Article	Classed as—	Label required [1]
X-ray film, unexposed (*nitrocellulose base*) (see: "Motion-picture film, unexposed (*nitrocellulose base*)").	Inf. S	Yellow.
*Xylol (xylene)	Comb. L	
*Xylol (xylene)	Inf. L	Red.
Xylyl bromide	Pois. C	Tear gas.
Zinc ammonium nitrite	Oxy. M	Yellow.
Zinc arsenate	Pois. B	Poison.
Zinc arsenite, solid	Pois. B	Poison.
Zinc chlorate (see: "*Chlorates*")	Oxy. M	Yellow.
Zinc cyanide (see: Cyanide of Zinc)	No restrictions	
Zinc ethyl (see "Pyroforic liquids, N.O.S.").		
Zinc nitrate (see: Nitrates, N.O.S.)	Oxy. M	Yellow.
Zinc permanganate (see: "*Permanganates*")	Oxy. M	Yellow.
Zinc peroxide	Oxy. M	Yellow.
Zirconium metal, dry (*mechanically produced, finer than 270 mesh particle size*).	Inf. S	Yellow.
Zirconium metal, dry (*chemically produced, finer than 20 mesh particle size*).	Inf. S	Yellow.
Zirconium metal, wet (*mechanically produced, finer than 270 mesh particle size*).	Inf. S	Yellow
Zirconium metal, wet (*chemically produced, finer than 20 mesh particle size*).	Inf. S	Yellow.
Zirconium, metallic, solutions or mixtures thereof, liquid	Inf. L	Red.
Zirconium nitrate (see: Nitrates, N.O.S.)	Oxy. M	Yellow.
Zirconium picramate, wet *with 20 percent water*	Oxy. M	Yellow.
Zirconium scrap (borings, clippings, shavings, sheets, or turnings) (see: Magnesium scrap, etc.).	Inf. S	Yellow.

[1] **Unless otherwise exempt by the provisions of the detailed regulations.**

[CGFR 57–33, 22 F.R. 8560, Oct. 29, 1957; CGFR 57–49, 22 F.R. 10059, Dec. 14, 1957; CGFR 58–1, 23 F.R. 481, Jan. 24, 1958; CGFR 58–9, 23 F.R. 4839, June 28, 1958; CGFR 58–48, 23 F.R. 9635, Dec. 12, 1958; CGFR 59–14, 24 F.R. 5268, June 30, 1959; CGFR 59–46, 24 F.R. 9390, Nov. 21, 1959, by CGFR 60–33, 25 F.R. 5236, June 11, 1960; CGFR 60–70, 25 F.R. 11210, Nov. 26, 1960; CGFR 61–11, 26 F.R. 3923, May 5, 1961; CGFR 61–44, 26 F.R. 11017, Nov. 23, 1961; CGFR 62–11, 27 F.R. 5281, June 5, 1962; CGFR 62–48, 27 F.R. 12133, Dec. 7, 1962; CGFR 63–19, 28 F.R. 5380, May 30, 1963; CGFR 64–20, 29 F.R. 6788, May 23, 1964; CGFR 64–83, 29 F.R. 18163, Dec. 22, 1964; CGFR 65–17, 30 F.R. 7438, June 5, 1965; CGFR 65–52, 30 F.R. 15216, Dec. 9, 1965]

Subpart 146.05—Shipper's Requirements Re: Packing, Marking, Labeling and Shipping Papers

§ 146.05–1 Shipments in violation of the regulations in this part.

No permitted explosives or other dangerous articles or substances and combustible liquids shall be tendered for shipments on board vessels except when in compliance with the provisions of the regulations in this part.

[Order 74, 6 F.R. 268, Jan. 11, 1941]

§ 146.05–2 Acceptable shipments.

(a) Permitted explosives or other dangerous articles or substances may be offered to vessels for transportation and storage provided they are in proper condition for transportation or storage and are as defined and are packed, marked, labeled, described, certified and otherwise acceptable as provided for herein. Methods of preparation, packing, testing and records, insofar as they effect safety in transportation shall be open to inspection by a duly authorized representative of the U.S. Coast Guard.

(b) When quantity limitations are specified in the regulations in this part by U. S. liquid measure or by avoirdupois weight, it is authorized that quantities measured by the metric system may be substituted, up to but not exceeding 1 gallon for liquids and 10 pounds for solids, on the basis of 1 liter per quart specified and 500 grams per pound specified.

[Order 74, 6 F.R. 268, Jan. 11, 1941, as amended by Order 129, 6 F.R. 3182, July 1, 1941; CGFR 47–35, 12 F.R. 4184, June 27, 1947]

§ 146.05–3 Prohibited packing.

(a) Outside containers having interior packages containing substances possessing different dangerous characteristics, the mixture of which is liable to cause evolution of heat or gas or produce a corrosive acting substance, shall not be offered for transportation or storage on board vessels to which the regulations in this part apply unless so packed as to prevent admixture.

(b) The offering for transportation of any package or container of any liquid, solid or gaseous material which under

conditions incident to transportation may polymerize (combine or react with itself) or decompose so as to cause dangerous evolution of heat or gas is prohibited. Such materials may be offered for transportation when properly stabilized or inhibited.

(c) The offering for transportation of any package or container of any material which will cause a dangerous evolution of heat or gas under conditions normally incident to transportation is prohibited.

(d) The offering for transportation of any package containing a cigarette lighter charged with fuel and equipped with an ignition element, or any similar heating, lighting, or ignition device, or any self-lighting cigarette, is prohibited unless the design and method of packaging are such that functioning of the device is not possible incident to transportation.

[CGFR 53-54, 18 F.R. 8230, Dec. 16, 1953, as amended by CGFR 55-20, 20 F.R. 4053, June 10, 1955; CGFR 57-33, 22 F.R. 8571, Oct. 29, 1957; CGFR 57-49, 22 F.R. 10060, Dec. 14, 1957]

§ 146.05-4 Prescribed containers.

(a) The regulations in this subchapter prescribe four groups of outside containers for use in shipping permitted explosives or other dangerous articles or substances as follows:

(1) I.C.C. specification containers,

(2) M.I.N. specification containers. (See § 146.05-6.)

(3) C.F.C. specification containers. (See § 146.05-7.)

(4) Non-specification containers.

(b) In the interest of national defense or at such times at it shall be determined that the interest of safety would not be impaired, the use of containers other than those specified in this part, for the transportation of permitted explosives and other dangerous articles or substances may be authorized in the discretion of and upon special permit to be issued by the Commandant of the Coast Guard.

[CGFR 51-16, 16 F.R. 3013, Apr. 6, 1951]

§ 146.05-5 I.C.C. specification containers.

(a) Interstate Commerce Commission containers authorized herein for use in the transportation of permitted explosives or other dangerous articles or substances must have been made and marked in compliance with specifications prescribed by the Interstate Commerce Commission in effect at date of manufacture of containers.

(b) Containers not specified herein, made previous to effective date of the regulations in this part and authorized for use under the regulations of the Interstate Commerce Commission effective October 1, 1930, which may be continued in use, are as follows:

When the regulations in this part call for specification Nos.	These specification containers may also be used—	
1A	1	Boxed carboy, glass, or earthenware.
1B	1	Boxed carboy, lead.
1C	1	Carboy in keg, glass or earthenware.
3A	3, 25, 26	Cylinder.
3AA	3, 25, 26	Cylinder.
3B	26	Cylinder.
3C	7	Cylinder.
3D	33	Cylinder.
3E	3	Cylinder.
4A	26	Cylinder.
4B	26, 38	Cylinder.
4BA	26, 38	Cylinder.
4C	7	Cylinder.
6B	20A	Metal drum.

(c) For compressed gases when tank cars marked ICC-105A300 are authorized, tank cars marked ICC-105A400, 105A500, and 105A600 may also be accepted; when ICC-104A tank cars are authorized, tank cars marked ICC-105A300, 105A400, 105A500, and 105A600 may also be accepted; and when ICC-106A500 tank cars are authorized, tank cars marked ICC-106A800 may also be accepted.

(d) Tank cars. The regulations of the Interstate Commerce Commission governing the transportation of explosives and other dangerous articles, effective January 7, 1941, authorize the use of fusion welded tanks on tank cars. The fusion welded tank cars corresponding to the specification shown in the tables herein as an acceptable container are also authorized for acceptance on board vessels. These cars will be marked by a "W" added to the specification marking; For Example, "ICC-103A" will carry the marking "ICC-103A-W", etc.

(e) Cylinders of foreign manufacture received from foreign countries for charging with compressed gas may be charged and shipped for export when in compliance with regulations governing such charging and shipping as promulgated by the Interstate Commerce Com-

mission. Bill of lading or other shipping paper shall, when possible, identify the cylinder and shall carry the following certification:

These cylinders have been retested and refilled in accordance with the Interstate Commerce Commission requirements for export.

(f) Where the regulations require ICC–37A and 37B single trip metal drums, ICC–37D, 37E, 37F, 37G and 37H single trip metal drums may be continued in use for commodities and gross weights for which they were previously authorized until further order of the Interstate Commerce Commission.

(g) Where the regulations limit the capacity of ICC–IX STC carboys to not over 6 gallons, these export carboys of capacity not over 6½ gallons may be used.

(h) Where the regulations limit the gross weight of I.C.C. specification portable tanks to 8,000 pounds, these portable tanks of gross weight not over 20,000 pounds may be used provided the lifting gear used to load and discharge the tank is of sufficient capacity to safely handle the weight. In addition to other markings required, the portable tanks shall be marked with the gross weight and the legend "Use heavy lift."

(i) Where the regulations require specification ICC–22C or ICC–15P wooden or plywood boxes or drums, specifications ICC–1F or 1G polyethylene carboys in wooden or plywood boxes or drums respectively, may be continued in use for the commodities and capacities for which they were previously authorized until further order of the Interstate Commerce Commission.

(j) Where the regulations require specification ICC–21C fiber drums, specifications 21A or 21B fiber drums manufactured prior to 27 June 1962 may be used for commodities and weights for which they were previously authorized until further order of the Interstate Commerce Commission.

(k) Where the regulations require ICC–6D or 37M cylindrical steel overpacks, ICC–6J or 37A (single trip container) metal drums manufactured prior to March 18, 1964, having an inside ICC–2S, 2SL, 2T or 2TL polyethylene container, may be continued in use for the commodities and gross weights for which they were previously authorized until further order of the Interstate Commerce Commission.

(l) Where the regulations specify use of metal drums that may be constructed with full removable head, the opening size into the drum shall be restricted to the diameter size specified by the ICC regulations for the dangerous article concerned.

(m) Containers used for shipments of etching acid liquid, n.o.s. must not be reused for shipment of any commodity.

[Order 74, 6 F. R. 268, Jan. 11, 1941, as amended by Order 129, 6 F.R. 3182, July 1, 1941; CGFR 53-26, 18 F.R. 5216, Sept. 1, 1953; CGFR 56-29, 21 F.R. 7055, Sept. 20, 1956; CGFR 59-14, 24 F.R. 5268, June 30, 1959; CGFR 60-33, 25 F.R. 5236, June 11, 1960; CGFR 60-70, 25 F.R. 11210, Nov. 26, 1960; CGFR 62-11, 27 F.R. 5281, June 5, 1962; CGFR 62-48, 27 F.R. 12133, Dec. 7, 1962; CGFR 6789, May 23, 1964; CGFR 65-17, 30 F.R. 7438, June 5, 1965]

§ 146.05-6 M.I.N. specification containers.

Specification containers of the U.S. Coast Guard are prescribed herein for use in the transportation of combustible liquids and hazardous articles and for export shipments of inflammable liquids. Such containers shall be made and marked in compliance with specifications of the regulations in this part. Containers that do not comply with such specifications shall not be marked to indicate compliance.

NOTE Certain other specifications are also set forth herein such as for built-in magazines, portable magazines, portable multi-unit containers, and metal lockers used in the stowage on board vessels of explosives or other dangerous articles.

[Order 74, 6 F.R. 269, Jan. 11, 1941, as amended by CGFR 47-35, 12 F.R. 4184, June 27, 1947]

§ 146.05-7 C.F.C. specification containers.

(a) Metal barrels or drums, constructed and marked in accordance with specifications of the Consolidated Freight Classification, Rule 40, section 5, of capacities not exceeding 110 gallons, are permitted by the regulations in this part for use in transportation or storing combustible liquids on board passenger vessels. Single-trip containers, manufactured under Rule 40, are not authorized for such use.

(b) For shipments comprising C.F.C. specification metal barrels or drums the bill of lading or other shipping paper is required to show the following certificate over the written or stamped facsim-

ile signature of the shipper or his duly authorized agent:

The C.F.C. metal barrels or drums used for this shipment are marked in compliance with requirements of Rule 40, section 5, of the Consolidated Freight Classification.

(c) The requirements as to marking will not be necessary for metal barrels or drums, equivalent to C.F.C. Rule 40 barrel or drums, when manufactured in foreign countries, but bill of lading or other shipping paper shall bear the following certificate over the written or stamped facsimile signature of the shipper or his duly authorized agent:

The metal barrels or drums used for this shipment are of foreign manufacture and conform to construction requirements of Rule 40, section 5, of the Consolidated Freight Classification.

(d) Solid fiberboard or double-faced corrugated fiberboard boxes constructed in accordance with specifications of the Consolidated Freight Classification, Rule 41, section 2, of capacities not exceeding 90 pounds weight of box and contents, are permitted by the regulations in this part for use in transporting or storing combustible liquids, in inside containers, on board passenger vessels.

