FORBIDDEN					FORBIDDEN
	Silver picrate (dry)	FORBIDDEN					FORBIDDEN
	SILVER PICRATE, WETTED, with not less than 30% water, by mass	4.1	UN1347	I	FLAMMABLE SOLID		A8.4
	SLUDGE, ACID	8	UN1906	II	CORROSIVE	A3,A7,N34	A12.3
D	SMOKELESS POWDER FOR SMALL ARMS (100 POUNDS OR LESS)	4.1	NA1325	I	FLAMMABLE SOLID		A8.18
	SODA LIME with more than 4% sodium hydroxide	8	UN1907	III	CORROSIVE		A12.4
θ	SODIUM	4.3	UN1428	II	DANGEROUS WHEN WET	A7,A8,A19, A20,N34	A8.4
	SODIUM ALUMINATE, SOLID	8	UN2812	III	CORROSIVE		A12.4
	SODIUM ALUMINATE, SOLUTION	8	UN1819	II	CORROSIVE		A12.3
				III	CORROSIVE		
	SODIUM ALUMINUM HYDRIDE	4.3	UN2835	II	DANGEROUS WHEN WET	A8,A19, A20	A8.4
	SODIUM AMMONIUM VANADATE	6.1	UN2863	II	POISON		A10.6
	SODIUM ARSANILATE	6.1	UN2473	III	KEEP AWAY FROM FOOD		A10.6
	SODIUM ARSENATE	6.1	UN1685	II	POISON		A10.6

Table A4.2. Special Provisions

When column 7 of table A4.1 refers to a special provision for a hazardous material, the meaning and requirements of that provision are defined in this table. When a special provision specifies packagings or packaging requirements, they are in addition to the standard requirements already prescribed in this manual. The following list identifies the requirements of the special provisions referred to in column 7 of table A4.1:

1. Numeric Provisions.

1 This material is poisonous by inhalation, meets the criteria for Class 2.3, Hazard Zone A or Class 6.1, Hazard Zone A, and must be described as an inhalation hazard.

2 This material is poisonous by inhalation, meets the criteria for Class 2.3, Hazard Zone B or Class 6.1, Hazard Zone B, and must be described as an inhalation hazard.

3 This material is poisonous by inhalation, meets the criteria for Class 2.3, Hazard Zone C, and must be described as an inhalation hazard.

4 This material is poisonous by inhalation, meets the criteria for Class 2.3, Hazard Zone D, and must be described as an inhalation hazard.

5 If this material meets the defining criteria for a material poisonous by inhalation (49 CFR 173.116(a) or 173.133(a)) in Class 2.3, Hazard Zone A, B, C, or D, or Class 6.1, Hazard Zone A or B, use an appropriate Class 2.3 or Class 6.1 generic PSN.

6 This material is poisonous by inhalation and must be described as an inhalation hazard.

8 A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substance, liquid or solid", as appropriate.

9 Packaging for certain PCBs for disposal and storage is prescribed by EPA in 40 CFR 761.60 and 761.65.

12 In concentrations greater than 40 percent, this material has strong oxidizing properties and is capable of starting fires in contact with combustible materials. If applicable, a package containing this material must comply with the subsidiary risk labeling requirements of attachment 15.

14 Motor fuel antiknock mixtures is one or more organic lead mixtures, such as tetraethyl lead, triethylmethyl lead, diethyldimethyl lead, ethyltrimethyl lead, and tetramethyl lead, with one or more halogen compounds such as ethylene dibromide and ethylene dichloride, hydrocarbon solvents or other equally efficient stabilizers, or tetraethyl lead.

17 Aqueous solutions of hydrogen peroxide containing less than 8 percent hydrogen peroxide are not subject to the requirements of this manual.

22 If the hazardous material is in dispersion in organic liquid, the organic liquid must have a flash point above 50 degrees C (122 degrees F).

27 Sodium carbonate peroxyhydrate is considered nonhazardous.

28 The dihydrated sodium salt of dichloroisocyanuric acid is not subject to the requirements of this manual.

31 Materials which have undergone sufficient heat treatment to render them nonhazardous are not subject to the requirements of this manual.

33 Ammonium nitrites and mixtures of an inorganic nitrite with an ammonium salt are prohibited.

41 When UN 2972 is packaged according to A8.8.1 or A8.8.4, or UN 2973 is packaged according to A8.7, an EXPLOSIVE label is not required.

53 Packages of these materials must bear a subsidiary risk label, "EXPLOSIVE", unless exempted by the DOT. A copy of the exemption must accompany the shipment.

101 Specify the name of the particular substance or article.

102 This article may be transported as Class 1.4D if all of the conditions specified in 49 CFR 173.63(a) are met.

103 Detonators which will not mass detonate and undergo only limited preparation in the shipping package may be assigned to Class 1.4B. Mass detonate means that more than 90 percent of the devices tested in a package explode practically simultaneously. Limited propagation means that if one detonator near the center of a shipping package is exploded, the aggregate weight of explosives, excluding ignition and delay charges, in this and all additional detonators in the outside packaging that explode, may not exceed 25 g.

Table A4.2. Continued.

104 Detonators which meet the following conditions may be assigned to Class 1.4S: Each detonator may contain no more than 1 g of explosive, excluding ignition and delay charges, and if one detonator near the center of the package detonates it will not cause functioning of any other device in the same or adjacent packages.

105 The word "Agents" may be used instead of "Explosives" when approved by the DOT.

106 The recognized name of the particular explosive may be specified in addition to the type.

107 The classification of the substance is expected to vary especially with the particle size and packaging, but the border lines have not been experimentally determined; appropriate classifications should be verified following the test procedures in 49 CFR 173.57 and 173.58.

108 Fireworks must be constructed and packaged so that loose pyrotechnic composition is not present in packages during transportation.

109 Except as provided in A5.98, rocket motors must be nonpropulsive in transportation. To be considered "nonpropulsive", a rocket motor must be capable of unrestrained burning and must not appreciably move in any direction when ignited by any means.

110 Fire extinguisher charges containing 3.2 g or less of propellant explosives per unit are not subject to the requirements of this manual.

111 Explosive substances of Class 1.1A are forbidden for transportation if dry or not desensitized, unless incorporated in a device.

112 Cartridges, small arms, Class 1.4S, may be reclassed and offered for domestic transportation as ORM-D material if they are offered for transportation and transported according to the limitations and packaging requirements of 49 CFR 173.230.

113 The sample must be given a tentative approval by an agency or laboratory according to the provisions of 49 CFR 173.56.

115 Boosters with detonator (detonating primers) in which the total explosive charge per unit does not exceed 25 g, and which will not mass detonate and undergo only limited propagation in the shipping package may be assigned to Class 1.4B. Mass detonate means more than 90 percent of the devices tested in a package explode practically simultaneously. Limited propagation means that if one booster near the center of the package is exploded, the aggregate weight of explosives, excluding ignition and delay charges, in this and all additional boosters in the outside packaging that explode may not exceed 25 g.

116 Fuzes, detonating, may be classed in Class 1.4 if the fuzes do not contain more than 25 g of explosive per fuze and are made and packaged so that they will not cause functioning of other fuzes, explosives, or other explosive devices if one of the fuzes detonates in a shipping packaging or in adjacent packages.

117 If a shipment of the explosive substance is to take place at a time that freezing weather is anticipated, the water contained in the explosive substance must be mixed with denatured alcohol so that freezing will not occur.

2. "N" Codes. These provisions apply only to nonbulk packagings:

N3 Glass inner packagings are permitted in combination or composite packagings only if the hazardous material is free from hydrofluoric acid.

N4 For combination or composite packagings, glass inner packagings, other than ampoules, are not permitted.

N5 Glass materials of construction are not authorized for any part of the packaging which is normally in contact with the hazardous material.

N6 Battery fluid packaged with electric storage batteries, wet or dry, must conform to the packaging provisions of A12.5.4.

N7 The hazard class or division number of the material must be marked on the package according to 49 CFR 172.302. However, the hazard label corresponding to the hazard class or division may be substituted for the marking.

N8 Nitroglycerin solution in alcohol may be transported under this entry only when the solution is packed in metal cans of not more than 1 L capacity each, overpacked in a wooden box containing not more than 5 L. Completely surround metal cans with absorbent cushioning material. Completely line wooden boxes with a suitable material impervious to water and nitroglycerin.

Table A4.2. Continued.

N12 Plastic packagings are not authorized.

N25 Steel single packagings are not authorized.

N32 Aluminum materials of construction are not authorized for single packagings.

N33 Aluminum drums are not authorized.

N34 Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous materials.

N36 Aluminum or aluminum alloy construction materials are permitted only for halogenated hydrocarbons that will not react with aluminum.

N37 This material may be shipped in an integrally-lined fiber drum (1G) which meets the general packaging requirements of attachment 3, the POP tests required based on the PG assigned to the material, and to any other special provisions of column 7 of table A4.1.

N40 This material is not authorized in the following packagings:

1. A combination packaging consisting of a 4G fiberboard box with inner receptacles of glass or earthenware.
2. A single packaging of a 4C2 sift-proof, natural wood box.
3. A composite packaging 6PG2 (glass, porcelain, or stoneware receptacles within a fiberboard box).

N41 Metal construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.

N43 Metal drums are permitted as single packagings only if constructed of nickel or Monel.

N45 For combination packagings, only copper cartridges are permitted as inner packagings when the hazardous materials is not in dispersion.

N65 Outage must be sufficient to prevent cylinders or spheres from becoming liquid full at 55 degrees C (130 degrees F). The vacant space (outage) may be charged with a nonflammable, nonliquefied compressed gas if the pressure in the cylinder or sphere at 55 degrees C (130 degrees F) does not exceed 125 percent of the marked service pressure.

N73 Packagings consisting of outer wooden or fiberboard boxes with inner glass, metal, or other strong containers; metal or fiber drums; kegs or barrels; or strong metal cans are authorized and need not conform to the POP test requirements for domestic shipment.

N74 Packages consisting of tightly closed inner containers of glass, earthenware, metal or polyethylene, capacity not over 0.5 kg (1.1 pounds) securely cushioned and packed in outer wooden barrels or wooden or fiberboard boxes, not over 15 kg (33 pounds) net weight, are authorized and need not conform to the POP test requirements for domestic shipment.

N75 Packages consisting of tightly closed inner packagings of glass, earthenware, or metal, securely cushioned and packed in outer wooden barrels or wooden or fiberboard boxes, capacity not over 2.5 kg (5.5 pounds) net weight, are authorized and need not conform to the POP test requirements for domestic shipment.

N76 For materials of not more than 25 percent active ingredient by weight, packages consisting of inner metal packagings not greater than 250 ml (8 ounces) capacity each, packed in strong outer packagings together with sufficient absorbent material to completely absorb the liquid contents are authorized and need not conform to the POP test requirements for domestic shipment.

N77 For materials of not more than two percent active ingredients by weight and the liquid contents are absorbed in an inert material, the packagings need not conform to the POP test requirements for domestic shipment.

N78 Packages consisting of inner glass, earthenware, polyethylene, or other nonfragile plastic bottles or jars not over 0.5 kg (1.1 pounds) capacity each, or metal cans not over 5 pounds capacity each, packed in outer wooden boxes, barrels, kegs, or fiberboard boxes, are authorized and need not conform to the POP test requirements for domestic shipments. Net weight of contents in fiberboard boxes may not exceed 29 kg (64 pounds). Net weight of contents in wooden boxes, barrels, or kegs may not exceed 45 kg (99 pounds).

N79 Packages consisting of tightly closed metal inner packagings not over 0.5 kg (1.1 pounds) capacity each, packed in outer wooden or fiberboard boxes, or wooden barrels, are authorized and need not conform to POP test requirements for domestic shipment. Net weight of contents may not exceed 15 kg (33 pounds).

Table A4.2. Continued.

N80 Packages consisting of one inner metal can, not over 2.5 kg (5.5 pound) capacity, packed in an outer wooden or fiberboard box, or a wooden barrel, are authorized and need not conform to the POP test requirements for domestic shipment.

3. "A" Codes. These special provisions are in addition to other requirements for military air shipment.

A1 Single packaging is not permitted on passenger aircraft. Theta restrictions apply.

A2 Single packagings are not permitted.

A3 For combination packagings, if glass inner packagings (including ampoules) are used, they must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.

A4 Liquids having an inhalation toxicity of PG I and are identified with a dagger are not permitted on passenger aircraft. Deviations are not allowed.

A5 Solids having an inhalation toxicity of PG I and are identified with a dagger are not permitted on passenger aircraft and may not exceed a maximum net quantity per package of 15 kg (33 pounds) on cargo aircraft. See paragraph 2.2 for deviation authority.

losed metal receptacles before packing in outer packagings.

A7 Steel packagings must be corrosion-resistant or have protection against corrosion.

A8 For combination packagings, if glass inner packagings (including ampoules) are used, they must be packed with cushioning material in tightly closed metal receptacles before packing in outer packagings.

A9 For combination packages, if plastic bags are used, they must be packed in tightly closed metal receptacles before packing in outer packagings.

A10 When aluminum or aluminum alloy construction materials are used, they must be resistant to corrosion.

A11 For combination packagings, when metal inner packagings are permitted, only specification cylinders constructed of metals which are compatible with the hazardous material may be used.

A19 Combination packagings consisting of outer fiber drums or plywood drums, with inner plastic packagings, are not authorized.

A20 Plastic bags as inner receptacles of combination packagings are not authorized.

A29 Combination packagings consisting of outer expanded plastic boxes with inner plastic bags are not authorized.

A30 Ammonium permanganate is not authorized.

A33 Ammonium nitrates and mixtures of an inorganic nitrite with an ammonium salt are prohibited.

CLASS 1--EXPLOSIVES AND AMMUNITION

A5.1. General Requirements. This attachment contains information concerning packaging and general handling instructions for Class 1 material.

A5.2. General Handling Instructions. Class 1 materials can function by detonation or combustion. These materials must be stored away from fire hazards. Class 1 materials must be handled carefully. Do not drop. Handle dropped Class 1 material according to A3.2.1.1. Explosive safety must be according to A3.2.1.3.

A5.3. Removing Explosive Devices. Remove explosive devices from aircraft systems before shipment by military cargo aircraft when possible. However, where removal of such explosives is not feasible, shipment of aircraft systems with explosive devices installed may be made provided that:

- The safety devices are in place and are secured to the maximum extent possible (including blocking or banding when advantageous) to prevent arming.
- The aircraft system's packaging provides reasonable security against tampering with the installed explosive items or the arming systems.
- The aircraft system's packaging is properly marked with respect to the explosives involved in the shipment.
- The shipping documentation properly identifies the explosive nature of the shipment to include the proper hazard classification for each configured item. The Shipper's Declaration must identify all of the installed explosive components. Reference this paragraph on the Shipper's Declaration rather than the specific paragraphs for the individual installed devices.

A5.4. Chemical Ammunitions. Chemical ammunitions are dangerous materials which may be found in a variety of forms such as artillery shells, mortar shells, spray tanks, aircraft bombs, grenades, candles, rockets, and containers of chemical agents that are not high explosives or shrapnel. Chemical munitions are filled with war gases, smoke, or incendiaries. They are divided into four groups, according to the nature of fillings. These groupings are described in the service regulations referenced in A3.2.1.3.

A5.4.1. **Handling Chemical Ammunitions.** Chemical munitions should receive maximum preferential handling. Use the same materials handling equipment for high explosive munitions that is used for chemical munitions.

A5.4.2. **Reporting and Disposing of Chemical Ammunitions.** Immediately report any chemical munitions found to be leaking to the agency initiating the shipment. (However, if the leak is due to causes other than faulty munitions construction, it must be reported according to 1.7.) Dispose of leaking or damaged chemical munitions according to applicable service directives. The report should include the following:

- Type and amount of chemical munitions.
- Lot number.
- Date discovered.
- Detailed information concerning the nature and possible cause of leak.
- Disposition or recommendation for disposition.

A5.5. Captured Ammunition and Ammunition With Unknown Characteristics. Transport this ammunition on military aircraft only under the following provisions:

- Explosive ordinance disposal (EOD) personnel have inspected the items and completed necessary action to make them safe for air shipment, and have signed a certificate to this effect.
- Ammunition similar to the categories listed in attachment 4 must be packed and marked as provided for in the respective paragraphs.
- The shipper has certified on the Shipper's Declaration (in addition to the EOD certification) that subject shipment has been prepared according to the applicable packaging paragraph. Reference this paragraph and the applicable packaging paragraph on the Shipper's Declaration.
- If the movement is classified, a controlled classified Shipper's Declaration containing complete data on the shipment, including handling and storage precautions, must accompany the manifest and be available to the aircraft commander and handling crews.

A5.6. Ammonium Nitrate-Fuel Oil Mixture (containing only prilled ammonium nitrate and fuel oil). Package:
A5.6.1. In inner oil-resistant bags or plastic sheets, then packed in an outer fiberboard (4G), ordinary wood (4C1), plywood (4D), or reconstituted wood (4F) box.
A5.6.2. In inner oil-resistant bags or plastic sheets, then packed in an outer fiber (1G) or removable head steel (1A2) drum.

A5.7. Ammonium Nitrate. Package ammonium nitrate in inner kraft paper or plastic bags, or in plastic sheets. Pack inner packagings in one of the following outer packagings:
A5.7.1. Removable head wood barrel (2C2).
A5.7.2. Ordinary wood (4C1), plywood (4D), or reconstituted wood (4F) box.
A5.7.3. Removable head steel drum (1A2).

A5.8. Ammonium Perchlorate and Ammonium Picrate. Pack water-soluble substances in waterproof receptacles. All packages must be lead-free (except UN 0402). Package:
A5.8.1. In inner metal, paper, or plastic receptacles. Pack inner packagings in a removable head wood barrel (2C2).
A5.8.2. In inner plastic sheets, then packed in an outer fiberboard (4G), ordinary wood (4C1), plywood (4D), or reconstituted wood (4F) box or fiber (1G) drum.

A5.9. Ammunition Illuminating; Ammunition Incendiary; Ammunition Incendiary, White Phosphorus; Ammunition Practice; Ammunition Proof; Ammunition Smoke; Ammunition Smoke, White Phosphorus; Ammunition, Tear-Producing; and Ammunition, Toxic. Inner packagings are not necessary. However, open ends of inner packaging (when used) must be fitted with padded end caps or the outer packaging must be padded. Pack in one of the following outer packagings:
A5.9.1. Fiberboard (4G), ordinary wood (4C1), plywood (4D), reconstituted wood (4F), steel (4A1), or steel with inner liner or coating (4A2) box.
A5.9.2. Removable head steel (1A2) or fiber (1G) drum.
A5.9.3. Crates for large articles. Also, large articles without propelling charge and without means of ignition or initiation may be carried unpacked if secured to pallets or securely blocked and braced.

A5.10. Articles, Explosive, Extremely Insensitive. Inner packagings are not necessary. Pack in one of the following outer packagings:
A5.10.1. Ordinary wood (4C1), plywood (4D), reconstituted wood (4F), or steel (4A1) box.
A5.10.2. Removable head steel drum (1A2).
A5.10.3. Large articles without their means of initiation, or with their means of initiation containing at least two effective protective features, may be carried unpacked if secured to pallets or securely blocked and braced.

A5.11. Articles, Explosive NOS and Articles Pyrophoric. Ship these items according to a CAA. See 1.6.4. for more information on CAAs.

A5.12. Articles, Pyrotechnic. Package as follows:
A5.12.1. Package UN0428 and UN0429 in inner metal, plastic, or wood receptacles. Pack inner packagings in an outer ordinary wood (4C1), plywood (4D), reconstituted wood (4F), or steel with inner liner or coating (4A2) box. Metal inner packagings must be padded with cushioning material.
A5.12.2. Package UN0430, UN0431, and UN0432 in inner fiberboard, metal, plastic, or wood receptacles. Pack inner packagings in an outer fiberboard (4G), ordinary wood (4C1), plywood (4D), reconstituted wood (4F), or steel (4A1) box.

A5.13. Barium Styphnate. Package in inner plastic, rubber, textile, or rubberized textile bags. Pack inner bags in an intermediate plastic, rubber, textile, or rubberized textile bag, wood barrel, or plastic receptacle. Pack this configuration in an outer removable head wood barrel (2C2), removable head plastic (1H2), or removable head steel (1A2) drum. Coatings other than lead are authorized for removable head steel drums. The outer barrels and drums must have a watertight seal. The intermediate and outer packagings must be filled with water or an appropriate water-saturated material when the intermediate packaging is a rubber or rubberized textile bag. The intermediate packaging must be entirely surrounded inside the outer packaging with wetted cushioning material.