(e) Fiberboard boxes that are made to conform to specifications of Rule 41, section 2, must bear certificate of box maker showing that the boxes do so conform. Boxes used for shipment of combustible liquids shall be marked by printing or stenciling or stamping thereon: (1) The name of the commodity within the container; or (2) The words "Combustible Liquid". This marking shall be block type, not less than ½ inch high, and shall be imposed under, above or to either side of the box maker's certificate. Marking shall be in block type letters, inside a heavy black-line border.

[Order 74, 6 F.R. 269, Jan. 11, 1941]

§ 146.05–8 Non-specification containers.

Metal barrels or drums, wooden barrels or kegs, wooden boxes, fiberboard boxes, burlap bags, multiwall paper bags and bales comprise the type of non-specification containers that are permitted for certain regulated substances. The detailed regulations in the tables for the various classifications set forth the requirements governing such containers where permitted. The design and construction of non-specification containers must be such as to prevent the occurrence of defects that permit leakage of their contents and strong enough to stand, without failure, all shocks ordinarily incident to handling and stowage during transit. The shipper's attention is called to the regulation in the various tables which requires the officer in charge of loading the vessel to satisfy himself that a non-specification container offered for transportation, when containing a permitted substance, is sufficient in all respects for the purpose intended.

[Order 74, 6 F.R. 269, Jan. 11, 1941]

§ 146.05–9 Specification containers in outside containers.

Outside specification shipping containers containing no explosives, acids or corrosive liquids except electrolyte, acid or alkaline corrosive battery fluid or electric storage batteries containing electrolyte, acid or alkaline corrosive battery fluid or fire extinguisher charges, may be shipped when tightly packed in strong outside fiberboard boxes or drums, wooden boxes, barrels or crates, metal barrels or drums, or other enclosures. The outside shipping container must be marked with the prescribed name of contents, and labeled as required by the regulations in this part. Containers required by the regulations in this part to be marked "This Side Up" or "This End Up" must be packed in the outside package with their filling holes up, and the outside package must be marked "This Side Up" or "This End Up". The outside container must also be marked "Inside Packages Comply with Prescribed Specifications" unless the specification markings on the inside packages are visible through openings in the outside package.

[CGFR 55–20, 20 F.R. 4053, June 10, 1955]

§ 146.05–10 Reuse of containers.

(a) Containers used more than once (refilled and reshipped after having been previously emptied) shall be in such condition, including closing devices and cushioning materials, that they will protect their contents during transit as efficiently as new containers. Repairs must be made in an efficient manner and parts that are weak, broken, or otherwise deteriorated shall be replaced.

(b) Markings applied as prescribed by the specifications shall be maintained in a legible condition.

(c) If, on account of painting or any other reason, the markings as prescribed for any container cannot be kept plain and legible, a metal plate, brazed or soldered or otherwise securely fastened to the container, with a reproduction of the

prescribed markings plainly stamped thereon, may be permitted.

(d) Containers previously used for the shipment of any explosive or other dangerous article shall have old marks of contents, addresses, and labels, if any, thoroughly removed or obliterated before being used for the shipment of other articles.

(e) Boxes previously used for high explosives containing a liquid explosive ingredient shall not be again used for shipments of any character.

(f) Kegs previously used for any chlorate shall not be again used for shipments of any character.

(g) Metal kegs previously used for black powder not contained in an interior package shall not be again used for shipments of any explosive.

(h) Single trip I.C.C. specification containers from which the contents have once been removed following use for shipment of any article, must not again be used as shipping containers for explosives, flammable liquids, flammable solids, oxidizing materials, corrosive liquids or poisons, Class B, C, or D, as defined in this part except under approval of the I.C.C. for each reuse and for specific commodities or classes of commodities. Where specific permission is given in these detailed regulations in the table for Combustible Liquids or Hazardous Articles such single-trip containers are permitted for reuse when in compliance with paragraphs (a), (b), and (c) of this section.

(i) Cylinders or other containers which are designated as nonrefillable or for single-trip use by the I.C.C. specifications and from which the contents have once been removed following use for shipment of any article, must not be again used as shipping containers for compressed gases.

[Order 74, 6 F.R. 269, Jan. 11, 1941, as amended, CGFR 60-70, 25 F.R. 11210, Nov. 26, 1960; CGFR 62-48, 27 F.R. 12183, Dec. 7, 1962]

§ 146.05-11 Certification.

(a) The shipper offering for transportation by vessels subject to the regulations in this part any Class A, Class B or Class C explosive, and any inflammable liquid, inflammable solid, oxidizing material, corrosive liquid, compressed gas, or poison, requiring labels, shall show the following certificate in the lower lefthand corner of the originating shipping paper over the written or stamped facsimile signature of the shipper or of his duly authorized agent:

This is to certify that the above articles are properly described by name, and are packed and marked and are in proper condition for transportation according to the regulations prescribed by the Interstate Commerce Commission.

(b) For shipments of combustible liquids or hazardous articles, the certificate shall read as follows:

This is to certify that the above articles are properly described by name, and are packed and marked and are in proper condition for transportation according to the regulations established by the Commandant of the Coast Guard.

(c) For the relief of shippers from multiplicity of certifications required for packages which may move by rail freight, highway, and water, and pending further consideration and order of the Interstate Commerce Commission, such shipments may in lieu of the certification required by paragraph (a) or (b) of this section be certified as follows:

This is to certify that the above articles are properly described by name, and are packed and marked and are in proper condition for transportation according to the applicable regulations prescribed by the Interstate Commerce Commission and the Commandant of the Coast Guard.

(d) Detailed regulations in §§ 146.21-100 to 146.27-100, require specific certification for certain substances. When these substances are required to be certificated under paragraph (a), (b), or (c) of this section the certificate required by the detailed regulations shall be in addition thereto.

[Order 74, 6 F.R. 269, Jan. 11, 1941, as amended by Order 129, 6 F.R. 3182, July 1, 1941; CGFR 47-35, 12 F.R. 4184, June 27, 1947; CGFR 65-17, 30 F.R. 7438, June 5, 1965]

§ 146.05-12 Originating shipping order, transfer shipping paper.

(a) The requirements of this section apply to domestic shipments offered for transportation, carriage, or conveyance on board vessels.

(b) A shipper of any permitted explosives or other dangerous articles or substances, and combustible liquids for transportation, carriage, or conveyance on board vessels subject to the regulations in this part under the conditions set forth in paragraph (a) of this section, shall prepare an originating shipping order describing the shipment as required in this section. A vessel acting as initial carrier shall require presentation of the original shipping order. A vessel acting as a connecting carrier shall

require delivery of a transfer shipping paper prepared from the originating shipping order or subsequent transfer paper and upon which shall be shown all the information that is required by this section.

NOTE 1. "Originating shipping order" may be the second sheet that carries the notation in bold face type "THIS SHIPPING ORDER" of the domestic bill of lading form, or a delivery paper (known as a delivery receipt or dock receipt) or an order prepared upon the shipper's letterhead.

NOTE 2. "Transfer shipping paper" refers to such papers as freight way bill, way bill, express way bill, vessel manifest, vessel cargo list, or exchange bill of lading shipping order, under authority of which a shipment is moving by other than the initial carrier. Such transfer papers shall show thereon all the information required by this section and shall also contain information sufficient to identify the preceding shipping paper.

(c) A shipper or his authorized agent or representative shall not tender to an initial carrier vessel partial deliveries of a shipment of explosives or other dangerous articles or substances and combustible liquids, except under cover of a delivery paper (known as a delivery receipt or dock receipt) which paper shall show all the information as required for an originating shipping order in paragraph (f) of this section. Delivery receipts covering either full or partial deliveries shall be furnished at least in duplicate and after acknowledgment, one copy shall be retained for one year by the vessel operator. Unit deliveries of the same substance requiring more than eight (8) hours of normal continuous operation to effect complete delivery shall not be construed to be partial deliveries.

(d) If a shipment is being transported, carried or conveyed under a bill of lading issued in exchange or in substitution for an original bill of lading it shall be the duty of the carrier executing such bill of lading to accurately transfer from the original bill of lading the information shown thereon as required by this section.

(e) No person other than the shipper or his duly authorized agent or representative shall prepare an originating shipping order covering transportation, carriage, conveyance or storage of explosives or other dangerous articles or substances, and combustible liquids that are to be transported, carried, conveyed or stored on board vessels subject to the regulations in this part.

(f) The minimum information required by this section to be shown upon an originating shipping order is as follows:

(1) Shipper's name and address.

(2) Consignee's name and address. (When required by the detailed regulations.)

(3) Either the number of packages or pieces or the quantity or weight, as the case may be, and the type of packages (cylinders, barrels, boxes, etc.).

(4) Shipping or leading marks and numbers if appearing on packages.

(5) Shipping name of each article, as shown in roman type in the commodity list herein. Further description not inconsistent with the shipping name may be shown. Unauthorized abbreviations shall not be used.

(6) In connection with the entry of each dangerous article, show the kind and color of label applied to the package or the markings upon the package when label or marking is required by the regulations in this part.

(7) Gross weight of container and contents when such information is required to be shown on a package by the regulations in this part.

(8) Certification over the written or stamped facsimile signature of the shipper or of his duly authorized agent as required by the regulations in this part. (Not required except on originating bill of lading and shipping order.)

(g) Any person or carrier preparing a transfer shipping paper shall show thereon all the information required by this section that is given on the preceding shipping paper and shall also indicate thereon information sufficient to identify the preceding shipping paper.

(h) When a shipment of explosives or other dangerous articles or substances, and combustible liquids is being transported, carried, conveyed, or stored on board a vessel subject to the regulations in this part under a special contract of affreightment, the provisions required by paragraphs (a), (b), (c), (d), and (e) of this section need not be complied with: *Provided, however,* That the owner, charterer, agent or master of the vessel shall have in his possession a memorandum describing the shipment, which description shall contain at least the information required by paragraph (f) of this section. This memorandum must be

in the carrier's possession previous to the time the explosives or other dangerous articles or substances, and combustible liquids, are transported, carried, conveyed, stored or stowed.

[Order 74, 6 F.R. 270, Jan. 11, 1941, as amended by CGFR 58-9, 23 F.R. 4839, June 28, 1958]

§ 146.05-13 Originating export shipping paper.

(a) The requirements of this section apply when an export shipment is offered for transportation by vessel.

(b) A shipper of any explosive or other dangerous article or substance to be offered for export on board vessels subject to the regulations in this part shall prepare an originating shipping order or otherwise describe the shipment in writing as required by this section.

NOTE 1. This "originating shipping order" may be any one of the following papers: (1) Uniform through export bill of lading. (2) Ocean bill of lading. (3) Dock receipt. (4) Delivery receipt. (5) Government bill of lading. (6) Engagement note. (7) Permit.

NOTE 2. By "otherwise describe the shipment in writing" is meant that the shipper or his authorized agent or representative shall in writing advise the vessel operator in advance regarding the characteristics of the shipment and such description shall conform to the provisions of this section.

(c) For a shipment originating in the interior and moving to the seaboard under a domestic bill of lading the shipper or his authorized agent or representative shall advise the vessel regarding the shipment in the manner set forth under Note 2 of this section.

(d) A carrier actually preparing for a shipper an ocean bill of lading from written information furnished by the shipper shall accurately show such information upon the bill of lading and shall also indicate thereon information sufficient to identify the original paper describing such shipment. Upon acknowledgment by the shipper or his authorized agent or representative, the ocean bill of lading shall then be considered the properly executed document of the shipper.

(e) A shipper or his authorized agent or representative shall not offer to an initial carrier vessel partial deliveries of a shipment of explosives or other dangerous articles except under cover of a dock receipt or other partial delivery receipt, which receipt shall show all the information as required for the originating shipping order. Delivery receipts covering such shipments shall be furnished in duplicate and after acknowledgment one copy shall be retained for one year by the vessel operator. Separate delivery receipts shall accompany each partial delivery.

(f) No person other than the shipper or his duly authorized agent or representative shall prepare an originating shipping order or written instrument otherwise describing the shipment covering transportation of explosives or other dangerous articles or substances.

(g) The minimum information required by this section to be shown upon an originating shipping order or written instrument "otherwise describing the shipment" is as required by § 146.05-12 (f).

(h) A shipment of explosives or other dangerous articles or substances being delivered to a carrier vessel under the provisions of a booking contract, engagement note, permit or contract of affreightment shall be accompanied by one of the shipping papers required by the provisions of paragraph (b) of this section.

[Order 74, 6 F.R. 270, Jan. 11, 1941, as amended by CGFR 58-9, 23 F.R. 4839, June 28, 1958]

§ 146.05-14 Import shipping papers.

An importer of explosives or other dangerous articles or combustible liquids shall furnish the foreign shipper full and complete information required by § 146.05-12(f) to be shown on shipping papers. Bills of lading, manifests, consular invoices or other important shipping papers shall show such information. Applicable certifications as required by § 146.02-3, § 146.02-9, or § 146.02-11(c), and § 146.05-11 shall also be shown thereon. (See Carrier Regulations re Import Shipments § 146.06-1.) (Attention of importers is called to § 146.02-11 re Import Shipments.)

[CGFR 53-26, 18 F.R. 5216, Sept. 1, 1953]

§ 146.05-15 Marking and labeling applying to domestic shipments only.

(a) Interstate Commerce Commission regulations in effect at time of shipment with respect to the marking and labeling of containers of explosives, inflammable liquids, inflammable solids, oxidizing materials, corrosive liquids, compressed gases and poisonous articles apply to shippers preparing shipments for transportation or storage on board vessels that are common carrier vessels and subject to the regulations in this part.