A5.14. Black Powder or Gunpowder; Black Powder, Compressed or Gunpowder, Compressed; Black Powder, in Pellets or Gunpowder, in Pellets. Packaged as follows:
A5.14.1. Package UN0028 in inner plastic bags, kraft paper or wax paper sheets. Pack inner packagings in an outer fiberboard (4G), sift-proof wood (4C2), plywood (4D), or reconstituted wood (4F) box.
A5.14.2. Package UN0027 in inner fiberboard, metal, paper, plastic, or rubberized textile receptacles. Pack inner packagings in an outer fiberboard (4G), sift-proof wood (4C2), plywood (4D), or reconstituted wood (4F) box, or removable head wood barrel (2C2).
A5.14.3. Package UN0027 in an outer removable head aluminum (1B2), fiber (1G), or removable head steel (1A2) drums. Removable head steel drums (1A2) must be dust tight. Inner packagings are not necessary.

A5.15. Bombs and Bombs, Photo-Flash. Inner packagings are not necessary. Pack in one of the following outer packagings:
A5.15.1. Ordinary wood (4C1), plywood (4D), reconstituted wood (4F), or steel (4A1) box.
A5.15.2. Removable head steel drum (1A2).
A5.15.3. Large articles without their means of initiation, or with their means of initiation containing at least two effective protective features, may be carried unpacked if secured to pallets or securely blocked and braced.

A5.16. Bombs With Flammable Liquid. Ship these items according to a CAA. See 1.6.4 for more information on CAAs. This item contains ethylene oxide. If ethylene oxide odor or leakage is detected, the area must be kept well ventilated. The item must be removed from transportation as soon as practical. Prolonged exposure to ethylene oxide fumes is hazardous to health (see A17.2.4.)

A5.17. Boosters with Detonator. Package in inner metal, plastic, or wood receptacles. Pack inner packagings in an outer ordinary wood (4C1), plywood (4D), reconstituted wood (4F),or steel (4A1) box. Dividing partitions in the outer packaging may be used in place of inner packagings. Detonators with radioactive components are also subject to attachment 11 requirements for radioactive material.

A5.18. Boosters. Package as follows:
A5.18.1. Use this packaging for boosters which are finished articles consisting of closed metal, plastic, or fiberboard receptacles that contain a detonating explosive, or consist of a plastic-bonded detonating explosive. Pack in outer fiberboard (4G), ordinary wood (4C1), plywood (4D), or reconstituted wood (4F) box. Inner packaging is not necessary.
A5.18.2. Use this packaging for cast or pressed boosters in tube or capsules without end closures. Package in inner fiberboard, metal, or plastic receptacles, or in plastic or paper sheets. Pack inner packagings in an outer fiberboard (4G), ordinary wood (4C1), plywood (4D), or reconstituted wood (4F) box.

A5.19. Bursters. Package in inner metal, plastic, or wood receptacles. Pack inner packagings in an outer ordinary wood (4C1), plywood (4D), reconstituted wood (4F), or steel with inner liner or coating (4A2) box. Metal inner packagings must be padded with cushioning material.

A5.20. Cartridges Flash and Cartridges, Signal. Package in inner fiberboard, metal, kraft paper (for cartridge of 1.4G and 1.4S), plastic, or wood receptacles. Pack inner packagings in an outer fiberboard (4G), ordinary wood (4C1), plywood (4D), reconstituted wood (4F), or steel with inner liner or coating (4A2) box.

A5.21. Cartridges for Weapons; Cartridges for Weapons, Inert Projectile or Cartridges, Small Arms; Cartridges for Weapons, Blank, or Cartridges, Small Arms, Blank. Package in inner fiberboard, metal, plastic, or wood receptacles. Metal clips or dividing partitions in the outer packaging may be used in place of inner packagings. Open ends of inner packagings must be fitted with padded end caps or the outer packaging must be padded. Pack in one of the following outer packagings:
A5.21.1. Fiberboard (4G), ordinary wood (4C1), plywood (4D), reconstituted wood (4F), steel (4A1), or steel with inner liner or coating (4A2) box.
A5.21.2. Removable head steel drum (1A2).

A5.22. Cartridges, Oil Well. Package in inner fiberboard, plastic, or metal receptacles. Pack inner packagings in an outer fiberboard (4G), ordinary wood (4C1), plywood (4D), or reconstituted wood (4F) box.

A5.72. Lead Azide, Wetted; Lead Mononitroresorcinate; Lead Styphnate, Wetted; and Lead Trinitroresorcinate. Package in inner plastic, rubber, textile, or rubberized textile bags. Pack inner packaging in an intermediate plastic, rubber, textile, or rubberized textile bag, wood barrel, or plastic receptacle. Pack this configuration in an outer removable head wood barrel (2C2), removable head plastic (1H2) or removable head steel (1A2) drum. Coatings other than lead are authorized for removable head steel drums. The barrels and drums must have a watertight seal. The intermediate and outer packagings must be filled with water or an appropriate water-saturated material when the intermediate packaging is a rubber or rubberized textile bag. The intermediate packaging must be entirely surrounded inside the outer packaging with wetted cushioning material.

A5.73. Lighters, Fuse. Package in inner fiberboard, metal, or wood receptacles, paper sheets or plastic trays. Pack the inner packaging in an outer fiberboard (4G), ordinary wood (4C1), plywood (4D), reconstituted wood (4F), or steel with inner liner or coating (4A2) box.

A5.74. Mannitol Hexanitrate (Nitromannite), Wetted and Mercury Fulminate, Wetted. Package in inner plastic, rubber, textile, or rubberized textile bags. Pack inner packaging in an intermediate plastic, rubber, textile, or rubberized textile bag, wood barrel, or plastic receptacle. Pack this configuration in an outer removable head wood barrel (2C2), removable head plastic (1H2) or removable head steel (1A2) drum. Coatings other than lead are authorized for removable head steel drums. The barrels and drums must have a watertight seal. The intermediate and outer packagings must be filled with water or an appropriate water-saturated material when the intermediate packaging is a rubber or rubberized textile bag. The intermediate packaging must be entirely surrounded inside the outer packaging with wetted cushioning material.

A5.75. 5-Mercaptotetrazol-1-Acetic Acid. Package in inner plastic bags, then packed in an outer fiber drum (1G).

A5.76. Mines. Inner packagings are not necessary. Pack in one of the following outer packagings:
A5.76.1. Ordinary wood (4C1), plywood (4D), reconstituted wood (4F), or steel (4A1) box.
A5.76.2. Removable head steel drum (1A2).
A5.76.3. Large articles without their means of initiation, or with their means of initiation containing at least two effective protective features, may be carried unpacked if secured to pallets or securely blocked and braced.

A5.77. 5-Nitrobenzotriazol; Nitrotriazolone (NTO); and Nitro Urea. Pack water-soluble substances in waterproof receptacles. All packages must be lead-free. Package:
A5.77.1. In inner metal, paper, or plastic receptacles. Pack inner packagings in an outer removable head wood barrel (2C2).
A5.77.2. In inner plastic sheets, then packed in an outer fiberboard (4G), ordinary wood (4C1), plywood (4D), or reconstituted wood (4F) box or fiber (1G) drum.

A5.78. Nitrocellulose. Ship according to a competent authority approval (CAA). See 1.6.4 for more information on CAAs.

A5.79. Nitrocellulose, Plasticized and Nitrocellulose, Wetted Items. Package:
A5.79.1. In an outer removable head aluminum (1B2) or removable head steel (1A2) drum. Inner packagings are not necessary.
A5.79.2. In inner waterproof paper, plastic, or rubberized textile bags, then packed in an outer removable head wood barrel (2C2).
A5.79.3. In inner plastic or rubberized textile sheets, then packed in an outer fiberboard (4G), ordinary wood (4C1), plywood (4D), or reconstituted wood (4F) box, or fiber drum (1G).

A5.80. Nitroglycerin, Desensitized. Package in inner metal cans, glass or plastic receptacles. Pack the inner packagings in an outer ordinary wood box (4C1).

A5.81. Nitroglycerin Solution in Alcohol. Package in inner metal cans, glass or plastic receptacles. Pack the inner packagings in an outer ordinary wood (4C1), plywood (4D), or reconstituted wood (4F) box.

MARKING HAZARDOUS MATERIALS

A14.1. General Requirements. Mark hazardous materials according to MIL-STD-129 and this manual. Unless otherwise specified, mark all packages containing hazardous materials with the PSN and identification number shown in the alphabetical listing of items in table A4.1. Do not use abbreviations (except "w" (with), "w/o" (without), and "ORM" [other regulated material]).

A14.1.1. **United Nations (UN) Performance Oriented Packaging (POP) Markings.** POP markings are mandatory for packages of hazardous materials destined to an overseas location, or if the ultimate consignee is an overseas location. Activities originating hazardous materials shipments must consider the possibility that the material could be shipped overseas, and apply the POP mark accordingly. POP markings are strongly recommended for shipments where the ultimate consignee is a domestic activity, but are not yet mandatory. DOT and Federal or Military specification numbers are not required for domestic shipments unless POP markings do not appear on the container. A description of the codes and sequence of information contained in the POP marking are identified in figure A14.1.

U N	The symbol used to certify that the packaging complies with United Nations recommendations. For embossed metal packagings the capital "UN" can be applied as the symbol.
4G	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 box 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) will be 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 will be 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) will be a number indicating the category of packaging within the same type (i.e., 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]). The following special codes may follow the packaging type code:
V	Special packaging meeting the tests specified in 49 CFR 178.601(g)(2).
W	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 178.601(h).

Figure A14.1. POP Markings Codes and Sequence of Instruction.

X1.4 or X15	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 PG will be followed by the relative density, rounded off to the first decimal, for which the container has been tested. This may be omitted when the relative density does not exceed 1.2. For packagings intended to contain solids or inner packagings, the PG will be followed by the maximum gross weight, in kilograms, that the packaging configuration has been tested.
100 or S	For single packagings intended to contain liquids, the next marking indicates the maximum test pressure, in kPa, rounded off 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 A3.1.2.
	The last two digits of the year during which the packaging was manufactured. Packagings of types 1H1, 1H2, 3H1, and 3H2 must also be marked with the month of manufacture. The month of manufacture may be marked on the packaging in a different place than the POP marking.
	The country authorizing the allocation of the mark.
***	The symbol of the party responsible for ensuring that the UN requirements have been met. The symbol must be 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 must be marked to indicate they have been properly reconditioned. This marking must be applied near the initial marking and must replace 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 must apply the following markings in sequence:
USA	The country in which the reconditioning was conducted.
***	The name or registered symbol of the reconditioner.
93	The year the packaging was reconditioned.
R	Enter the letter "R."
L	Enter the letter "L" for every packaging successfully passing the leakproofness test.