(b) Provisions of the regulations of the Interstate Commerce Commission

with respect to marking and labeling of containers of Explosives, Inflammable Liquids, Inflammable Solids, Oxidizing Materials, Corrosive Liquids, Compressed Gases and Poisonous Articles as applicable to shipments thereof on board common carrier vessels are adopted and form part of the regulations in this part for any such shipments on vessels that are not common carriers and shall apply to all shippers preparing such shipments for transportation or storage on board such vessels except as may be otherwise required by the regulations herein.

CROSS REFERENCE: For marking and labeling requirements applying to export shipments, see § 146.02–10 (a) and (b). For marking and labeling requirements, applying to import shipments, see § 146.02–11 (a), (b), and (c).

(c) The marking of containers of Combustible Liquids prepared for transportation or storage on board passenger vessels or Hazardous Articles prepared for transportation or storage on board any vessel subject to the regulations in this part shall be in accordance with the requirements of the regulations in this part.

(d) The marking and labeling of containers of Explosives shall be as follows:

(1) Each package containing explosives shall be marked with its proper shipping name as shown in the commodity list herein and such other marking as prescribed by the Interstate Commerce Commission regulations for the explosive in the shipment.

(2) Packages containing explosives shall show on top the marking "This Side Up" when required by the Interstate Commerce Commission regulations.

(3) Each package of explosives shall show the name and address of the consignee; or in lieu thereof the shipping mark and number. When such system of marks and numbers is used they shall be indicated as such upon the originating and subsequent shipping paper. Packages comprising carloads and highway truckloads need not be so marked when delivered to a vessel, provided the vessel delivers the shipment complete to a connecting carrier or a single consignee. Such delivery must be accompanied by a shipping paper showing thereon at least the following information:

Name of consignee.
Number of packages.
Name of commodity in accordance with the regulations in this part.

(4) Each package of explosives containing a poison gas or tear gas shall have securely attached to it the label prescribed by the Interstate Commerce Commission regulations.

(5) Each outside container of samples of explosives when offered for transportation on board vessels shall bear the "red label for samples of explosives" and each outside container of special fireworks in addition to the markings prescribed shall bear the "red label special fireworks", as described and illustrated in § 146.05–17 (t) and (s).

(6) Each package of explosives shall be marked with the Interstate Commerce Commission specification number as prescribed by the specification, if an I. C. specification container is required.

(e) The marking of containers of Other Dangerous Articles or Substances shall be as follows:

(1) Each package containing inflammable liquids, inflammable solids, oxidizing materials, corrosive liquids, compressed gases, or poisons as defined herein shall be marked with the proper shipping name as shown in the commodity list of the regulations in this part. In tank cars this marking shall appear either on the placards or commodity cards.

(2) Except as otherwise exempted by the provisions of the regulations in this part, each package of dangerous articles as enumerated in subparagraph (1) of this paragraph, shall show the name and address of the consignee; or in lieu thereof the shipping mark and number. When such system of marks and numbers is used they shall be indicated as such upon the originating and subsequent shipping paper. Packages comprising carloads and highway truck loads need not be so marked when delivered to a vessel, provided the vessel delivers the shipment complete to a connecting carrier or a single consignee. Such delivery must be accompanied by a shipping paper showing thereon at least the following information:

Name of consignee.
Number of packages.
Name of commodity in accordance with the regulations in this part.

Shipments offered to an initial carrier vessel that comprise a full cargo or sufficient to occupy a full compartment of hold, or that exceed one hundred (100) packages, need not show the name and address of the consignee upon the individual packages, provided delivery

made to a connecting carrier or a consignee in not less than truck load or carload consignments.

(3) Packages containing inflammable liquids in inside containers of one quart capacity or larger and corrosive liquids in any quantity, except when packed in carboys not completely boxed, shall be marked on top "This Side Up."

(4) Each package shall show the specification marking as required if a specification container is prescribed.

(5) Additional shipping information not inconsistent with the regulations in this part may be shown on a container if so desired but no such label or marking shall be of a design, or form, or size, as may be confused with the labeling and marking required by the regulations in this part.

(f) The marking of containers of "Combustible Liquids" or "Hazardous Articles" shall be as follows:

(1) Each outside container of a combustible liquid, as defined herein, shall be marked with either the proper shipping name as shown in the commodity list herein or the legend "Combustible Liquid." This marking shall be in block letters not less than ½ inch high and may be printed or stenciled or stamped upon the container.

(2) Each outside barrel, box, or bag containing a hazardous article as defined herein shall be marked with the proper shipping name as shown in the commodity list herein. These markings shall be in block letters not less than ½ inch high and may be printed or stenciled upon the container.

(3) Except as otherwise exempted by the provisions of the regulations in this part, outside containers of hazardous articles or combustible liquids shall show the name and address of the consignee or in lieu thereof the shipping marks and number. Packages comprising carloads and highway truck loads need not be so marked when delivered to a vessel, provided the vessel delivers the shipment complete to a connecting carrier or a single consignee. Such delivery must be accompanied by a shipping paper showing thereon at least the following information:

Name of consignee.
Number of packages.
Name of commodity in accordance with the regulations in this part.

(4) Packages containing combustible liquids or hazardous articles in liquid form packed in inside containers of 1 quart capacity or larger shall be marked on top "This Side Up".

(5) Additional shipping information not inconsistent with the regulations in this part may be shown on an outside container if so desired but no such markings shall be of a design or form or size as may be confused with the marking required by the regulations in this part.

(g) Each package containing "Any Other Dangerous Article" as defined by the regulations in this part shall be conspicuously labeled by the shipper as follows except as otherwise provided:

(1) "Red label" as described and illustrated in § 146.05–17 (f) on containers of inflammable liquids, except when exempted by the regulations in this part. If inflammable liquid is also a class A poison or a radioactive material poison D, the "poison gas" label or "radioactive materials" label must also be applied to the package.

(2) "Yellow label" as described and illustrated in § 146.05–17 (g) on containers of inflammable solids and oxidizing materials, except when exempted by the regulations in this part. If inflammable solid or oxidizing material is also a class A poison or a radioactive material poison D, the "poison gas" label or "radioactive materials" label must also be applied to the package.

(3) "White label" as described and illustrated in § 146.05–17 (h) on containers of acids, except when exempted by the regulations in this part. If the acid is also a class A poison or a radioactive material poison D, the "poison gas" label or "radioactive materials" label must also be applied to the package.

(4) "White label" as described and illustrated in § 146.05–17 (j) on containers of corrosive liquids, except when exempted by the regulations in this part. If the corrosive liquid is also a class A poison or a radioactive material poison D, the "poison gas" label or "radioactive materials" label must also be applied to the package.

(5) "White label" as described and illustrated in § 146.05–17 (k) on containers of alkaline caustic liquids, except when exempted by the regulations in this part. If the alkaline caustic liquid is also a class A poison or a radioactive material poison D, the "poison gas" label or "radioactive materials" label must also be applied to the package.

(6) "Red label" as described and illustrated in § 146.05–17(l) on containers

of inflammable compressed gases, except when exempted by the regulations in this part. If the inflammable compressed gas is also a class A poison or a radioactive material poison D, the "poison gas" label or the "radioactive materials" label must also be applied to the package.

(7) "Green label" as described and illustrated in § 146.05–17(m) on containers of noninflammable compressed gases except when exempted by the regulations in this part. If the noninflammable compressed gas is also a class A poison or a radioactive material poison D, the "poison gas" label or "radioactive materials" label must also be applied to the package.

(8) "Poison gas label" as described and illustrated in § 146.05–17(n) on containers of class A poisons.

(9) "Poison label" as described and illustrated in § 146.05–17(o) on containers of class B poison liquids, or solids, except when exempted by the regulations in this part. If the class B poison liquid or solid is also a radioactive material poison D, the "radioactive materials" label must also be applied to the package.

(10) "Tear gas label" as described and illustrated in § 146.05–17(p) on containers of class C poisons.

(11) "Radioactive materials label" as described and illustrated in § 146.05–17 (q) on containers of group I and group II radioactive materials.

(12) "Radioactive materials label" as described and illustrated in § 146.05–17 (r) on containers of group III radioactive materials.

(13) "Radioactive materials label" as described and illustrated in § 146.05–17 (w) on bundles, boxes, barrels or crates of magnesium-thorium alloys, and on packages of uranium, normal or depleted, in solid form.

(14) "Bung label" as described and illustrated in § 146.05–17(v) on metal barrels or drums containing inflammable liquids with vapor pressures exceeding 16 pounds per square inch absolute.

(15) "Empty label" as described and illustrated in § 146.05–17(u) shall be applied to containers which have been emptied and on which the old label has not been removed, obliterated, or destroyed. It must be so placed on the container as to completely cover the old label.

(h) Labels are not required on packages comprising shipments received and delivered in carloads or highway truck loads when such shipments are in conformity with the provisions of paragraphs (d)(3), (e)(2), or (f)(3) of this section. This exception does not apply to Class A or Class C poisons.

[Order 74, 6 F.R. 271, Jan. 11, 1941, as amended by CGFR 53–26, 18 F.R. 5216, Sept. 1, 1953; CGFR 53–54, 18 F.R. 8230, Dec. 16, 1953; CGFR 61–11, 26 F.R. 3923, May 5, 1961; CGFR 63–19, 28 F.R. 5380, May 30, 1963; CGFR 65–52, 30 F.R. 15216, Dec. 9, 1965]

§ 146.05–16 Labels for mixed packing.

(a) Use the red label only when red and other labels are prescribed, except when poison gas label or radioactive materials label is prescribed, then both the red label and the poison gas label or red label and radioactive materials label must be used.

(b) Use white acid (alkaline caustic liquid or corrosive liquid) label only when white acid (alkaline caustic liquid or corrosive liquid) and yellow or poison labels are prescribed or poison labels (class B) are prescribed except when poison gas label or radioactive materials label is prescribed, then both the white acid label and the poison gas label or white acid and radioactive materials label must be used.

(c) Use the yellow label only when yellow and poison labels are prescribed, except when poison gas label or radioactive materials label is prescribed, then both the yellow label and the poison gas label or the yellow label and the radioactive materials label must be used.

[CGFR 53–54, 18 F.R. 8231, Dec. 16, 1953, as corrected by CGFR 56–29, 21 F.R. 7055, Sept. 20, 1956]

§ 146.05–17 Labels.

(a) Shippers shall furnish and attach the labels prescribed for their packages.

(b) Labels shall not be applied to packages containing articles which are not subject to the regulations in this part.

(c) Shippers shall not apply labels which by their size, shape and color, may readily be confused with standard caution labels prescribed in this part.

(d) Labels shall conform to standard as required by the Interstate Commerce Commission regulations.

(e) A combination diamond-shaped label-tag of proper size and color, bearing on one side the shipping information and on the reverse side the wording prescribed in this section will be permitted.

(f) Red label for inflammable liquids.

(Reduced size)

(Black printing on red)

(g) Yellow label for inflammable solids and oxidizing materials.

(Reduced size)

(Black printing on yellow)

(h) White label for acids.

(Reduced size)

(Black printing on white)

(i) [Reserved]

(j) White label for corrosive liquids.

(Reduced size)

(Black printing on white)

(k) White label for alkaline caustic liquids.

(Reduced size)

(Black printing on white)

(l) Red label for inflammable gases.

(Reduced size)

(Black printing on red)

(m) Green label for nonflammable gases.

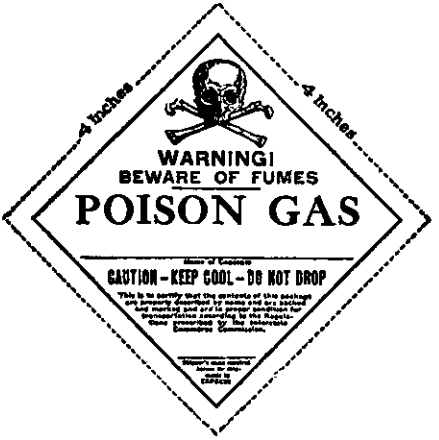
(Reduced size)

(Black printing on green)

(n) Poison gas label.

(Reduced size)

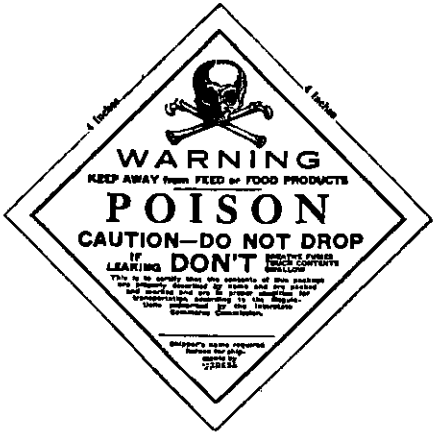
(Red printing on white)



(o) Poison label.

(Reduced size)

(Red printing on white)



(p) Tear gas label.

(Reduced size)

(Red printing on white)

(q) Radioactive materials, Group I or II.

(Reduced size)

(Red printing on white)

(r) Radioactive materials, Group III

(Reduced size)

(Blue printing on white)

(s) Red label for special fireworks.

(Reduced size)

(Black printing on red)

(t) Red label for samples of explosives.

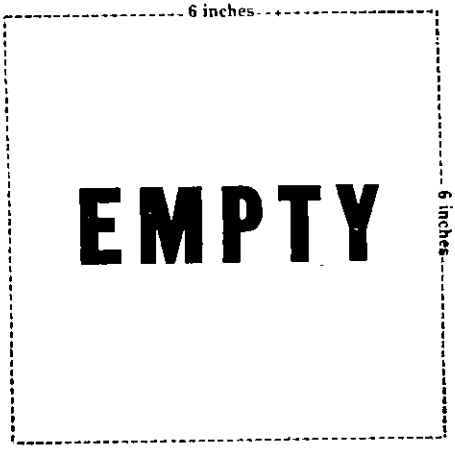
(Reduced size)

(Black printing on red)

(u) Empty label (white) for empty containers.