Figure A14.1. Continued.

A14.1.1.1. **POP Marking of Combination Packaging.** Combination packages, with inner receptacles containing liquid hazardous material, must be marked to indicate that the inner receptacles meet the UN performance internal hydraulic pressure standard. The outer container must be marked "Air Eligible" to verify the inner containers meet the internal pressure requirement for air eligibility.

A14.1.1.2. **Overpacking POP Marked Packaging.** Inner packagings, which contain the prescribed UN POP markings, may be overpacked without further testing of the outer container. Mark the outer container "INNER PACKAGES COMPLY WITH PRESCRIBED SPECIFICATIONS." The overpack must also be marked according to A14.1.1.1, if it contains a liquid.

A14.1.1.3. **Grandfathered POP Items.** Containers packaged before January 1, 1990 may be shipped internationally by military air without the UN markings. Annotate the shipping papers with the words, "Government-owned goods packaged before January 1, 1990."

A14.1.2. **"THIS SIDE UP."** Pack all liquid hazardous materials in inside containers with filling holes up. Plainly mark the outside container "THIS SIDE UP" or "THIS END UP" on the cover or top to indicate the position of the inside containers. 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. In addition, two sides of a rectangular container and two equal distant points on the circumference of a cylindrical container must be stenciled with the word "UP," with an arrow pointing toward the top of the container. The length of the arrow must not be less than 2.54cm (1 inch) and the shaft not less than 1.3cm (1/2 inch) in width. The size of the arrow must be proportioned to the space available. Orientation labels may be used in place of stencil (see A15.1.8).

A14.1.3. **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:

- The name of the hazardous substance as shown in appendix A to 49 CFR, paragraph 172.101.
- The waste stream number.
- The letters "EPA" followed by the word "ignitability," "corrosivity," "reactivity," or "EP toxicity," as appropriate, or the corresponding "D" number, as appropriate.

A14.1.4. **Inhalation Hazard.** Mark each package containing any material that falls within the inhalation toxicity criteria specified in 49 CFR 173.133 "Inhalation Hazard." This requirement is applicable for containers having a capacity of 1 L (1.1 quarts) to 416.41 L (110 gallons).

A14.2. Marking Requirements Applicable to Class:

A14.2.1. **Class 1.** Mark packages of explosives containing liquids on the top with words "THIS SIDE UP."

A14.2.2. **Class 2.**

- For ethylene oxide prepared and certified according to A6.14.4, mark the top head of the drum "THIS END UP."
- Mark fire extinguishers prepared and certified according to A6.3.2.7 to indicate year of test and "MEETS DOT REQUIREMENTS." The words "This extinguisher meets all requirements of 49 CFR 173.306" may be displayed in place of "MEETS DOT REQUIREMENTS" on extinguishers manufactured before January 1, 1976.
- Each outside container of cryogenic liquids prepared and certified according to A6.12 must have arrows to indicate upright position and must be marked "KEEP UPRIGHT" and "DO NOT DROP." Hydrogen, cryogenic liquid must meet the marking requirements in 49 CFR 178.57-20 and, the total rate of venting in standard cubic feet per hour (SCFH) must be 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).
- For nitric oxide prepared and certified according to A6.21 and the DOT 3A, 3AA, 3AL, or 3E1800 cylinders are overpacked, mark the outer wooden box "INSIDE CONTAINERS COMPLY WITH PRESCRIBED SPECIFICATIONS."
- For compressed gases in limited quantities prepared and certified according to A6.3, mark the outside packaging "INSIDE CONTAINERS COMPLY WITH PRESCRIBED SPECIFICATIONS" and "LIMITED QUANTITIES" or "LTD QTY."
- Refrigerant gases or engine-starting fluid prepared and certified according to A6.5.5 and A6.5.6, mark the outside shipping container "INSIDE CONTAINERS COMPLY WITH PRESCRIBED SPECIFICATIONS."

A14.2.3. **Class 3.** When shipping combustible liquids, mark the shipping container with the type of fuel and the flash point.

A14.2.4. **Class 5.** For bromine pentafluoride or bromine trifluoride prepared and certified according to A9.11 using a DOT 3E1800 cylinder, mark the outside container "INSIDE CONTAINERS COMPLY WITH PRESCRIBED SPECIFICATIONS."

A14.2.5. **Class 6.** Permanently mark outside plastic containers used for 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 must be located within 15 cm (6 inches) of the packaging's closure.

A14.2.6. **Class 7.** For limited quantities prepared and certified according to A11.11, the outside of the inner packaging or if there is no inner packaging, mark the outside of the packaging itself "Radioactive."

- Mark each package of radioactive materials over 50 kg (110 pounds) to show the gross weight.
- Mark each package of radioactive material that meets the requirements for type A or type B packaging on the outside of the package in letters at least 13mm (1/2 inch) high, with the words "TYPE A" or "TYPE B," as

appropriate. Do not mark a package that does not meet these requirements. Mark each package of radioactive materials destined for overseas shipment "USA."

A14.2.7. **Class 8.** Mark the outer container of chemical kits prepared and certified according to A12.7 "CHEMICAL KITS" or "FIRST AID KITS" as applicable.

A14.2.8. **Class 9.** For wheelchairs prepared and certified to A13.6.2.3, mark the outer container containing the battery "THIS SIDE UP."

A14.2.9. **ORM Markings.** Plainly, durably, and legibly mark each package containing a material classified as "ORM-D" on at least one side or end with "ORM-D" or "ORM-D-AIR" immediately following or below the PSN. The ORM designation must be placed within a rectangle that is approximately 6.3 mm (1/4 inch) larger on each side than the ORM designation. An ORM designation is only authorized for domestic shipments.

A14.3. Marking Requirements Applicable to "Limited" and "Excepted" Quantities:

A14.3.1. **Limited Quantities.** Mark packages used for dangerous goods in limited quantities "Limited Quantities" or "LTD QTY."

A14.3.2. **Excepted Quantities.** Mark the air manifest with the words, "Dangerous Goods in Excepted Quantities."

LABELING HAZARDOUS MATERIALS

A15.1. General Requirements. Unless otherwise specified in this manual, packages containing hazardous materials must have the appropriate labels, as identified in table A4.1, applied to the outside container. When hazardous materials are palletized on a 463L pallet or warehouse skid, the label must be clearly visible. Position hazardous cargo loaded in the back of a vehicle so the labels are clearly visible, or apply the labels for each hazard loaded in the back of the vehicle to a marker board that is clearly visible. Label hazardous materials that meet more than one hazard class for each hazard. When hazardous materials having different classes are packed in the same packaging or outside container, the outside container must be labeled as required for each material. Do not apply hazard labels to a package containing material which is not regulated. Do not use labels that are easily confused by their use, shape, and color, with the standard caution labels prescribed in the ICAO, IATA, or 49 CFR 172.411 through 172.450.

A15.1.1. Attach labels to the part of the package bearing the consignee's name and address.

A15.1.2. Do not place labels over any identifying data on the container.

A15.1.3. Include hazardous material class and division numbers, if applicable, (i.e., 1.1, 6.1, 8) in the bottom corner of the label that identifies the primary hazard. Labels that do not have the class or division number preprinted may be stamped or overprinted with the appropriate hazard class number in the bottom corner of the label. A label identifying any subsidiary risk (secondary hazard) must not show the class or division number. Obliterate this number (with the same color as the label) if already on the label.

A15.1.4. Certify items containing both limited quantity radioactive and magnetic characteristics to the radioactive material. Although limited quantity radioactive material is exempt from labeling, a magnetic material label must be applied to the shipping container.

A15.1.5. Material classified as an infectious substance, that also meets the definition of a Class 2.3 poison or a radioactive material, must also be labeled with a "POISON GAS" label or "RADIOACTIVE" label as appropriate.

A15.1.6. Label empty packages according to A3.1.12.

A15.1.7. The "Cargo Aircraft Only" label is required on all shipments of dagger and theta cargo and packagings not permitted on passenger aircraft except according to chapter 3. The "Cargo Aircraft Only" label is not required on cargo shipped according to chapter 3 (see attachment 17 for certification.)

A15.1.8. Combination packagings or overpacks used to ship liquid hazardous material must have two Package Orientation (This Way Up) labels. Place the labels on opposite vertical sides to indicate the orientation of the inside containers. The lettering "THIS SIDE UP" or "THIS END UP" will also be included. Arrow stencils may be used in place of the orientation labels (see A14.1.2).

A15.1.9. Labels. It is the shipping activity's responsibility to establish procedures to locally fund for and procure hazardous material labels and commercial forms.

A15.2. General Requirements Applicable to Hazard Classes:

A15.2.1. **Class 2.**

- A toxic gas label may be used in place of a poison gas label required by table A4.1.
- For packages containing oxygen, compressed; or oxygen, refrigerated liquid, a label with the word "OXYGEN" may be used in place of a label with the word "OXIDIZER," if the letter size and color are the same as those required for oxidizer, and the class number "2" would be used instead of Class "5.1." An "OXYGEN" label may be used in place of the "NONFLAMMABLE GAS" and "OXIDIZER" labels required in table A4.1.
- Recoil mechanisms or artillery gun mounts prepared and certified according to A6.7.3, must have a nonflammable compressed gas label applied to each exterior container. However, when shipped as an integral part of the complete weapon system, the nonflammable compressed gas label may be on the weapon or its exterior cover.

A15.2.2. **Class 3.** All flammable liquids, whose vapor pressure (Reid test) is more than 110 kPa (16 psi) at 38 degrees C (100 degrees F), must have a "white bung label," 76 x 127 mm (3 by 5 inches), affixed near the bung or closure of the container.

A15.2.3. **Class 7.**

- Label each package of radioactive materials, unless excepted by attachment 11. The proper label to affix to a package of radioactive material is based on three conditions: the radiation level at the surface of the package, the transport index, and the fissile characteristics of the package if appropriate. The proper category of label is determined according to table A15.1. Apply the highest category label required for any of the three determining conditions. Radioactive white-I is the lowest category and radioactive yellow-III is the highest. For example: a package with a transport index of 0.8 and a maximum surface radiation level of 60 millirem per hour (mrem/h) which contains no fissile material must bear a radioactive yellow-III label (see table A15.1.)

Table A15.1. Radioactive Label Requirements. (See Note)

	A	B	C	D
RULE	**If The Transport Index (TI) is**	**and the Radiation Level (RL) Surface Is**	**or the Fissile Criteria Is**	**Then The Label Is**
1	N/A	0-0.5 mrem/h	fissile class I only, no fissile class II or III	white-I
2	0.1-1.0	0.6-50 mrem/h	fissile class I, fissile class II, with T.I.0.1-1.0, no fissile class III.	yellow-II
3	1.1-10	50.1-200 mrem/h	fissile class II, with T.I.1.1-10, fissile class III.	yellow-III

NOTE: The category of label must be shown in Key 16 of the Shipper's Declaration for Dangerous Goods and must also be applied to radioactive materials packages. Any package containing a "highway route controlled quantity" must be labeled as radioactive yellow-III.

- Label each package containing a radioactive material, that also meets the definition of one or more additional hazards, as required by this attachment for the radioactive material and for each additional hazard. For example, packages containing:
- Label solid nitrates of uranium or thorium "RADIOACTIVE" and "OXIDIZER."
- Label nitric acid solution of radioactive material "RADIOACTIVE" and "CORROSIVE."
- Each package requiring a "RADIOACTIVE" label must have two of these labels affixed to opposite sides of the package. Enter the following information in the blank spaces by legible printing (manual or mechanical), using a durable weather resistant means of marking:
  - **"Contents."** The name of the radionuclides as taken from the listing of radionuclides in table A11.1. Symbols that conform to established radiation protection terminology are authorized, (i.e., ^{99}Mo, ^{60}Co, etc). For mixtures of radionuclides, list the most restrictive radionuclides, on the basis of radiotoxicity, as space on the label allows. If an overpack is used to consolidate individual packages, this entry may state "MIXED" unless each inside package contains the same radionuclides.
  - **"Activity."** Express units in appropriate curie units, i.e., curies (Ci), mullicuries (mCi), or microcuries (uCi). Abbreviations are authorized. For a fissile material, the weight in grams or kilograms of the fissile radioisotope also may be inserted. If an overpack is used to consolidate individual packages, this entry must be determined by adding together the number of curies of the radioactive materials packages contained in the overpack.
  - **"Transport Index."** See attachment 1. If an overpack is used to consolidate individual packages, determine this entry by adding together the transport indexes of the radioactive materials packages contained in the overpack. The transport index of the overpack must not exceed 3.0 for passenger-carrying aircraft shipments, or 10.0 for cargo only aircraft shipments.

A15.2.4. **Class 8.**

- Label chemical kits with the primary hazard label and any subsidiary risk labels applicable to each individual hazard within the kit.
- Batteries prepared and certified according to A12.5 must have a "Package Orientation" labels indicating the upright position (top) of the container.

A15.2.5. **Class 9.** A label is not required when shipments are prepared and certified according to A13.5 or A13.6.

A15.3. Limited and Excepted Quantities. Label each limited quantity package for each dangerous good contained in the package. However, each excepted quantities container only requires a completed "Dangerous Goods in Excepted Quantities" label attached to the container.

A15.4. Label Specifications:

- Labels must be diamond-shaped with each side at least 10 cm (4 inches) long and have a solid line border 6.3 mm (0.25 inches) from the edge.
- The hazard class and division number must be at least 6.3 mm (0.25 inches) and not greater than 12.7 mm (0.5 inches). The label text must be at least 7.6 mm (0.3 inches) and will be in capitalized Roman letters.
- Use the color specifications detailed in 49 CFR 172.407(d), for the labels prescribed.
- A label conforming to specifications in the UN recommendations may be used in place of a corresponding label which conforms to the requirements of 49 CFR and this manual.

AREA PLACARDING

A16.1. General Requirements. Placard aircraft transporting any hazardous materials when parked according to table A16.1.

A16.2. Park aircraft transporting DoD Class 1.1, 1.2, and 1.3 explosives and Class 2.3 Hazard Zone A and B poison gas in a placarded area. Placarding is still required for these materials when parked in a designated restricted, posted, and traffic controlled parking or loading and unloading area.

A16.3. Park aircraft transporting hazardous materials other than those identified in A16.2 in a placarded area. However, placarding is not required for these materials when parked in a designated restricted, posted, and traffic controlled parking or loading and unloading area. Use the placards specified in AFI 91-201, *Explosive Safety Standards*, instead of those specified in table A16.1 on Air Force installations.

A16.4. Conspicuously display placards at the front, rear, and both sides of the aircraft unless emergency response access is restricted. Then post placards at entry points.

A16.5. Military hosts are responsible for placarding at military bases. At nonmilitary airfields, the agency delivering cargo to the aircraft, or off loading cargo is responsible for making arrangements with the airport manager for identifying the cargo, isolating parking and loading, placarding, firefighting, and disaster response. Arrangements for using en route nonmilitary airfields is the responsibility of the activity having operational control of the aircraft. A description of the placards is shown in table A16.1.

A16.6. It is the shipping activity's responsibility to establish procedures to locally procure and fund for hazardous material placards.

Table A16.1. Placard Requirements. (see notes)

Area Placards Required for Parked Aircraft Containing Hazardous Cargo

Hazard Class or Division (any quantity)	**Type of Placard**
1.1	EXPLOSIVES 1.1
1.2	EXPLOSIVES 1.2
1.3	EXPLOSIVES 1.3
2.3	POISON GAS
4.3	DANGEROUS WHEN WET
6.1 (PG I, Inhalation hazard only)	POISON
7 (radioactive yellow-III label only)	RADIOACTIVE

Hazard Class or Division (1,000 pounds or more gross weight)	**Type of Placard**
1.4	EXPLOSIVES 1.4
1.5	EXPLOSIVES 1.5
1.6	EXPLOSIVES 1.6
2.1	FLAMMABLE GAS
2.2	NONFLAMMABLE GAS
3	FLAMMABLE
4.1	FLAMMABLE SOLID
4.2	SPONTANEOUSLY COMBUSTIBLE
5.1	OXIDIZER
5.2	ORGANIC PEROXIDE
6.1 (PG I or II, other than PG I inhalation hazard)	POISON
6.1 (PG III)	KEEP AWAY FROM FOOD
6.2	none required
8	CORROSIVE

NOTES:

1. The quantity limitation will be the total gross weight of the packages comprising the shipment or different shipments of the same classification. When cargo contains two or more hazardous articles (other than explosives 1.1, 1.2, and 1.3) which are compatible (see attachment 18), combine the gross weight and quantity for this purpose.
2. Placards complying with 49 CFR may be used.
3. EXPLOSIVE 1.2 placards are not required if the area contains both Class 1.1 and 1.2 explosives. Placard the area with EXPLOSIVE 1.1 placards.

CERTIFYING HAZARDOUS MATERIALS

A17.1. Shipper's Certification. Unless specifically exempted in this manual, a shipper's certification is required for all military air shipments of hazardous materials. Complete the certification form according to this attachment.

A17.1.1. **Forms Required.** Complete shipper's certification on the "Shipper's Declaration for Dangerous Goods" commercial form. Two styles of commercial forms may be used. One style is designed for computerized completion with the "Nature and Quantity of Dangerous Goods" section left open for continuous computer printing. The other style is designed in a columnar format for manual completion, with the "Nature and Quantity of Dangerous Goods" section blocked and formatted with headings specifying each key entry (figure A17.4). ***NOTE:*** Certifiers do not generate locally developed FORMS on computers, but may use automated products (spreadsheets, dbase, word-processing) when submitting required reports/documents.

A17.1.2. **Certification Authority.** Except as identified in this paragraph, certify on the Shipper's Declaration for Dangerous Goods to a packaging reference in this manual. Hazardous material may be certified to the ICAO Technical Instruction, IATA Dangerous Good Regulation, or Title 49 CFR under the following conditions:

- Comply with all requirements of the certifying document.
- Do not exceed the passenger quantity limitations of the certifying document (also see A17.1.5.) If the passenger quantity limitations of the certifying document are exceeded or the material is forbidden on passenger aircraft, then the shipment must be certified to this manual.
- Include handling instructions identified in this manual for specific proper shipping names on the certification form in the "Additional Handling Information" block.
- Include the packaging paragraph from this manual on the certification form in the "Additional Handling Information" block.
- Certify vehicles and support equipment to this manual.

A17.1.3. **Copies Required.** Complete and sign an original and at least one copy of the certification form. Attach the original certification form to the copy of the manifest that is placed on the aircraft. An original signature is required on the original Shipper's Declaration for Dangerous Goods. Attach a copy to the station file manifest. The original attached to the aircraft manifest and the copy attached to the station file manifest must have the vertical red hatch border. Additional copies may be placed in a waterproof envelope and attached to the number one piece of the shipment. Vertical red hatch border is not required for any additional copies.

A17.1.4. **Single Items With Multiple Hazards.** Only one Shipper's Declaration for Dangerous Goods is required when shipments involve a single item with multiple hazards. Certify to the highest hazard. All additional hazards will be identified by PSN, hazard class, and net quantity in "Additional Handling Information" (Key 19). Additionally, the same form may be used for one or more items with the same PSN and identical hazards.

A17.1.5. **Packages Containing Different Proper Shipping Names.** For packages containing items with different proper shipping names, prepare individual Shipper's Declarations for Dangerous Goods for each different PSN in the overpack. This is required for military airlift, regardless of the certification document used. Pieces of hazardous cargo with different proper shipping names, thus different Shipper's Declarations, cannot be shipped under the same transportation control number (TCN). General cargo and hazardous cargo may be shipped under the same TCN and only one original Shipper's Declaration for Dangerous Goods is required (see DoD 4500.32-R).

A17.1.6. **Not Enough Space In a Key.** If the Shipper's Declaration for Dangerous Goods does not contain sufficient space in any one key to accommodate all of the required information, use an additional Shipper's Declaration as an extension page. Each page must show the page number and total number of pages (Key 4). All pages must have the vertical red hatch border.

A17.1.7. **Classified Information.** If the information to be entered on the Shipper's Declaration is classified, follow the procedures outlined in A17.5.3.