(Reduced size)

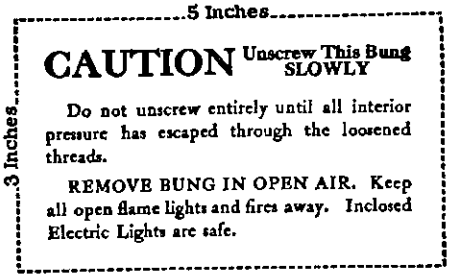
(Black printing on white)



(v) Bung label.

(Reduced size)

(Black printing on white)



51-090—66——5

(w) Radioactive materials, such as magnesium-thorium alloys in formed shapes or uranium, normal or depleted, in solid form.

(Reduced size)

(Red printing and red-line border on white)

(Sec. 5, 55 Stat. 244, as amended; 50 U. S. C. App. 1275) [CGFR 52–8, 17 F. R. 6463, July 17, 1952 as amended by CGFR 59–46, 24 F.R. 9390, Nov. 21, 1959; CGFR 61–11, 26 F.R. 3923, May 5, 1961; CGFR 62–11, 27 F.R. 5281, June 5, 1962]

Subpart 146.06—Vessel's Requirements, Re: Acceptance, Handling, Stowage, Etc.

§ 146.06–1 Acceptance on board vessels.

Explosives other other dangerous articles or substances or combustible liquids that are permitted by the regulations in this part to be placed on board vessels, or to be on board a vessel within the navigable waters of the United States, may be accepted and transported or stored on board vessels subject to the regulations in this part when such articles are described upon the shipper's originating shipping order or a transfer shipping paper or otherwise in writing by a shipping name as shown in the commodity list of explosives and other dangerous articles herein, and provided label notations are shown on the shipping paper as they apply to the various substances. The owner, charterer, agent, master or person in charge of a vessel shall ascertain to his own satisfaction that the outside container is one of the acceptable containers as shown in the tables for the particular substance named on the shipping paper. Shipments tendered in United States ports to vessels which are initial carriers shall not be accepted unless the originating shipping order carries the shipper's certification as to description, packing, marking and condition as required by § 146.05–11. Shipments tendered in United States ports to vessels which are connecting carriers shall not be accepted unless the transfer shipping paper contains sufficient information to identify the preceding shipping paper. Shipments originating in a foreign port shall not be transported, carried, conveyed, or stowed by any vessel upon the navigable waters of the United States unless accompanied by bills of lading upon which the shipper or his agent has certified that the goods are described, packed and marked in accordance with the regulations in this part.

[Order 74, 6 F.R. 273, Jan. 11, 1941]

§ 146.06–2 Explosives prohibited on any vessel.

No explosive or explosive composition expressly prohibited by the provisions of subsection 3 of R.S. 4472 as amended shall be transported, carried, conveyed, stored, stowed or used on board any vessel.

[Order 74, 6 F.R. 273, Jan. 11, 1941]

§ 146.06–3 Articles not permitted on vessels.

No high explosive or other explosive or other dangerous article or substance or combustible liquid shall be transported, carried, conveyed, stored, stowed or used on board any vessel unless such transportation, carriage, conveyance, storage, stowage or use is permitted by the regulations in this part.

[Order 74, 6 F.R. 273, Jan. 11, 1941]

§ 146.06–4 Acceptance of permitted articles.

The commodity list and the tables forming part of the regulations in this subchapter indicate the explosives and other dangerous articles and combustible liquids that are permitted to be transported, carried, conveyed, stored, stowed, or used on board any vessel. No such articles shall be transported, carried, conveyed, stored, stowed, or used on board any vessel unless they comply with the conditions as shown for the substance in the commodity list and tables and the other provisions of the

regulations in this subchapter as they apply to the particular character of vessel.

[Order 74, 6 F.R. 274, Jan. 11, 1941]

§ 146.06–5 "Order-Notify" or "C.O.D." shipments.

Except on through bills of lading to a foreign port, shipments of Class A dangerous explosives or blasting caps in any quantity shall not be transported, carried or conveyed on board a vessel, when consigned to "Order-Notify" or "C.O.D." Such articles shall not be transported, carried or conveyed on board any vessel when a shipper consigns a shipment to himself unless the shipper has a resident representative authorized to receive the shipment at the port of discharge.

[Order 74, 6 F.R. 274, Jan. 11, 1941]

§ 146.06–6 Canadian shipments.

Explosives (except commercial Class A explosives) or other dangerous articles or combustible liquids, as defined herein, which are described, packed, marked and certified in conformity with the regulations of the Board of Transport Commissioners of Canada may be transported, carried or conveyed on board such vessels as are permitted by the regulations in this part to transport, carry or convey the particular explosive or other substance contained within the package.

[CGFR 53–26, 18 F.R. 5216, Sept. 1, 1953]

§ 146.06–7 Emergency shipments.

For conditions of the regulations governing emergency shipments see § 146.02–15.

[Order 74, 6 F.R. 273, Jan. 11, 1941, as amended by Order 129, 6 F.R. 3182, July 1, 1941]

§ 146.06–8 Handling on board vessels.

Explosives or other dangerous articles or substances shall be handled on board vessels in conformity with the provisions of the detailed regulations preceding each table of the various classifications and provisions set forth for the particular substances as shown in the tables: *Provided, however,* That railroad vehicles, highway vehicles, vans, or portable containers loaded with any permitted explosives or other dangerous articles or substances shall be handled on board the vessel in accordance with the provisions of Subpart 146.07. Highway or railroad vehicles loaded with permitted explosives or other dangerous articles or substances shall be handled on ferry vessels in accordance with the provisions of Subpart 146.08.

[CGFR 62–11, 27 F.R. 5281, June 5, 1962]

§ 146.06–9 Stowage on board vessels.

(a) Stowage of a particular explosive or other dangerous article or substance or a combustible liquid on board a vessel may be any permitted stowage in accordance with the provisions as shown in the tables as applying to the character of vessel upon which the substance is permitted to be transported or stored.

(b) When only one stowage is shown, no other stowage shall be utilized. When more than one stowage is indicated any or all of the indicated stowages may be utilized. When "Tween decks" is authorized for stowage "Tween decks readily accessible" may also be used, but not the reverse thereof. When "Under deck" is authorized for stowage "Under deck away from heat" may also be used, but not the reverse thereof.

(c) Explosives of different classes or characteristics shall not be stowed together in the same compartment or magazine except as indicated in the chart in § 146.20–90, and the detailed regulations shown in §§ 146.20–1 to 146.20–300. Explosives and other dangerous articles or substances shall not be stowed together in the same hold or compartment except as indicated in the detailed regulations preceding each table of the various classifications and the provisions set forth for the particular substances as shown in the tables.

(d) The provisions of this section shall not apply to railroad vehicles, highway vehicles, vans or portable containers in which are loaded any permitted explosives or other dangerous articles, which are provided for in Subpart 146.07.

(e) The provisions of this section shall not apply to railroad and highway vehicles in which are loaded any permitted explosives or other dangerous articles in compliance with the I.C.C. regulations governing such loading, or combustible liquids when loaded in compliance with the regulations in this part, when carried on board a ferry vessel in accordance with the provisions of Subpart 146.08.

[Order 74, 6 F.R. 274, Jan. 11, 1941, as amended by CGFR 53–26, 18 F.R. 5216, Sept. 1, 1953; CGFR 58–9, 23 F.R. 4839, June 28, 1958]

§ 146.06–10 Labels.

Vessels or their owners, charterers or agents shall keep on hand an adequate supply of labels. Lost or detached labels shall be replaced from information given on shipping order, delivery receipt or transfer shipping paper applying to the shipment.

[Order 74, 6 F.R. 274, Jan. 11, 1941]

§ 146.06–11 "No smoking" signs.

Where smoking is prohibited during the loading, stowing, storing, transporting or unloading of explosives or other dangerous articles or substances by the regulations in this part, the owner, master or person in charge of the vessel is required to cause "NO SMOKING" signs to be posted.

[Order 74, 6 F.R. 274, Jan. 11, 1941]

§ 146.06–12 Dangerous cargo manifest, list or stowage plan required.

(a) Any vessel transporting or storing explosives or other dangerous articles or substances, including a passenger vessel transporting combustible liquids in outside containers, shall, when in navigable waters of the United States, have on board a separate dangerous cargo manifest, list, or stowage plan.

(b) This manifest, list, or stowage plan shall be a form containing spaces for all of the information required. If a vessel elects to show the information with regard to dangerous cargo as required by § 146.06–15 upon either the outward foreign manifest (Customs Form 1374) or the inward foreign manifest (Customs Form 7527 (a) or (b)) and a copy of either of these papers is retained on board the vessel, such procedure, executed in conformance with the requirements of the regulations in this part will be considered as in full compliance: *Provided, however,* That separate sheets shall be allotted for entries of dangerous articles of cargo in order to segregate the record of such substances as are on board the vessel.

(c) The manifest, list or stowage plan aboard the vessel shall be produced upon demand of the Commandant of the Coast Guard or his authorized representative.

(d) Owners, charterers or agents of vessels transporting or storing explosives or other dangerous articles or substances, and combustible liquids, as cargo, shall retain ashore for one year a copy of the dangerous cargo manifest, list or stowage plan and shall produce said manifest or list in accordance with the provisions of § 146.02–22.

[CGFR 64–20, 29 F.R. 6789, May 23, 1964]

§ 146.06–14 Source of information shown on manifest, list or stowage plan.

(a) The information required to appear on a dangerous cargo manifest, list, or stowage plan by the provisions of § 146.06–15 (b) and (c) shall be the information actually furnished to the vessel by the shipper of the dangerous substances upon his bill of lading or other shipping paper; and the owner, charterer, agent, master or person under whose supervision the actual preparation of the manifest, list, or stowage plan is made, shall cause the information required to be correctly transcribed.

(b) Every entry made upon the dangerous cargo manifest, list, or stowage plan shall be a true statement to the best knowledge and belief of the master of the vessel. The provisions of this paragraph shall not apply to barges.

(c) The master, shall, by his signature, acknowledge the correctness of the dangerous cargo manifest, list, or stowage plan. The provisions of this paragraph shall not apply to barges.

[CGFR 64–20, 29 F.R. 6789, May 23, 1964]

§ 146.06–15 Information required on manifests, lists, or stowage plans.

(a) Vessel owners, charterers, agents masters or persons in charge of vessels, including barges, shall insure that a separate dangerous cargo manifest, list or stowage plan is prepared for any vessel transporting explosives or other dangerous articles or substances, including passenger vessels carrying combustible liquids in outside containers.

(b) This manifest, list or stowage plan shall show thereon the following information:

(1) Name of vessel and official number.

(2) Nationality of vessel.

(3) True shipping name of the substance as given in the commodity list of the regulations in this part.

(4) Tonnage in bulk shipment or the number and description of packages (such as barrels, drums, cylinders, boxes, etc.) and their gross weight.

(5) Classification of the substances in accordance with the regulations in this part (such as explosive, inflammable liquid, compressed gas, hazardous article, etc.).

(6) Label applied to the package if any required.

(7) The stowage provided for the substance on board the vessel.

[CGFR 64-20, 29 F.R. 6789, May 23, 1964]

Subpart 146.06—Vessel's Requirements Re: Acceptance, Handling, Stowage, Etc.

§ 146.06-20 Manifest; storage vessels.

(a) Magazine vessels used for the storage of explosives and other vessels used only for the storage of other dangerous articles or substances shall be subject to the provisions of §§ 146.06-12(a) and 146.06-12(c) applying to "Dangerous Cargo Manifest" or "Dangerous Cargo List."

(b) The dangerous cargo manifest or list for storage vessels shall show thereon the following information:

(1) Name and address of vessel's owner.

(2) Location of vessel's mooring.

(3) Name of person in charge of vessel.

(4) The number and description of packages, the true descriptive (shipping) name of the substances within the package and the name and address of the owner of the cargo.

(c) Storage vessel manifests or lists shall be kept in such form as will show a complete record, by time intervals of one week, of all receipts and disbursements of explosives or other dangerous articles or substances. The name and address of the consignor shall be shown against all receipts and the name and address of the consignee against all deliveries.

[Order 74, 6 F.R. 275, Jan. 11, 1941, as amended by CGFR 65-17, 30 F.R. 7438, June 5, 1965]

Subpart 146.07—Railroad Vehicles, Highway Vehicles, Vans or Portable Containers Loaded With Explosives or Other Dangerous Articles and Transported on Board Ocean Vessels

§ 146.07-1 Applicability and definitions.

(a) The regulations in this subpart apply to railroad vehicles, highway vehicles, vans and portable containers in which are loaded any permitted explosives or other dangerous articles or substances, as defined in this part, when transported, carried or conveyed on board any ocean-going vessel subject to the regulations in this part.

(b) For purposes of the regulations in this subpart the following definitions apply:

(1) A railroad vehicle is a cargo carrying body or tank permanently attached to an underframe and wheels (box car, tank car, etc.) which is loaded, stowed and discharged as a unit.

(2) A highway vehicle is a cargo carrying body or tank permanently attached to the chassis and wheels which is loaded, stowed and discharged as a unit.

(3) A van is a cargo carrying body other than a tank container which is designed and constructed to be removed from a chassis and wheels for water transportation. It is loaded and discharged by a "lift on-lift off" method.

(4) A portable container is a cargo carrying unit other than a "van" which is designed to be loaded or discharged by a "lift on-lift off" method. Portable containers shall be ICC specification portable containers (ICC-51, ICC-60) and/or shall be approved by the Commandant, United States Coast Guard.

(5) A trainship is a vessel other than a railroad car ferry or carfloat designed to transport railroad vehicles.

(6) A trailership is a vessel other than a highway vehicle ferry or carfloat designed to transport highway vehicles.

(7) A containership is a vessel designed to transport vans or portable containers.

[CGFR 58-9, 23 F.R. 4840, June 28, 1958, as amended, CGFR 61-11, 26 F.R. 3923, May 5, 1961]

§ 146.07-5 Permitted shipments.

(a) Railroad vehicles, highway vehicles, vans or portable containers in which are loaded any permitted explosives or other dangerous articles or substances may be transported, carried or conveyed on board any vessel subject to the regulations in this part, provided there is compliance with the regulations in this subpart.

(b) Railroad vehicles, highway vehicles, vans or portable containers in which are loaded explosives or other dangerous articles or substances or combustible liquids shall not be transported, carried or conveyed on board passenger vessels unless such items are specifically permitted by the regulations in this part to be transported, carried or conveyed on board passenger vessels, and provided there is compliance with the regulations in this subpart.

(c) Containers and packages of explosives, inflammable (flammable) liquids, inflammable (flammable) solids, oxidizing materials, corrosive liquids, compressed gases, poisons, and hazardous articles shall be so braced and secured in accordance with Interstate Commerce Commission Regulations (49 CFR Parts 71–78) for the vehicle concerned as to prevent movement within the railroad vehicle, highway vehicle, van or portable container in which they are being transported. Containers having valves or other fittings must have the valves or fittings protected and be so loaded that there will be a minimum likelihood of damage thereto during transportation. Containers marked with stowage instructions such as "This side up" or "This end up" shall be so stowed.

(d) Railroad vehicles, highway vehicles, vans and portable containers equipped with refrigerating or heating equipment using an inflammable (flammable) liquid or gas as fuel, and having such fuel in the fuel tank shall be transported only "On deck". Such equipment may be operated on board the vessel when the "On deck" stowage is provided. Equipment stowed on deck may be refueled under supervision of a qualified officer of the vessel assigned for such duty who shall ensure that adequate safety precautions are observed. Railroad vehicles, highway vehicles, vans and portable containers having refrigerating or heating equipment operated by internal combustion engines using fuel other than an inflammable liquid or gas may be stowed and operated below deck provided the concentration of carbon monoxide does not exceed 100 parts per million as determined by a carbon monoxide detector. When necessary, a mechanical ventilation system of adequate capacity shall be utilized. The stowage shall be in accordance with the requirements of this part for the particular commodity. If the equipment is secured, and the fuel tank completely drained, the railroad vehicle, van or portable container may be stowed in accordance with the requirements of this part and subpart without any further restrictions.

(e) All of that portion of the lading of any railroad vehicle, highway vehicle, van, or portable container which consists of explosives or other dangerous articles shall be contained entirely within its body or within the horizontal outline thereof, without overhang or projection of any part of the load, and if such railroad vehicle, highway vehicle, van, or portable container has a tailboard or tailgate, it shall be closed and secured in place during such transportation.

[CGFR 58–9, 23 F.R. 4841, June 28, 1958, as amended, CGFR 61–11, 26 F.R. 3923, May 5, 1961; CGFR 65–17, 30 F.R. 7438, June 5, 1965]

§ 146.07–10 Tank containers.

(a) Railroad or highway vehicles to which is attached a tank containing any explosives or other dangerous articles or substances shall not be offered or accepted for transportation on board any vessel unless such articles or substances are permitted by the regulations in this part to be carried on board a vessel, and provided there is compliance with the regulations in this subpart.

(b) This section does not apply to tank containers removed from the vehicle chassis or underframe. Such containers shall be considered portable containers, and the materials, design, construction and method of handling shall be approved by the Commandant of the United States Coast Guard.

(c) Railroad or highway vehicles to which is attached a tank, or portable tank containers, which previously contained a substance defined as dangerous by the regulations in this part, shall be transported in accordance with § 146.27–100.

[CGFR 58–9, 23 F.R. 4841, June 28, 1958, as amended, CGFR 61–11, 26 F.R. 3923, May 5, 1961]

§ 146.07–15 Acceptance on board vessels.

(a) The master, owner, charterer, agent or other person in charge of the vessel shall require the shipper or his agent, or the delivering carrier, or the driver of the vehicle to furnish a copy of the shipper's shipping order, shipping paper, bill of lading, manifest or other memorandum, or a waybill prepared from information furnished in the shipper's shipping order bearing the certification required by § 146.07–20 before accepting any railroad or highway vehicles, vans or portable containers in which are loaded explosives or other dangerous articles or substances. This shipping paper shall have entered upon it the proper and definite name of the commodity or commodities contained therein according to § 146.04–5, the total quantity by weight or volume, the prescribed label when required for the outside container of such article, the name and

addresses of the consignor and consignee, and the identification number of the vehicle, van or portable container. In lieu of the consignee's name shipping marks may be used. The Dangerous Cargo Manifest or List (§ 146.06–12) shall be compiled from this information.

(b) The master or other person in charge of the vessel shall assign an officer of the vessel to supervise the acceptance and stowage of railroad or highway vehicles, vans or portable containers containing permitted explosives or other dangerous articles or substances. This officer shall examine the vehicles or containers for signs of leaking, damage to the container, or sifting of contents. For tanks he shall examine dome covers to ascertain if they are fitted securely; check valves, piping and the tanks for leakage or excess residue of lading. Any vehicle or container found to be damaged, leaking or sifting, or having excess residue of lading adhering thereto shall not be accepted for transportation.

[CGFR 58–9, 23 F.R. 4841, June 28, 1958]

§ 146.07–20 Certification.

The shipping order or other memorandum furnished by the shipper, agent or delivering carrier shall bear the following certificate of the shipper or his duly authorized agent:

This is to certify that the above named articles are properly described, packed and marked, and in proper condition for transportation according to the regulations prescribed by the Interstate Commerce Commission and Commandant of the United States Coast Guard.

[CGFR 58–9, 23 F.R. 4841, June 28, 1958]

§ 146.07–25 Marking and placarding.

(a) Railroad vehicles, highway vehicles, vans or portable containers in which are loaded explosives or other dangerous articles in any amount shall be marked with the "Explosives," "Dangerous," "Poison Gas," or "Radioactive Material" placard as described in the Interstate Commerce Commission regulations pertaining to each means of transportation, and shall carry an identification number.

(b) The label required for the dangerous cargo within the vehicle, van or portable container shall be displayed in a conspicuous place in addition to the required placard. Individual packages are exempt from the labeling requirements provided they are not removed from the vehicle, van or portable container while aboard the vessel.

[CGFR 61–11, 26 F.R. 3924, May 5, 1961]

§ 146.07–30 Inspection.

Railroad vehicles, highway vehicles, vans or portable containers containing explosives or other dangerous articles or substances destined for transportation by vessel may be opened by a duly authorized representative of the Coast Guard for inspection to determine compliance with regulations applicable to such shipments.

[CGFR 58–9, 23 F.R. 4841, May 5, 1958]

§ 146.07–35 Exemption of railroad and highway vehicles, vans or portable containers from detailed handling or stowage requirements.

(a) Detailed regulations governing handling and stowage of permitted explosives, inflammable (flammable) liquids, inflammable (flammable) solids, oxidizing materials, corrosive liquids, compressed gases or poisons on board vessels do not apply to such substances loaded in railroad or highway vehicles, vans or portable containers provided such substances remain within the vehicle, van or portable container, and are certified in accordance with § 146.07–20. Permit requirements for explosives (§§ 146.20–85, 146.20–87), ammonium nitrate ((§ 146.22–30) and nitro carbo nitrate (§ 146.22–40) are applicable.

(b) Detailed regulations governing handling and stowage of hazardous articles or combustible liquids on board vessels do not apply to such articles or substances loaded in railroad or highway vehicles, vans or portable containers, provided such articles or substances are certified on the shipping paper as being properly described by name, and as being packed, marked and in proper condition for transportation according to the regulations in this part.

[CGFR 58–9, 23 F.R. 4841, June 28, 1958, as amended, CGFR 61–11, 26 F.R. 3924, May 5, 1961]

§ 146.07–40 Stowage on board vessels.

Railroad or highway vehicles, vans or portable containers in which are loaded any permitted explosives or other dangerous articles or substances which are certified on the shipping papers as being described, packed, marked and labeled in accordance with Interstate Commerce Commission regulations, or hazardous articles which are described, packed, and marked in accordance with the regulations in this part, shall when taken on board the vessel be stowed in

accordance with the following provisions:

(a) *Explosives.* Plans and specifications for highway vehicles, vans and portable containers proposed to be used for transportation of explosives, for which a permit is required by §§ 146.20-85 and 146.20-87, shall be specifically approved by the Commandant of the Coast Guard. Vehicles or other containers loaded with permitted explosives are not required to be given magazine stowage provided the vehicles or containers form a complete magazine. Such vehicles, vans, or portable containers may be stowed "Under deck" and away from all sources of heat, and not overstowed. No vehicle, van or container containing any other dangerous articles that require a placard by this subpart shall be stowed within a distance of 100 feet or unless separated by two continuous permanent decks or bulkheads from vehicles, vans or containers loaded with Class A or Class B explosives. Blasting caps or other detonators in any quantity shall not be transported in the same vehicle, van or portable container with any other explosives. In addition to the usual securing means provided, vehicles or containers loaded with explosives shall be anchored by an additional securing means satisfactory to the United States Coast Guard and the master of the vessel so as to completely secure the entire unit to prevent any movement of the body thereof.

(b) *Other dangerous articles.* No dangerous articles or substances may be stowed in the same vehicle, van, or portable container with any other article or substance with which it is incompatible according to the regulations in this part. Vehicles, vans or portable containers loaded with any other permitted dangerous article shall be stowed on board the vessel in accordance with the stowages required in the tables for the substances within the vehicles. Such stowages are not feasible in each instance for railroad or highway vehicles, vans, or portable containers stowed below deck on vessels; and, for the purpose of adopting these stowages to the conditions incident to transportation of railroad and highway vehicles, vans, and portable containers in this method of transportation, a conversion table is shown in paragraph (c) of this section. Permitted stowages as shown in Tables A through K for the substances loaded within the vehicles may be converted in accordance with this conversion table. When so converted the stowage in columns 2 and 3 may be utilized in lieu of the stowage indicated under column 1.

(c) *Conversion table of stowage.*

(1)	(2)	(3)
Substances required by the tables forming part of these regulations to be stowed as follows:	May be stowed in the following locations when contained in railroad vehicles or highway vehicles:	Trailer vans or containers when stacked:
On deck in open	Weather deck	Weather deck.
On deck protected	Weather deck or first deck below	Weather deck or top stowed.
On deck under cover	Weather deck or first deck below	Weather deck or top stowed.
Tween decks readily accessible	Weather deck or first deck below	Weather deck or top stowed.
Tween decks	Any deck	Any deck.
Cargo hatch trunkway	Any deck	Any deck.
Under deck	Any deck	Any deck.
Under deck but not overstowed	Any deck	Any deck.
Under deck away from heat	Any deck but at least 35 feet from heat bulkhead.	Any deck but at least 35 feet from heat bulkhead.

(d) *Compatibility of other dangerous articles.* No vehicle, van or portable container loaded with dangerous articles requiring a placard under this subpart shall be stowed adjacent to a placarded vehicle, van or container loaded with other dangerous articles deemed to be incompatible by this part, in either a fore, aft, athwartship or vertical direction unless separated by an intervening steel deck or bulkhead.

[CGFR 58-9, 23 F.R. 4841, May 5, 1958, as amended, CGFR 64-20, 29 F.R. 6790, May 23, 1964]

Subpart 146.08—Railroad or Highway Vehicles Loaded With Dangerous Substances and Transported on Board Vessels

SOURCE: The provisions of this Subpart 146.08 contained in CGFR 58-9, 23 F.R. 4842, June 28, 1958, unless otherwise noted.

§ 146.08-1 Prohibited articles.

Railroad or highway vehicles in which are loaded any explosives prohibited by subsection 3 of R.S. 4472, as amended (46 U. S. C. 170), or any other explosive or other dangerous article or substances and combustible liquids not permitted by

the regulations in this part shall not be accepted, transported, carried or conveyed on board any railroad car ferry or highway vehicle ferry.

§ 146.08-5 Permitted articles.

(a) Railroad or highway vehicles in which are loaded any permitted explosives or other dangerous articles or substances as defined in this subchapter may be transported, carried or conveyed on board a railroad car ferry or highway vehicle ferry provided there is compliance with the provisions of this subpart.

(b) Railroad or highway vehicles loaded with explosives or other dangerous articles or substances, and combustible liquids shall not be transported, carried or conveyed on board a passenger ferry vessel unless such explosives or other dangerous articles or substances, and combustible liquids are specifically permitted by the regulations in this part to be transported, carried or conveyed on board such vessels and provided there is compliance with the provisions of this subpart.

§ 146.08-10 Tank containers.

A railroad or highway vehicle to which is attached a tank containing any explosives or other dangerous articles or substances as defined in this subchapter shall not be offered, transported, carried or conveyed on board any passenger ferry vessel unless such explosives or other dangerous articles or substances are specifically permitted by the regulations in this part to be transported, carried or conveyed on board such vessel in this manner and provided there is compliance with the provisions of this part.
[CGFR 62-11, 27 F.R. 5281, June 5, 1962]

§ 146.08-15 Acceptance of railroad vehicles on board ferry vessels.