A17.1.8. **Not Enough Copies or No Copies.** In instances where there are not enough copies of the Shipper's Declaration for Dangerous Goods, a certified "true copy" may be placed with the station file manifest. When making a true copy:

- Annotate all the information verbatim from the original Shipper's Declaration for Dangerous Goods.
- Use the information in the signature block from the original form and annotate it on the true copy, (i.e., John Doe, 2 Oct 90). On the reverse side of the form, type or clearly print the words "True Copy" and the name of the individual who is certifying the form to be a true copy. This official must sign the form in longhand above the typed or printed name. The individual preparing a "true copy" need not be qualified according to 1.17.4 to certify the Shipper's Declaration for Dangerous Goods is a true copy.

A17.1.9. **Multiple Mode Shipments.** Shipments certified to the ICAO, IATA, or 49 CFR that do not exceed the passenger quantity limitations of the certifying document may use the same Shipper's Declaration for Dangerous Goods for both the

commercial and military segment of transport. Include any information required by A17.1.2. For shipments that exceed the passenger quantity limitations of the ICAO, IATA, or 49 CFR, complete a Shipper's Declaration for Dangerous Goods according to the ICAO, IATA, or 49 CFR for the commercial segment and a separate Shipper's Declaration for Dangerous Goods according to this manual for the military segment. Place copies of the Shipper's Declaration for Dangerous Goods needed for subsequent movement in a waterproof envelope on the number one piece of the shipment. DoD aerial port personnel will remove the copies of the Shipper's Declaration for Dangerous Goods from the waterproof envelope and obliterate the "cargo aircraft only" label if not required for military transport.

A17.1.10. **Exceptions for Chapter 3 Operations.** Except as specified below, prepare the Shipper's Declaration for Dangerous Goods according to this manual for tactical or contingency operations.

- **Key 1.** Show the address of the station where the cargo was certified and the telephone number of the certifier's assigned unit.
- **Key 2 and Key 9.** Show worldwide mobility.
- **Key 5.** Show the mobility transportation control number (TCN). Refer to DoD 4500.32-R, *Military Standard Transportation and Movement Procedures*, for completing TCN.
- **Key 7.** Although the label is not required on the cargo, Key 7 must have the "Passenger and Cargo Aircraft" block deleted if the material is cargo aircraft only.

A17.2. Certification Requirements for Specific Items:

A17.2.1. Competent Authority Approvals (CAA). If the shipment is packaged and transported under the authority of a CAA, cite the CAA number in Key 17. Mark the shipping papers, "PACKAGING AUTHORIZED BY COMPETENT AUTHORITY OF THE UNITED STATES OF AMERICA (USA)." A copy of the CAA must accompany the shipment.

A17.2.2. Engines Internal Combustion, Fuel Devices, and Other Equipment.

- For engines, internal combustion prepared according to A13.5, show the PSN, hazard class, and net quantities of flammable fuel (and any other additional hazards) in Key 19. Identify by name and quantity any non-hazardous fuel in vehicles or equipment tanks. Enter the flash point for flammable and non-hazardous fuel in Key 19. When an item is completely drained (but not purged) so that the quantity of fuel is below 500 ml (17 ounces), the shipper's estimate of the quantity of fuel remaining in the unit may be entered. Include the statement "non-hazardous battery installed" if applicable. Reference to the technical directive used to prepare the item for military air shipment is not required.
- Drained and purged repairable engines and fuel devices prepared according to A13.7.1 and A13.7.2 are not hazardous for transportation. A Shipper's Declaration for Dangerous Goods is required. Complete Keys 1 through 8, 17, and 19 through 22. Annotate "Drained and Purged" in Key 19. Items prepared according to A13.7.3 and A13.7.4 do not require a Shipper's Declaration for Dangerous Goods.
- Certification is not required for movement of wheelchairs with patients.

A17.2.3. **Life-Saving Appliances.** For life-saving appliances, Class 9, prepared according to A13.11, show the PSN, hazard class and net quantity of each hazard within the shipping containers in Key 19.

A17.2.4. **Bombs.** Bombs with flammable liquid prepared according to A5.16 must contain the following statement in Key 19: "Warning! This item contains ethylene oxide. If ethylene oxide odor or leakage is detected, the area must be kept well ventilated. Remove the item from transportation as soon as practical. Prolonged exposure to ethylene oxide fumes is hazardous to health."

A17.2.5. **Cryogenic Liquids.** For cryogenic liquids prepared according to A6.12 provide venting instructions in Key 19. This is not required if venting procedures are provided in a separate instruction accompanying the shipment. Include the location and description of the vent valve. Also, include one of the following statements for venting the unit:

- "Vent container to outside of aircraft."
- "Unit is empty and purged, and does not require venting."
- "Container is excepted from venting."

A17.2.6. **Excepted Quantities.** A Shipper's Declaration for Dangerous Goods is not required for excepted quantities prepared according to A19.2. The shipping papers (air manifest) must be annotated "Dangerous Goods in Excepted Quantities."

A17.3. Completing the Certification Form:

A17.3.1. **Manual and Mechanical Completion of the Certification Form.** The Shipper's Declaration for Dangerous Goods may be completed either manually (hand printed) or mechanically (typewriter, computer, etc.). The Shipper's Declaration for Dangerous Goods may be completed by a combination of manual and mechanical means, as required, providing all entries are clear and legible. However, when possible, the Shipper's Declaration for Dangerous Goods should

be completed entirely manually or entirely mechanically by the shipping activity. Incorrect punctuation or entries contacting column separating lines on the form is not justification for frustrating hazardous cargo.

A17.3.2. **Pen and Ink Changes.** Pen and ink changes may be made to any key. Except for Keys 2, 3, 8, 9, and 19, the certifying official must sign above the change. Key 2, 3, 8, 9, and 19 may be changed by someone other than the certifier without effecting the certification. Personnel making a change to these keys must sign above the change. All entries must be durable, clear, and legible on all copies. Shipments may be frustrated if any entry on the Shipper's Declaration for Dangerous Goods is not clear and legible. If the Shipper's Declaration for Dangerous Goods is rejected, the correction must be accomplished as described in this paragraph or an entirely new form must be completed and presented to the shipping activity.

A17.3.3. **Responsibility for Completion.** Except for Key 3, all entries must be made by the shipping activity. The excepted key may be completed by air freight terminal personnel. Also, air terminal personnel may enter "DOT-E 7573" on the Shipper's Declaration for Dangerous Goods form when contract commercial aircraft is used according to attachment 25.

A17.3.4. **Blank Keys.** Leave blank any key that does not require an entry (i.e., Key 15 when there is no subsidiary risk).

A17.4. Completing the Shipper's Declaration for Dangerous Goods. Figure A17.1 provides detailed instructions on accomplishing the certification form for nonradioactive shipments. Figure A17.2 provides guidance to determine if a Shipper's Declaration for Dangerous Goods is required for radioactive shipments. Figure A17.3 outlines certification requirements for radioactive shipments.

Key 1. Shipper. Enter the address and telephone number where the hazardous material was certified.

Key 2. Consignee. Enter the six-digit Department of Defense Activity Address Codes (DODAAC) and/or the in-the-clear geographical location of the ultimate consignee (if known.)

Key 3. Air Waybill No. The aircraft manifest number to which the Shipper's Declaration for Dangerous Goods will be attached may be entered in this key. This number need not be entered by the shipper. It may be entered by the accepting operator at the time it is assigned. This key may also be left blank.

Key 4. Page...of...Pages. Enter the page number and total number of pages of the Shipper's Declaration for Dangerous Goods form. Enter "Page 1 of 1 Pages" or leave blank if there are no extension pages.

Key 5. Shipper's Reference Number. Enter the 17-character transportation control number (TCN).

Key 6. Optional Block. Leave blank.

Key 7. Shipment Within Passenger Aircraft and Cargo Aircraft Limitations. If the shipment is acceptable for movement on both passenger and cargo aircraft, delete "Cargo Aircraft Only." If the shipment is allowed on cargo aircraft only, delete "Passengers and Cargo Aircraft."

Key 8. Airport of Departure. Enter the three-digit Port of Embarkation (POE) and/or the in-the-clear geographical location of the airport of departure.

Key 9. Airport of Destination. Enter the three-digit Port of Debarkation (POD) and/or the in-the-clear geographical location of the airport of destination.

Key 10. Shipment Type. Delete "Radioactive" since the shipment contains no radioactive material.

Key 11. Proper Shipping Name. Enter the PSN as it appears in table A4.1. Enter the following information, if applicable, in association with the basic description:

- The word "POISON" for a liquid or solid Class 6.1 PG I or II material if the PSN does not identify the material as a poison.
- For materials which are poisonous by inhalation, enter the words "POISON-INHALATION HAZARD" and "ZONE A", "ZONE B", "ZONE C", or "ZONE D" for gases, or "ZONE A" or "ZONE B" for liquids, as appropriate. If already identified, the word "POISON" need not be repeated. Enter "INHALATION HAZARD" and the appropriate zone.
- The word "Dangerous When Wet" when a material meets the definition of a dangerous when wet material.

Key 12. Class and Division. Enter the hazard class and division number given in column 3 of table A4-1. For Class 1 material, include the compatibility group letter and the inhabited building distance (if applicable). For a single item with more than hazard, enter the hazard class number of the item's highest or primary hazard.

Key 13. UN, NA, or ID No. Enter the United Nations (UN), North American (NA), or identification number (ID) given in column 4 of table A4.1. Include the UN, NA, or ID prefix and the number.

Key 14. Packing Group. Enter the applicable Packing Group (PG) given in column 5 of table A4.1.

Key 15. Subsidiary Risk. When more than one hazard label is required, enter the subsidiary risk hazard class and division number corresponding to the subsidiary risk labels required. Do not enter the hazard class and division number of the primary hazard in this key. Only list the hazard class and division number of additional (subsidiary) labels required. If a "Cargo Aircraft Only" label is required, do not annotate it in this key.