(a) The master, owner, charterer, agent or other person in charge of the vessel shall require the shipper or his agent or the delivering carrier to furnish a copy of the shipper's shipping order or a waybill prepared from information furnished in the shipper's shipping order before accepting any railroad vehicles in which are loaded explosives or other dangerous articles or substances as defined by the regulations in this part. This shipping paper shall have entered upon it the amounts and the true shipping name of the contents of the vehicle, and the names of the consignor and the consignee. In lieu of the consignee's name, shipping marks may be substituted. A transfer shipping paper shall show sufficient information to identify the preceding shipping paper.

(b) The master or other person in charge of the vessel shall assign an officer of the vessel to supervise the acceptance and stowage of railroad vehicles containing explosives or other dangerous articles or substances and combustible liquids which are permitted by the regulations in this part to be transported on board a vessel. This officer shall examine all railroad vehicles for signs of leaking or sifting of contents. For tanks, he shall examine dome covers to ascertain they are fitted securely in place; check the valves, piping, and the tank for leakage; check the tank for any excess residue of lading adhering thereto. Any vehicles found to be leaking or which show sifting of contents or having excess residue of lading adhering thereto shall not be accepted for transportation.

§ 146.08-20 Acceptance of highway vehicles on board ferry vessels.

(a) The vessel owner, master, or officer in charge of accepting highway vehicles on board a vessel shall require the operator of the vehicle to present a shipping paper which describes the lading of the vehicle in accordance with the provisions of paragraph (c) of this section.

(b) The owner or master of a vessel shall assign an officer of the vessel or other competent person to supervise the acceptance and stowage of highway vehicles containing explosives or other dangerous articles or substances and combustible liquids that are permitted by the regulations in this part to be transported on board a vessel.

(c) Highway vehicle carrier's statement: The person in charge of a highway vehicle loaded with permitted explosives or other dangerous articles or substances and combustible liquids that it is desired to transport on board a vessel shall deliver to the master, his representative or other person in charge a shipping paper or true copy thereof describing the articles of lading within the vehicle. The information given shall include at least all of the following:

(1) Date.

(2) Name of highway vehicle owner.

(3) Name of operator of vehicle.

(4) Identification of vehicle (by mark or number or registration if a motor vehicle).

(5) Description of explosives or other dangerous articles and combustible

liquids laden in the vehicle. This description shall be in accordance with the terms used in the regulations in this part and shall state the approximate weight or quantity of the dangerous articles within the vehicle and the shipping name of the dangerous substances in accordance with the commodity list herein.

(6) Such shipping paper shall bear the following certification over the written or stamped facsimile signature of the vehicle owner or his agent:

"This is to certify that the above statement accurately describes the articles within this vehicle in accordance with the information furnished by the shipper thereof, and to the best of my knowledge there are no articles within this vehicle that are not permitted to be transported on board the vessel utilized in accordance with regulations of the Commandant of the Coast Guard."

§ 146.08-25 Empty tank containers.

For conditions governing transportation of empty tanks, forming a part of railroad or highway vehicles and which recently contained a substance defined as dangerous by the regulations in this part, see § 146.27-100.

§ 146.08-30 Exemption of railroad and highway vehicles from detailed handling or stowage requirements.

(a) Detailed regulations governing handling and stowage of permitted explosives, inflammable liquids, inflammable solids, oxidizing materials, corrosive liquids, compressed gases or poisons on board vessels do not apply to such substances loaded in railroad and highway vehicles, provided such substances remain within the vehicle and are certified as being in proper condition for transportation according to the regulations of the Interstate Commerce Commission in effect at the time of shipment.

(b) Detailed regulations governing handling and stowage of hazardous articles or combustible liquids on board ferry vessels do not apply to such articles or substances loaded in railroad or highway vehicles, provided such articles or substances are properly described by name and packed and marked and in proper condition for transportation according to the regulations in this part.

§ 146.08-35 Stowage of railroad or highway vehicles.

(a) Highway vehicles in which are loaded any permitted explosives or other dangerous articles or combustible liquids which are certified by the vehicle operator in accordance with the provisions of this subpart shall when taken on board a ferry vessel be stowed in accordance with the provisions for "Ferry stowage (AA)" as shown in § 146.03-34(k). Highway vehicles containing carbon dioxide, solid, either as cargo or as a refrigerant shall be stowed in a well-ventilated location.

(b) Railroad vehicles in which are loaded any permitted explosives or other dangerous articles or substances which are certified on the shipping papers as being described, packed, marked, and labeled in accordance with the ICC regulations, or hazardous articles packed, marked, and labeled in accordance with the regulations in this part may be stowed in any location on the car deck away from heat on board a railroad car ferry operating as a cargo vessel. Railroad vehicles containing carbon dioxide, solid, either as cargo or as a refrigerant, shall be stowed in a well-ventilated location.

(c) Railroad vehicles in which are loaded any permitted explosives or other dangerous articles or substances which are certified on the shipping papers as being described, packed, marked, and labeled in accordance with the ICC regulations, or combustible liquids or hazardous articles certified on the shipping papers as being described, packed, marked, and labeled as required by the regulations in this part shall be stowed in a location on the car deck in accordance with the provisions of "Ferry stowage (BB)" on board a railroad car ferry operating as a passenger vessel. (See § 146.03-34(1).) Railroad vehicles containing carbon dioxide, solid, either as cargo or as a refrigerant, shall be stowed in a well-ventilated location.

§ 146.08-40 Control of highway vehicle.

(a) The operator or person in charge of a highway vehicle containing any of the permitted dangerous articles as defined by the regulations in this part, when entering upon or while being transported upon any vessel, shall observe the following rules:

(1) Deliver to the vessel's representative the vehicle carrier's statement covering the lading of the vehicle as required by § 146.08-20.

(2) Drive the vehicle to the location indicated by the vessel's representative.

(3) Securely set the brakes of the vehicle to prevent movement.

(4) Shut off the motor and do not restart same until the vessel has completed its voyage and docked.

(5) Cut off all vehicle lights and do not relight same until the vessel has completed its voyage and docked.

(6) Remain with the vehicle.

(7) Make no repairs or adjustments to the vehicle while on board the vessel.

(8) Observe any instructions given by the vessel's representative during the voyage, or during "drive on" or "drive off" operations.

(b) Smoking by any person within the vehicle is prohibited.

§ 146.08-45 Private passenger type motor vehicles (automobiles).

(a) Such vehicles shall not be offered or accepted for transportation on board passenger-carrying ferries while having within the automobile any permitted explosives (except permitted fireworks or small arms ammunitions) unless complying with all the provisions of the regulations in this part regarding such substances. Such automobiles shall not have within the vehicle any other dangerous articles or substances or combustible liquid as defined in the regulations in this part when being transported for hire except in compliance with the regulations in this part: *Provided, however,* That such vehicles are exempt from the provisions of the regulations in this part with respect to descriptions, descriptive name, packing, marking, labeling, and certification when having in the vehicle any permitted fireworks or small arms ammunition or any other dangerous articles or substances or any combustible liquid in tightly closed containers, provided such substances are not being carried by the automobile for hire. Such vehicles, their owners or operators shall, when entering upon and while being transported and when leaving a vessel, conform with all of the provisions of the regulations shown in the table in § 146.27-100 applying to the transportation of such vehicles.

(b) Motorboats being transported on boat trailers shall be considered as part of the towing vehicle, and the provision of this section shall apply. Gasoline may be transported in the motorboat tanks, and in other containers, provided such tanks and containers are unbreakable, leakproof and have adequate closures. Containers shall not exceed 6 gallon capacity each, and two such containers shall be permitted for each engine.

[CGFR 58-9, 23 F.R. 4842, June 28, 1958, as amended, CGFR 59-14, 24 F.R. 5268, June 30, 1959]

§ 146.08-50 Cylinders laden in highway vehicles.

Cylinders of compressed gas of the type required by the regulations in this part to have valve protection cap fitted in place on the cylinder may be transported on board ferry vessels without having the valve protection cap in place when said cylinders are laden in highway vehicles and are not removed from the vehicles while on board the vessel.

§ 146.08-55 Vehicles having refrigerating or heating equipment.

(a) Vehicles, fitted with refrigerating or heating equipment using an inflammable liquid or gas or diesel oil as fuel, may be accepted for transportation, and such refrigerating or heating equipment may be operated while the vehicle is on board a vessel, provided the installation conforms with the following requirements:

(1) The installation is rigidly mounted and free of any movement other than normal vibration of operation.

(2) A shut-off control, easily accessible, is fitted to the fuel and electrical supply of refrigerating or heating equipment.

(3) The fuel storage tank, the fuel lines and the carburetor or other device shall be tight and show no signs of leakage.

(b) Refrigerating or heating equipment not fitted with automatic starting and stopping devices shall, if the vehicle operator desires the equipment to operate while on board the vessel, be started before the vehicle is taken on board. It may continue in operation while the vehicle is on the vessel, but if for any cause the motor ceases to operate it shall not be restarted until after the vehicle leaves the vessel.

(c) Vessels on voyages exceeding thirty (30) minutes duration shall provide a stowage for vehicles having refrigerating or heating equipment operated by internal combustion engines as will permit ready diffusion of exhaust gases to the open air. Passenger vehicles shall not be stowed in a position adjacent to vehicles operating internal combustion motors as would expose the occupants thereof to excessive concen-

trations of exhaust fumes from such motors.

(d) The master or person in charge of a vessel may, when he deems it necessary for any cause, require the vehicle operator to stop the operation of refrigerating or heating equipment attached to a vehicle while on board the vessel.

Subpart 146.09—Cargo Handling and Stowage Devices, U.S. Coast Guard Container Specifications

SOURCE: The provisions of this Subpart 146.09 contained in Order 74, 6 F.R. 277, Jan. 11, 1941, unless otherwise noted.

§ 146.09–1 Magazines, location of.

(a) Magazines shall be located in a hold, preferably a tween deck hold that is dry and well ventilated. They shall be so located as not to be in horizontal proximity to crew or passenger accommodations nor below such living spaces. Magazines shall not be built on or under the principal bridge or other navigation spaces. The hold or compartment in which a magazine is constructed shall provide a positive closing means to prevent all traffic through the area after the explosives are stowed, except ingress and egress for inspection purposes.

(b) Magazines shall not be constructed in bearing with the collision bulkhead, nor with a bulkhead forming a boiler room, engine room, coal bunker or galley boundary. If it is necessary to construct a magazine in proximity to these bulkheads a cofferdam space of at least one foot shall be provided between the permanent bulkhead and the magazine bulkhead. This cofferdam space shall remain open to the free circulation of air and shall not be used for stowage or storage purposes.

(c) When a magazine is to be constructed over a tween deck hatch, the hatch girders or strongbacks and the hatch covers forming the tween deck hatch shall be of such design and size as to insure their carrying the imposed load with safety. Covers of the tween deck and over deck hatch shall completely close the hatch opening and fit securely in place. Tween deck hatch covers of wood forming the base of the magazine shall be completely covered with asbestos board at least ¼ inch thick, fitted tight at the sides of the magazine, the joints of the asbestos board being staggered midway between joints formed by the wooden hatch covers. Magazines shall be constructed in accordance with the applicable provisions of § 146.09–2, except floor shall be formed by dunnaging over the asbestos board. In the construction of a magazine care should be taken that no metal structural parts protrude within the magazine. If it is proposed to carry the stowage of explosives up into the over deck hatch coaming, this coaming shall be sheathed with wood. A magazine located in the hatchway may be so constructed as to occupy only a part of the area of the hatchway. Portable magazines may be stowed in the square of the hatchway and either lashed or tommed to prevent movement.

(d) Construction and location of magazines for stowage of explosives other than as provided in this subpart or as provided in § 146.20–16 shall be authorized by the Commandant of the Coast Guard.

[CGFR 59–14, 24 F.R. 5269, June 30, 1959, as amended by CGFR 65–17, 30 F.R. 7438, June 5, 1965]

§ 146.09–2 Magazines, construction of.

The following shall be observed in the construction of a magazine for stowage of explosives requiring magazine stowage:

(a) Magazines may be constructed of steel or wood.

(b) Magazines constructed of steel shall have the whole of the interior completely protected by wood sheathing of a minimum thickness of ¾-inch to form a smooth surface, free of projections. Metal stanchions within the magazine shall be boxed with wood of a thickness of not less than ¾-inch. When steel decks or tank tops are utilized to form the floor of a magazine, a wooden floor of not less than 1¼-inch commerical lumber, constructed on bearers shall be fitted. Such floor may be portable but tight to prevent movement.