Figure A17.1. Continued

Key 16. Quantity and Type of Packing. Enter:

- The number of packages (of same type and content) and their type of packaging (i.e., (1) fiberboard box, (2) metal drums, (4) cylinders). If applicable, enter the specifically named self-propelled vehicle and mechanical apparatus.
- The weight (pound, oz, gm, kg, etc.), volume (pint, quart, cc, liter, etc.), or measure of the actual hazardous material (per package). Do not include any nonhazardous content of the shipment. The net quantity must be entered in metric measurement units. The equivalent English unit of measure may be entered in parenthesis immediately following the metric unit. Show the quantity immediately following the number and type of package (i.e., 2 wooden boxes x 4.5 kg (10 pounds); 1 fiberboard box x 5 L(1.3 gallons)). For explosives, Class 1.1, 1.2, and 1.3, enter the "Net Explosive Weight (NEW)" in kilograms (pounds) per package or per pallet (i.e., 3 wooden boxes x 120 kg (264.6 pounds) NEW; 5 metal boxes x 200 kg (441 pounds) NEW). Unless otherwise required by status, either N/A or the NEW may be entered for Class 1.4, 1.5, 1.6 explosives. Italy and the United Kingdom require the NEW for all explosives entering their country. Annotate kilograms (pounds) in association with the NEW (abbreviations may be used).
- Express in kilograms (pounds), not pounds per square inch, the quantity of compressed gas unless otherwise specified in this instruction. When certifying to A6.3 "Compressed Gases, Limited Quantities, "A6.9 "Fire Extinguishers," and A6.11 "Cigarette Lighter or Other Similar Devices Charged with Fuel," other units of measure; (i.e., fluid ounces, gallons, or ounces) are specified and may be shown on this form.

Key 17. Packing Instructions. Enter the paragraph used to prepare the package for shipment.

- If the packaging has been approved by separate letter, message, or other instructions, cite that and the date of the letter or message, i.e., AFMC 24-204-92-09; COE NA-84-505; DOT-E 7052; etc.
- If a POP certified package is overpacked to meet air eligibility requirements, cite A3.1.10 and the applicable packaging paragraph for the material. Cite the applicable packaging paragraph for the material when packing inner containers into a 1A2 drum to meet air eligible and POP configuration requirements.

Key 18. Authorization. Enter the special provision number from table A4.1 ONLY if it pertains to the packaging. When applicable, enter the words "Limited Quantity" or "LTD. QTY."

Key 19. Additional Handling Information. Enter:

- The PSN, hazard class, and net quantity of each additional hazard for items with multiple hazards.
- Handling instructions, when specified by a packaging paragraph.
- The name and quantity of non-hazardous fuel contained in tanks of vehicles or equipment. Include statement "non-hazardous battery installed" if applicable.
- The flash point in degrees Fahrenheit or centigrade when shipping flammable liquids or for any fuel identified in vehicle or equipment tanks. Show the letters "FP," the number, the degree symbol, and either "F" or "C" corresponding to the unit used. When known, enter the method of determining the flash point (i.e., Tag CC, Seta Flash, or Pensky-Martins).
- The packaging paragraph reference if required by A17.1.2.
- The 24-hour Emergency Response number for the hazardous material listed on the Shipper's Declaration for Dangerous Goods. Enter the words "EMERGENCY CONTACT:" followed by the number. See 2.8 for Emergency Response numbers used by DoD activities.

Key 20. Name/Title of Signatory. Enter the name and title of the official signing the form.

Key 21. Place and Date. Enter the place and date the material was certified (i.e., Kelly AFB, 1 Jan 90).

Key 22. Signature. The official who certifies that the shipment complies with the requirements of this instruction must sign the form in longhand.

Figure A17.1. Step-by step Instructions for Completing Shipper's Declaration for Dangerous Goods for NONRADIOACTIVE SHIPMENTS.

Step 1. Determine the radionuclide and type of package. Turn to A11.4. Find the radionuclide, its name, and the maximum radioactive quantity (Ci) that can be shipped in a type A package. If a type B container is required, go to Step 3.

Step 2. Determine if a Shipper's Declaration for Dangerous Goods is Required. Turn to table A11.7. Determine the maximum quantity that can be shipped as a limited quantity. This amount will be a fraction of the quantity listed in table A11.1. If the item is a limited quantity, a Shipper's Declaration for Dangerous Goods is not required, but you must comply with A11.11, A11.12, A11.13, or 11.14. Go to Step 3 if the material is not a limited quantity.

Step 3. Enter the Information Required in Key 16. Make a note of the transport index, but do not enter it in Key 16.

Step 4. Determine the Proper Shipping Name (PSN). Select the applicable PSN from table A4.1. Complete the appropriate keys using the information found in table A4.1, columns 2 through 4. Do not complete Key 17 at this point. Make a note of all the basic paragraphs listed in column 8.

Step 5. Select the Packaging Paragraph. Determine the correct packaging paragraph from the list you made in Step 4 based on the type of package used (type A or type B). Determine the paragraph based on the particular container used. Enter this information as the first entry in Key 17.

Step 6. Determine the Label Requirements. Use the transport index, the surface reading, and fissile class, if appropriate, to determine the labels required by Attachment 15. Enter the label required as the category of package entry in Key 17, immediately following the packaging paragraph. Enter the transport index and any remaining information required to complete Key 17.

Step 7. Complete the Remaining Keys of the Shipper's Declaration for Dangerous Goods. Step-by-step instructions for completing the Shipper's Declaration for Radioactive Material are identified in figure A17.3.

Figure A17.2. Determining Certification Requirements for Class 7.

Key 1. Shipper. Enter the address and telephone number where the hazardous material was certified.

Key 2. Consignee. Enter the six-digit DODAAC and/or the in-the-clear geographical location of the ultimate consignee (if known).

Key 3. Air Waybill Number. The aircraft manifest number to which the Shipper's Declaration will be attached may be entered in this key. This number need not be entered by the shipper. It may be entered by the accepting operator at the time it is assigned. This key may also be left blank.

Key 4. Page...of...Pages. Enter the page number and total number of pages of the Shipper's Declaration form. Enter "Page 1 of 1 Pages" or leave blank if there are no extension pages.

Key 5. Shipper's Reference Number. Enter the 17-character TCN.

Key 6. Optional Block. Leave blank.

Key 7. Shipment Within Passenger Aircraft and Cargo Aircraft Limitations. If the shipment is acceptable for movement on both passenger and cargo aircraft, delete "Cargo Aircraft Only." If the shipment is allowed on cargo aircraft only (dagger or theta coded items), delete "Passenger and Cargo Aircraft."

Figure A17.3. Continued.

Key 8. Airport of Departure. Enter the three-digit POE and/or the in-the-clear geographical location of the airport of departure.

Key 9. Airport of Destination. Enter the three-digit POD and/or the in-the-clear geographical location of the airport of destination.

Key 10. Shipment Type. Delete "Nonradioactive" since the shipment contains radioactive material.

Key 11. Proper Shipping Name. Enter the PSN as it appears in table A4.1, Alphabetical Listing of Items. Make sure the spelling is exact since some chemical names have similar spellings.

Key 12. Class and Division. Enter the hazard class and division number given in column 3 of table A4.1. For a single item with more than one hazard, enter the hazard class and division number of the item's highest hazard.

Key 13. UN, NA, or ID No. Enter the United Nations (UN) number given in column 4. Include the UN prefix and the number.

Key 14. Packing Group (PG). The PG does not apply.

Key 15. Subsidiary Risk. When more than one hazard label is required, enter the subsidiary risk hazard class and division number corresponding to the subsidiary risk labels required. Do not enter the hazard class and division number of the primary hazard in this key. Only list the hazard class and division number of additional (subsidiary) labels required. If a "Cargo Aircraft Only" label is required, do not annotate it in this key.

Key 16. Quantity and Type of Packing. Enter:

- Name or symbol of the radionuclide in the material.
- Description of the physical and chemical form of the material, if it is not in special form (generic chemical description is acceptable for chemical form). If special form, enter "Special Form."
- The number of packages (of same type and content), the type of package, and the activity contained in each package in terms of Ci, mCi, or uCi.

Key 17. Packing Instruction. Enter the following information in Key 17 (see figure A17.2, Steps 5 and 6, for assistance):

- Paragraph used to prepare the shipment.
- Category of the package (i.e., "white-I," "yellow-II," or "yellow-III").
- The transport index, preceded by the prefix "Ti", assigned each package having a "Radioactive Yellow-II" or "Radioactive Yellow-III" label and dimensions of each package (including dimensional units).
- The fissile class. If the package is exempt enter the words "Fissile Exempt."
- Maximum allowable number of packages for loading on one aircraft (for fissile class III shipments only).

Key 18. Authorization. Enter Approval Identification Markings (if relevant). List the package identification markings of any of the documents listed below issued by a competent authority. Include the words "attached" to indicate that the documents are attached to the declaration form.

- Special form approval certificate.
- Type B package design approval certificate.
- Type B(M) package shipment approval certificate.
- Fissile material package design approval certificate.
- Fissile material package shipment approval certificate.
- Special arrangement approval certificate.
- Any similar documents.

Figure A17.3. Continued.

Key 19. Additional Handling Information. Enter:

- The PSN, hazard class, and net quantity of each additional hazard for items with multiple hazards.
- Handling instructions, when specified by a packaging paragraph.
- The 24-hour Emergency Response number for the hazardous material listed on the Shipper's Declaration for Dangerous Goods. Enter the words "EMERGENCY CONTACT:" followed by the number. See 2.8 for Emergency Response Numbers used by DoD activities.

Key 20. Name/Title of Signatory. Enter the name and title of the official signing the form.

Key 21. Place and Date. Enter the place and date the material was certified (i.e., Kelly AFB, 1 Jan 90).

Key 22. Signature. The official who certifies that the shipment complies with the requirements of this instruction must sign the form in longhand.

Figure A17.3. Step-by-step Instructions for Completing the Shipper's Declaration for Dangerous Goods for RADIOACTIVE SHIPMENTS.

SHIPPER'S DECLARATION FOR DANGEROUS GOODS (Provide at least two copies to the airline.)

Shipper 1	Air Waybill No. 3 Page of Pages 4 Shipper's Reference Number (optional) 5
Consignee 2	6

Two completed and signed copies of this Declaration must be handed to the operator

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable) 7
PASSENGER AND CARGO AIRCRAFT | CARGO AIRCRAFT ONLY

Airport of Departure 8

Airport of Destination: 9

WARNING

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.

Shipment type: (delete non-applicable)
NON-RADIOACTIVE | RADIOACTIVE 10

NATURE AND QUANTITY OF DANGEROUS GOODS *(see Subsections 6.6 and 8.1 of IATA Dangerous Goods Regulations)*

Dangerous Goods Identification							
Proper Shipping Name	Class or Division	UN or ID No.	Packing Group	Subsidiary Risk	Quantity and Type of packing	Packing Inst.	Authorization
11	12	13	14	15	16	17	18

Additional Handling Information
19

24 hr. Emergency Contact Tel. No. _____

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Name/Title of Signatory 20
Place and Date 21
Signature (see warning above) 22

SHIPPER'S DECLARATION FOR DANGEROUS GOODS (Provide at least two copies to the airline.)