(c) Magazines constructed of wood shall have the bulkheads forming the sides and ends constructed of commercial 1-inch lumber, of ¾-inch tongue and groove sheathing, or of ¾-inch plywood, secured to uprights of at least a 3- by 4-inch size, spaced not more than 18 inches apart and secured at top, bottom and center with horizontal bracing. When ¾-inch plywood is used, the uprights may be spaced on 24-inch centers. Uprights shall not be stepped directly onto a metal deck. A 2- by 4-inch bearer to carry the uprights shall be laid upon the metal deck. A 2- by 4-inch

header shall be fitted against the underside of an overhead deck to receive the top of uprights. Top of uprights fitted against channel beams may be wedged directly to the beam with 2- by 4-inch spacers fitted between. Care shall be taken in securing upright framing that no nails penetrate to the interior of the magazine. When a magazine is constructed as a permanent compartment in the vessel, increased size and finish of lumber and other methods of fastening may be used provided such fastenings are recessed below the surface of the boarding to avoid projections within the interior of the magazine. All boardings shall be fitted and finished so as to form a smooth surface within the interior of the magazine. Construction shall be such as to separate all containers of explosives from contact with metal surfaces of the structure of the vessel. When a metal stanchion, post or other obstruction is located within the interior area of the magazine, such obstruction must be completely covered with wood of a thickness of at least ¾-inch secured in place with nails or screws. All screws or nails used in the magazine for fastening shall be countersunk below the surface of the wood. Flooring of magazines shall be of not less than 1¼-inch commercial lumber, constructed on bearers. Such floor may be portable but tight to prevent movement. The door of the magazine shall be of substantial construction, fitted reasonably tight in its jamb and provided with a locking means of a tamper-proof type. The door shall be so located as to be easily accessible.

(d) If the bulkheads forming the sides of a magazine are to be constructed directly against the ship's side and battens are fitted, then 5/16-inch plywood may be used, provided the plywood is fastened to furring strips of not less than 1 inch by 3 inches, spaced not more than 18 inches apart, and securely fastened vertically to the battens.

(e) A magazine constructed in accordance with the provisions of paragraphs (b) and (c) of this section, in which it is proposed to stow containers of explosives within 12 inches of the overdeck beams, or hatch coaming, shall have such deck beams and coaming sheathed with wood similar to that required for metal stanchions, posts or other obstructions by the provisions of paragraph (c) of this section.

(f) When a Class A magazine measures more than 40 feet in any direction, a partition bulkhead shall be fitted within the magazine as near half length as practicable, extending from the deck to at least the top of the stowage. Such partition bulkhead shall be constructed to the same scantlings as the sides of the magazine, except the boardings may be spaced not more than 6 inches apart alternately on both sides of the uprights. This bulkhead shall be constructed before loading commences and care shall be exercised that nail points do not protrude beyond the surface of the boarding. [CGFR 59-14, 24 F.R. 5269, June 30, 1959, as amended, CGFR 61-57, 26 F.R. 12082, Dec. 16, 1961]

§ 146.09-3 Entire hold forming magazine.

When an entire compartment or hold is utilized for the stowage of explosives that are required by the regulations in this part to be given magazine stowage, the entire compartment may be considered as a magazine. The frames and bulkhead stiffeners protruding into the compartment shall be effectively boarded over to provide a smooth surface for the stowage of the explosives. This boarding need not be applied to the over deck beams when the explosives are not stowed closer than twelve (12) inches of such beams. If explosives are stowed up to the over deck beams and into the square of the hatch formed by the coaming such over deck beams including the hatch coaming shall be effectively boarded over. The installation of such boarding shall be in accordance with the specifications for the construction of a magazine, except when cargo battens are fitted to the vessel's shell or bulkheads forming part of the hold such boarding may be secured vertically using the battens as an anchorage for the necessary securing means.

§ 146.09-4 Ventilation of magazines.

Every magazine shall be efficiently ventilated. Cowl deck ventilators, when fitted into or immediately adjacent to the magazine, shall be covered with a fine wire screen of not less than a 30 x 30 mesh at the weather end of the ventilator. Magazines which occupy only a portion of a hold and are not fitted with a ventilator entering into the magazine shall be so constructed on one side as to leave an open space of not more than one inch below the over deck frame.

§ 146.09–5 Metal lockers for stowage of fireworks.

Metal lockers required to be provided for the stowage of fireworks (class B—less dangerous explosives), permitted by the regulations in this part to be accepted and transported on board passenger vessels, shall conform to the following specifications:

(a) *Size.* The cubic capacity of a locker shall not exceed 150 cubic feet.

(b) *Division.* Lockers exceeding 5 feet in height shall be fitted with a division shelf at about ½ height so constructed as to carry the imposed load without deflection.

(c) *Gauge.* The thickness of metal used in the construction of lockers shall not be less than No. 16 U.S. standard gauge.

(d) *Type of construction.* Design and construction of lockers shall be such as to provide smooth interior surfaces. Stiffener elements, when fitted, shall not project beyond interior surfaces. Lockers shall be fitted with top and bottom closures except when "built in" to the structure of the vessels with the over and under deck forming the top and bottom of the locker. "Built in" construction shall not be accepted when the over or under deck is of wood.

(e) *Closures.* Closing means may be removable plates or the hinged door type, provided that in either case the locker shall, when closed in, be flame tight. Lockers having portable plate closing means shall have an opening provided in an accessible side of the locker to permit insertion of a fire hose nozzle for purpose of flooding. Such opening shall be of at least 3" in diameter, not more than 12" below the top of the locker, and be fitted with a metal flap cover to substantially preserve the flame tight requirement.

(f) *Location.* Lockers shall be so located as to be readily accessible to companionways or cargo hatches. When fitted in vessels constructed of wood the lockers shall be so located as to be easily observed by a watchman on his rounds. Lockers shall be secured in place to prevent shifting in a seaway.

§ 146.09–6 Portable magazines for stowage of explosives.

Portable magazines used for the stowage of explosives shall conform to the following provisions:

(a) Portable magazines shall be constructed watertight of wood, or of metal lined with wood ¾-inch minimum thickness. Not more than 100 cubic feet plus 10 percent of explosives (gross) shall be stowed therein.

(b) All inner surfaces of the magazine shall be smooth and free of nails, screws or other projections.

(c) When constructed of wood the scantlings and arrangement shall be not less than those required by § 146.09–2, and a strong, close fitting hinged cover or door fitted with hasps and padlock shall be provided.

(d) When constructed of metal, the minimum thickness shall be not less than ⅛-inch sheet.

(e) Runners, bearers, or skids shall be provided to elevate the magazine a minimum of 4 inches from the deck. Pad eyes, ring bolts, or other suitable means shall be provided for securing, and they shall be so lashed, chocked or braced as to prevent movement in any direction.

(f) Portable magazines shall be stowed in the square of a tween deck hatch except when other stowage is authorized by § 146.20–16.

(g) Portable magazine containers may be used for the stowage of explosives exceeding 100 cubic feet plus 10 percent (gross) under such conditions of construction, handling and stowage that meet the approval of the Commandant of the Coast Guard.

(h) Portable magazines shall be marked on the top and sides in letters at least 3 inches high with the legend "EXPLOSIVES—HANDLE CAREFULLY—KEEP LIGHTS AND FIRE AWAY."

[CGFR 59–14, 24 F.R. 5269, June 30, 1959, as amended, CGFR 61–11, 26 F.R. 3924, May 5, 1961, CGFR 64–20, 29 F.R. 6790, May 23, 1964; CGFR 65–17, 30 F.R. 7439, June 5, 1965]

§ 146.09–7 Specifications of moisture proofed paper bags.

SPECIFICATION MIN-W10

MOISTURE PROOFED MULTIWALL PAPER BAGS FOR TRANSPORTATION OF QUICKLIME BY WATER

General

1. *Compliance.* Containers must comply with, or may exceed, details of the specifications.

2. *Capacity.* Not over 100 pounds net.

Material

3. *Paper.* Kraft (100% sulfate) paper.

4. *Moisture proofing.* Asphalt or other material equal or superior to asphalt.

Construction

5. (a) *Description.* A multiwall paper bag constructed of not less than four plies, one or more of which will be moisture proofed.

(b) *Assembly of moisture proofed ply.* The assembly of the moisture proofed ply

will be accomplished by combining two sheets of Kraft (100% sulfate) paper having a basis weight of not less than 20 pounds each with not less than 25 pounds of asphalt applied evenly to the paper surface.

(c) *Alternate moisture proofed ply.* Any other moisture proofed Kraft paper of a total basis weight of not less than 40 pounds before treatment, whose moisture proofed qualities are equal or superior to the above asphalt treated paper as determined by the Thwing Vapometer test for moisture-vapor transmission.

(d) *Additional plies.* Remaining plies of the bag will be constructed of Kraft (100%) sulfate paper, each sheet having a basis weight of not less than 40 pounds, and a Kady or Mullen test of 40 pounds per square inch. The combined weight of said remaining plies to be not less than the weights given in the following table:

Approximate weight of contents:	*Combined weight of remaining plies in addition to moisture proofed ply described in (5)(b)*
To and including 50 pounds	130 pounds
51 pounds to and including 80 pounds	150 pounds
81 pounds to and including 100 pounds	170 pounds

All weights given are on the basis of 480 (24 x 36 inch) sheets.

(e) *Longitudinal seams.* Longitudinal seams made by lapping not less than one inch and pasting.

(f) *Bottom closure.* Bottom closure made by folding and interlapping and pasting; or taped sewed and dipped in a waterproofing compound; or *sewed and taped over stitching.*

(g) *Top closure.* By wire ties consisting of not less than two No. 16 Birmingham wire gauge or heavier wires; or by valve mouth with top of bag folded and interlapped and pasted; or by valve mouth with top of bag taped, sewed and dipped in waterproofing compound; *or sewed and taped over stitching.*

6. *Test.* The finished container, filled and closed, must be capable of withstanding a drop test of 4 feet on the butt without sifting or rupture of any ply.

Marking

7. *On each container.* By marks at least one inch high as follows:

(a) *MIN–W10.* This marking shall be understood to certify that the container complies with all specification requirements.

(b) Name and address of maker located above or below the mark specified in (7)(a).

§ 146.09–8 Specifications of moisture proofed paper lined burlap bags.

SPECIFICATION MIN–W11

MOISTURE PROOFED PAPER LINED BURLAP BAGS FOR TRANSPORTATION OF QUICKLIME BY WATER

General

1. *Compliance.* Containers must comply with, or may exceed, details of the specifications.

2. *Capacity.* Not over 100 pounds net.

Material

3. *Burlap.* At least equal in equality and strength to 7½ ounce 40 inch (7½/40) Calcutta common burlap. Thread count at least 9 per inch warp and 9 per inch filler.

4. *Paper.* No. 1 Kraft creped. Finished weight of 40 pounds per ream (480 sheets 24 x 36 inch) after creping.

Construction

5. (a) *Description.* Burlap bag lined with a water proofed paper lining.

(b) *Assembly of moisture proofed lining.* The assembly of the moisture proofed lining will be accomplished by combining two plies of creped paper having a finished weight of not less than 40 pounds each, evenly coated between the two plies with asphalt of any desirable type, of minimum 150° F. melting point, over the entire area of paper, with minimum coverage of 110 pounds per ream.

(c) *Assembly of moisture proofed ply and burlap.* The burlap will be lined with the moisture proofed creped paper by cementing together with a suitable latex compounded adhesive to securely attach paper lining to the burlap.

(d) *Stretch of paper lining.* After they are cemented to the burlap the stretch of the paper lining must equal the stretch of the burlap in the direction of the warp and filling and equal to 10 percent in a diagonal direction.

(e) *Seams.* Bags must be made with cemented center seams and taped bottoms to make them sift proof and airtight and to provide strength at least equal to the bag material.

(f) *Closure.* Bags to be wire tied with two No. 16 Birmingham wire gauge or heavier wire ties.

6. *Test.* The finished container, filled and closed, must be capable of withstanding a drop test of 4 feet on the butt without sifting or rupture of any ply.

Marking

7. *On each container.* By marks at least 1 inch high as follows:

(a) *MIN–W11.* This marking shall be understood to certify that the container complies with all specification requirements.

(b) Name and address of maker located above or below the mark specified in (7)(a).

§ 146.09–11 Chutes and conveyors for handling explosives.

(a) Chutes for loading and unloading explosives shall be constructed as follows: Of smooth planed boards not less than 1" thick. Side guards of the same material 4" high. Assembly shall be with brass screws only. D-shaped wooden strips or runners not more than

6'' apart and running lengthwise of the chute shall be fastened to the upper surface of the slide by means of glue and wooden dowels extended through the bottom of the chute. No metallic means of construction shall protrude beyond the inner face of the chute. Four lashing rings shall be provided, one at each outside corner of the chute for purposes of securing during use. No specification marking required.

(b) Roller conveyors constructed of aluminum or other non-sparking material may be used for loading or unloading explosives. The conveyor shall be grounded when in use, and suitable brakes provided when the angle of descent is such as to make them necessary.

(c) Powered conveyors may be used when the design, construction and specifications are approved by the Commandant of the Coast Guard.

[CGFR 56-29, 21 F.R. 7055, Sept. 20, 1956]

§ 146.09-12 Mattresses for explosives.

Landing mattress for loading or unloading explosives. A stuffed mattress at least 4' wide by 6' long and not less than 4'' thick, or a heavy jute or hemp mat of like dimensions, are acceptable landing mattresses.

§ 146.09-15 Power-operated industrial trucks.

(a) *Definition.* Power-operated industrial trucks are considered to be tractors, lift trucks and other specialized industrial trucks used for material handling on board a vessel. These trucks may be either vessel's equipment or stevedore's equipment.

(b) *Approved power-operated industrial trucks.* Where approved power-operated industrial trucks are required by the regulations in this part, such approved trucks shall have a specific designation of a recognized testing laboratory. The following laboratories are recognized for the specific type designations listed:

(1) Underwriters' Laboratories, Inc. (Mailing address, P.O. Box 247, Northbrook, Illinois) for trucks having recognized testing laboratory type designations E, EE, EX, G, GS, LP, LPS, D and DS.

(2) Factory Mutual Laboratories, Engineering Division, 1115 Boston-Providence Turnpike, Norwood, Massachusetts, for trucks having recognized testing laboratory type designations E, EE, EX, G, GS, LP, LPS, D and DS.