Shipper 1	Air Waybill No. 3 Page of Pages 4 Shipper's Reference Number (optional) 5
Consignee 2	6

Two completed and signed copies of this Declaration must be handed to the operator

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: *(delete non-applicable)* 7

PASSENGER AND CARGO AIRCRAFT | CARGO AIRCRAFT ONLY

Airport of Departure 8

Airport of Destination: 9

WARNING

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.

Shipment type: *(delete non-applicable)*
NON-RADIOACTIVE | RADIOACTIVE 10

NATURE AND QUANTITY OF DANGEROUS GOODS
Proper Shipping Name, Class, UN Number or Identification Number, Packing Group (if required), number of packages, packing instructions and all other required information as detailed in Subsections 6.6 and 8.1 of IATA Dangerous Goods Regulations.

11,12,13,14,15//16//17//18

Additional Handling Information
19

24 hr. Emergency Contact Tel. No. _____

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Name/Title of Signatory 20
Place and Date 21
Signature *(see warning above)* 22

SHIPPER'S DECLARATION FOR DANGEROUS GOODS (Provide at least two copies to the airline.)

Shipper ADDRESS AND TELEPHONE NUMBER	Air Waybill No. SKF1C21222 Page of Pages Shipper's Reference Number (optional) FB20594911212XXX
Consignee 645 ABW Wright Patterson AFB OH	

Two completed and signed copies of this Declaration must be handed to the operator

WARNING

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: *(delete non-applicable)*
~~PASSENGER AND CARGO AIRCRAFT~~ | CARGO AIRCRAFT ONLY

Airport of Departure: Kelly AFB TX

Airport of Destination: Wright Patterson AFB OH

Shipment type: *(delete non-applicable)*
~~NON-RADIOACTIVE~~ | RADIOACTIVE

NATURE AND QUANTITY OF DANGEROUS GOODS *(see Subsections 6.6 and 8.1 of IATA Dangerous Goods Regulations)*

Dangerous Goods Identification							
Proper Shipping Name	Class or Division	UN or ID No.	Packing Group	Subsidiary Risk	Quantity and Type of packing	Packing Inst.	Authorization
Radioactive Material N.O.S.	7	UN2982			137cs, Alkali Metal, solid, 2 type A packages X 10ci	A11.6.1, yellow III, Ti0.8	

Additional Handling Information

24 hr. Emergency Contact Tel. No. 1-800-424-8802

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Name/Title of Signatory
Sgt Michael Werneke
Place and Date
Kelly AFB TX 2 Jan 95
Signature
(see warning above)

SHIPPER'S DECLARATION FOR DANGEROUS GOODS (Provide at least two copies to the airline.)

Shipper

ADDRESS AND TELEPHONE NUMBER

Air Waybill No.

Page 1 of 1 Pages

Shipper's Reference Number NBO1710226193XXX *(optional)*

Consignee

NBO171

Two completed and signed copies of this Declaration must be handed to the operator

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: *(delete non-applicable)*

PASSENGER AND CARGO AIRCRAFT | ~~CARGO AIRCRAFT ONLY~~

Airport of Departure: NGV

Airport of Destination: Norfolk VA

WARNING

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.

Shipment type: *(delete non-applicable)*

NON-RADIOACTIVE | ~~RADIOACTIVE~~

NATURE AND QUANTITY OF DANGEROUS GOODS

Proper Shipping Name, Class, UN Number or Identification Number, Packing Group (if required), number of packages, packing instructions and all other required information as detailed in Subsections 6.6 and 8.1 of IATA Dangerous Goods Regulations.

Engines, internal combustion,9,UN3166//1 Jeep//A13.5.1

Additional Handling Information

Fuel in tank
Gasoline,3,100L (25gal), FP -43°C (-45°F)
Batteries, wet, filled with acid, 8, 2.5L (5 pints)

24 hr Emergency Contact Tel. No. 1-800-851-8061

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Name/Title of Signatory

Duane Pfund, Foreman

Place and Date

Norfolk VA 2 Jan 95

Signature *(see warning above)*

A17.5. Processing the Certification Form. This paragraph provides instructions for processing the Shipper's Declaration for Dangerous Goods after the form has been completed, including what to do for classified material, and what to do if the package is a kit and contains more than one type of hazardous material. These instructions apply to both radioactive and nonradioactive shipments.

A17.5.1. The shipper is responsible for completing at least two copies of the Shipper's Declaration for Dangerous Goods (original and one copy) for each and every shipment regulated by this manual, unless it is stated that a Shipper's Declaration is not required. Although not mandatory, shippers are encouraged to include at least one additional copy in the packing envelope. The originating air terminal forwards the signed original to be attached to the air manifest, and retains a signed copy (reproduced, carbon, or "true" copy). The intransit station forwards the signed original that is attached to the air manifest to the AMC APOE or to the CONUS final destination, as appropriate. All copies shall have a red hatch border.

A17.5.2. If shipping a kit which contains more than one type of hazardous material, prepare the Shipper's Declaration for Dangerous Goods as follows:

- If the kit consists of only one container, prepare one Shipper's Declaration for Dangerous Goods (original plus at least one signed copy) identifying each hazard. All materials must be compatible.
- If the kit consists of more than one container with different hazardous materials, prepare a Shipper's Declaration for Dangerous Goods (original plus at least one signed copy) for each container. In Key 18, add the notation "contained in piece number ***" (replace "***" with the piece number which contains the hazardous materials.) Staple each set of copies together. Attach one set to the air manifest (originals) and retain one set (reproduced, carbon, or "true" copies) in the station file.

A17.5.3. If the information to be entered on the Shipper's Declaration for Dangerous Goods is classified, the following procedures apply:

- Complete the signed original in detail, including essential classified data, and attach to the manifest that is placed on the aircraft. Once the classified information is applied, the Shipper's Declaration for Dangerous Goods must carry the same classification as the highest classification of the entered information.
- The manifest that is placed on the aircraft must carry the same classification as the classified information until the classified Shipper's Declaration for Dangerous Goods is detached and handled according to applicable security regulations.
- Complete the station file copy in detail except for the classified information. Enter the following statement in "Additional Handling Information" (Key 18): "See aircraft commander's copy of Shipper's Declaration for Dangerous Goods for complete information."

COMPATIBILITY

A18.1. Do not load packages containing hazardous materials that might react dangerously with one another or transport in a position that would allow interaction between the material in the event of leakage. Segregation requirements for hazardous material on military aircraft are identified in tables A18.1 and A18.2. Table A18.1 details segregation requirements for all hazardous materials. Table A18.2 specifies compatibility requirements for Class 1.

A18.2. Segregation Requirements for All Hazardous Materials. Table A18.1 indicates the explosives and other hazardous articles that must not be loaded, transported, or stored together. The absence of any hazard class or a blank space in the table indicates that no restrictions apply. The letter "X" at an intersection of horizontal and vertical columns indicates that these articles must not be loaded or stored together. For example, in table A18.1, Class 3 flammable liquids, must not be loaded, transported, or stored with Class 1.1. The letter "O" at an intersection of horizontal and vertical columns indicates that these articles must not be loaded, transported, or stored together unless separated by a distance of 2.2 m (88 inches) in all directions. For example, in table A18.1, Class 8 corrosive liquids, must not be loaded, transported, or stored with Class 4.1 flammable solids unless separated by 2.2 m (88 inches) in all directions. Class 8 corrosive liquids must not be loaded above Class 4 (flammable solid) material or Class 5 (oxidizing) material. Only the primary hazard class or division are considered for compatibility, subsidiary-risk hazards are not considered. The "*" at an intersection of horizontal and vertical columns indicates that segregation among different Class 1 materials is identified in table A18.2. Be sure to check notes for compatibility.

A18.3. Segregation Requirements for Class 1 Materials.
A18.3.1. Unless otherwise authorized, do not pack explosives in the same outside container with other articles. Explosives of the same compatibility group or authorized combination of compatibility groups but different class number may be packed together, provided that the whole package is treated as though its entire contents were comprised of the lower class number (higher hazard). For example, treat a mixed package of Class 1.2D explosives and Class 1.4D explosives as Class 1.2D explosives. However, when Class 1.5D is packed together with Class 1.2D, treat the whole package as Class 1.1D (for compatibility). Noncompatible explosives may be packed together when approved according to TB 700-2/NAVORDINST 8020.3/TO 11A-1-47/DSAR 8220.1, DoD Explosive Hazard Classification Procedures or 2.4.2.
A18.3.2. Specific Requirements For Using Table A18.2. Table A18.2 shows what Class 1 materials must not be loaded, transported, or stored together. A blank space in the table indicates that no restrictions apply. The letter "X" at an intersection of horizontal and vertical columns shows that these articles must not be loaded or stored together. For example, do not load or store Class 1.2C with Class 1.4H. Be sure to check notes for compatibility.

INACCESSIBLE CONTAINERIZED LOADS

A21.1. Containerized Loads. Do not ship containerized loads of hazardous material that are not accessible to the aircrew during flight. The aircrew must have access to all hazardous materials in case of an in-flight incident. This attachment identifies exceptions to this requirement. All requirements of 1.11 apply. The following restrictions apply for transporting hazardous material in containerized loads that are not accessible:

A21.2. Underwater Construction Team. Recompression vans, support vans, and shelters (CONEX) used by the Underwater Construction Team may be shipped by military aircraft. Hazardous items inside these escorted containers have been identified to and approved for shipment by HQ AFMC/LGT.

A21.3. Tactical Shelters. The following items may be shipped aboard military aircraft in International Standardization Organization containers, ship and storage containers, and tactical shelters:

- Fire extinguishers secured in appropriate holders or brackets, or properly packaged according to this manual.
- Support equipment or other mechanical apparatus. Completely drain (residual fuel not to exceed 17 oz) items fueled by a flammable liquid with a flash point above 38 degrees C (100 degrees F). Tightly seal fuel lines and tank to prevent residual fuel leaks. Drain and purge items fueled by a flammable liquid with a flash point at or below 38 degrees C (100 degrees F). Installed batteries must be nonspillable type and secured upright.
- Items shipped under the PSN "life saving appliances" and packaged according to this manual.
- Air conditioners and environmental control units, magnetic material, radioactive material, and thermometers.

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