(c) *Description of designations.* Description of recognized testing laboratory type designations are as follows:

(1) The "E" designated units are electrically powered units that have minimum acceptable safeguards against inherent fire hazards.

(2) The "EE" designated units are electrically powered units that have, in addition to all of the requirements for the "E" units, the electric motors and all other electrical equipment completely enclosed. In certain locations the "EE" unit may be used where the use of an "E" unit may not be considered safe.

(3) The "EX" designated units are electrically powered units that differ from the "E" and "EE" units in that the electrical fittings and equipment are so designed, constructed and assembled that the units may be used in certain atmospheres containing flammable vapors or dusts.

(4) The "G" designated units are gasoline powered units having minimum acceptable safeguards against inherent fire hazards.

(5) The "GS" designated units are gasoline powered units that are provided with additional safeguards to the exhaust, fuel and electrical systems. They may be used in some locations where the use of a "G" unit may not be considered safe.

(6) The "LP" designated units are similar to the "G" units except that they are liquefied petroleum gas engine powered instead of gasoline powered.

(7) The "LPS" designated units are units similar to the "GS" units except that liquefied petroleum gas is used for fuel instead of gasoline.

(8) The "D" designated units are units similar to the "G" units except that they are diesel engine powered instead of gasoline engine powered.

(9) The "DS" designated units are diesel powered units that are provided with additional safeguards to the exhaust, fuel and electrical systems. They may be used in some locations where a "D" unit may not be considered safe.

(d) *Minimum safety features.* In addition to the construction and design safety features required in order to ob-

tain a recognized laboratory type designation, approved power-operated industrial trucks shall have at least the following minimum safety features where applicable:

(1) Power-operated industrial trucks shall be equipped with a warning horn, whistle, or gong, or other device that can be heard clearly above the normal shipboard noises.

(2) Wherever power-operated industrial truck operation exposes the operator to danger from falling objects, the truck shall be equipped with a driver's overhead guard. Where overall height of the truck with forks in the lowered position is limited by head room conditions the overhead guard may be omitted.

NOTE: This overhead guard is only intended to offer protection from the impact of small packages, boxes, bagged material, etc., representative of the job application. It is impractical to build a guard of sufficient strength to withstand the impact of a capacity load since such a guard would constitute a safety hazard because its structure would be so large that it might interfere with good visibility and would weigh so much that it might make the truck top-heavy and unstable.

(3) Power-operated fork lift trucks which handle small objects or unstable loads shall be equipped with a vertical load back rest or rack which shall have height, width and strength sufficient to prevent the load, or part of it, from falling toward the mast when the mast is in a position of maximum backward tilt.

(4) The forks on power-operated fork lift trucks shall be secured to the carriage so that unintentional lifting of the toe shall not occur on such application where this lifting may create a hazard. The factor of safety of forks shall be at least 3 to 1, based on the elastic limit of the material.

(5) Fork extensions or other attachments shall be suitably secured to prevent unintentional lifting or displacement on primary forks.

(6) All exposed wheels shall be provided with guards to prevent the wheels from throwing particles at the operator.

(7) Unless the steering mechanism is of a type that prevents road reactions from causing the steering handwheel to spin, the steering knob, if used, shall be of a mushroom type to engage the palm of the operator's hand, or shall be arranged in some other manner to prevent injury. The knob shall be mounted within the perimeter of the wheel.

(8) All steering controls shall be confined within the clearances of the truck, or so guarded that movement of the controls shall not result in injury to the operator when passing obstructions, stanchions, etc.

(e) *Special operating conditions.* (1) Notification shall be given to the master or senior deck officer on board before placing power-operated industrial trucks in use aboard the vessel.

(2) When power-operated industrial trucks are in use on board vessels subject to the regulations in this part, they shall be in a safe operating condition.

(3) Spaces exposed to carbon monoxide or other hazardous vapors from the exhausts of power-operated industrial trucks shall have adequate ventilation. The concentration of carbon monoxide shall be kept below 100 parts per million in the holds and intermediate decks where persons are working. When necessary, portable blowers of adequate size and location shall be utilized.

(4) The parts and/or equipment of any power-operated truck requiring replacement shall be replaced only by parts and/or equipment equivalent in safety when installed with those used in the original design.

(5) Any truck that emits sparks or flames from the exhaust system shall immediately be removed from service, and not again returned to service until the cause for the emission of such sparks or flames has been eliminated.

(6) When the temperature of any part of the truck is found to be in excess of a safe operating temperature, the truck shall be removed from service until such overheating has been corrected.

(7) Operation of trucks shall be halted immediately and the engines or motors secured, whenever an emergency condition arises aboard the vessel.

(8) Operation of trucks shall be halted immediately and the engines or motors secured in the event of breakage or leakage of containers used for the carriage of flammable liquids, flammable solids or oxidizing materials.

(9) The rated capacity of a truck shall at all times be posted on the truck

51-090—66——6

in a conspicuous place and such capacity shall not be exceeded.

(10) At least one approved 2-pound dry chemical hand portable fire extinguisher, or its approved equivalent, shall be affixed to the truck in a readily accessible position or kept in close proximity available for immediate use.

(11) Vessel's fire-fighting equipment, both fixed (where installed) and portable, in vicinity of space being worked shall be kept ready for immediate use.

(f) *Refueling.* (1) Trucks using gasoline as fuel may be refueled in the hold or on the weather deck of a vessel only when such refueling is done with an acceptable portable non-spilling fuel handling system of not over 5 gallons capacity. Transfer of gasoline to these portable non-spilling fuel handling devices is not permitted on board the vessel.

(2) Power-operated industrial trucks using liquefied petroleum gas as fuel may be refueled in the hold or on the weather deck of a vessel only when fitted with removable tanks and provided the hand-operated shut-off valve of the depleted tank is closed and the engine is run until it stalls from lack of fuel before the quick disconnect fitting is opened. In addition, the quick disconnect fitting shall be attached to the fuel tank before the hand-operated shut-off valve is reopened.

(3) Power-operated industrial trucks using diesel oil as fuel may be refueled on the weather deck or in the hold of a vessel by means of portable containers of not over 5-gallon capacity. These trucks may also be refueled on the weather deck of a vessel or portable containers refilled from a larger container provided a suitable pump is used for the transfer operation and a drip pan of adequate size is supplied.

(4) Refueling shall be under the direct supervision of an experienced and responsible person specifically designated for such job by the person in charge of the loading or unloading of the vessel.

(5) No refueling shall be undertaken with less than 2 persons specifically assigned and present for the complete operation, at least one of whom shall be experienced in using the portable fire extinguishers required in the fueling area.

(6) At least one approved 4-pound dry chemical hand portable fire extinguisher, or its approved equivalent shall be provided at the scene of the fueling area. This is in addition to portable extinguisher affixed to the truck in accordance with paragraph (e)(10) of this section.

(7) The location for refueling trucks shall be designated by the master or senior deck officer on board the vessel. "No Smoking" signs shall be posted in the area and smoking shall be prohibited.

(8) The location designated for refueling shall be adequately ventilated so as to insure against accumulation of a hazardous concentration of vapors. The ventilation requirements of paragraph (e)(3) of this section when trucks are operating shall also apply when trucks are being refueled.

(9) Truck engines of all trucks in the same hold shall be stopped before any truck in that hold is refueled and before any fuel handling devices or unmounted liquefied petroleum gas cylinders are placed in the hold.

(10) All fuel handling devices and unmounted liquefied petroleum gas containers shall be removed from the hold before any truck engine is started and the trucks again placed in operation.

(g) *Replacing batteries.* Batteries for electrically powered industrial trucks and for the ignition systems of internal combustion engine-powered industrial trucks may be changed in the hold of a vessel provided the following conditions are met:

(1) Suitable handling equipment shall be employed.

(2) Adequate precautions shall be taken to avoid damage to the battery, short circuiting of the battery, and spillage of the electrolyte.

(h) *Charging of batteries.* Batteries of electrically powered industrial trucks may be recharged in a hold of a vessel provided the following conditions are met:

(1) The batteries shall be housed in a suitable, ventilated, portable metal container with a suitable outlet at the top for connection of a portable air hose, or shall be placed directly beneath a suitable metal hood with a suitable outlet at the top for connection of a portable air hose. The air hose shall be permanently connected to an exhaust duct leading to the open deck and terminate in a goose-

neck or other suitable weather head. If natural ventilation is not practicable or adequate, mechanical means of exhaust shall be employed in conjunction with the duct. The air outlet on the battery container shall be equipped with an interlock switch so arranged that the changing of the battery cannot take place unless the air hose is properly connected to the box.

(2) If mechanical ventilation is used, an additional interlock shall be provided between the fan and the charging circuit so that the fan must be in operation in order to complete the charging circuit for operation. It is preferable that this interlock switch be of a centrifugal type driven by the fan shaft.

(3) The hold shall not contain any cargo coming under the regulations prescribed in this subchapter.

(4) The charging facilities may be part of the truck equipment or may be separate from the truck and located inside or outside the cargo hold. The supply or charging circuit (whichever method is used) shall be connected to the truck by a portable plug connection of the break-away type. This portable plug shall be so engaged with the truck battery charging outlet that any movement of the truck away from the charging station will break the connection between the plug and receptacle without exposing any live parts to contact with a conducting surface or object, and without the plug falling to the deck where it may become subject to injury.

(5) All unmounted batteries shall be suitably protected or removed from an area in the hold of the vessel before trucks are operated in that area.

(i) *Stowage of power-operated industrial trucks aboard a vessel.* (1) Power-operated industrial trucks may be stowed in any location aboard a vessel provided the following conditions are met:

(i) Gasoline powered trucks shall have all the fuel expended from the system.

(ii) Liquefied petroleum gas powered trucks shall have the fuel tanks removed and all the fuel expended from the system.

(2) Power-operated industrial trucks not meeting the conditions set forth in subparagraph (1) of this paragraph shall be stowed on the open deck except for intervals such as lunch hours, between work shifts, interdock and intraport movements. If stowed in a fixed metal enclosure located on or above the weather deck, such enclosure shall have access from the weather deck only and shall have adequate ventilation, so arranged as to remove vapors from both the upper and lower portions of the space.

(j) *Stowage of fuel handling devices aboard a vessel.* (1) Flammable liquids and gases to be used as fuels for power-operated industrial trucks shall be marked, labeled and stowed as follows:

(i) They shall be stowed in ICC specification containers, A.S.M.E. containers or portable safety containers having the approval of a recognized testing laboratory, which containers are authorized for the contents.

(ii) Containers shall be marked with the name of the contents and shall be labeled in accordance with ICC requirements as follows:

(*a*) Flammable liquids—"Red Label"; or,

(*b*) Flammable gases—"Red Gas Label."

(iii) Containers shall be stowed on or above the weather deck in locations designated by the master. ICC specification containers, A.S.M.E. containers, or portable safety containers having the approval of a recognized testing laboratory may be stowed below the weather deck in a paint or lamp locker provided such containers do not exceed 5 gallons capacity each.

(2) Diesel fuel shall be stowed in locations designated by the master.

[CGFR 61-44, 26 F.R. 11017, Nov. 23, 1961]

Subpart 146.10—Barges

SOURCE: The provisions of this Subpart 146.10 contained in Order 74, 6 F.R. 280, Jan. 11, 1941, unless otherwise noted.

§ 146.10-1 Barge defined. (See § 146.03-36.)

§ 146.10-2 Application of regulations.

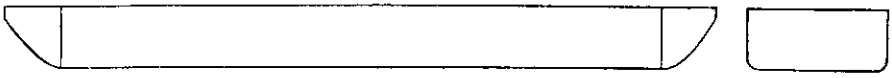
In the transportation of explosives or other dangerous articles or substances on board barges the provisions of the regulations in this part applying to cargo vessels are applicable to barges unless specifically exempted and except as to stowage. Stowage shall be in accordance with the provisions shown in the table in § 146.10-50.

§ 146.10–3 Barges classified.

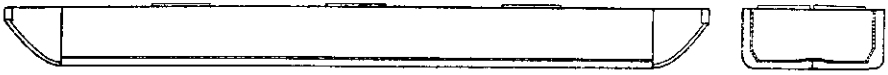
(a) Various types of "barges" are for the purpose of the regulations in this part classified as follows:

Class "A" Barges

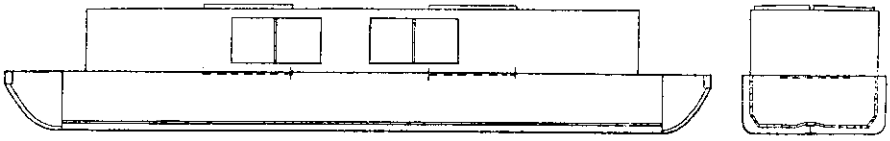
AA Hull constructed of steel or wood, completely decked over and stowing cargo "On deck in open" only.



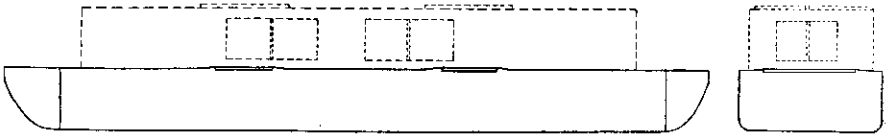
AB Hull constructed of steel or wood, completely decked over, fitted with cargo hatches, ceiled holds, and capable of stowing cargo "Under deck" or "On deck in open".



AC Hull constructed of steel or wood, completely decked over with superstructure house covering the deck and fitted with cargo hatches or cargo doors, and capable of stowing cargo "On deck in open", "Under deck" in ceiled holds or "On deck within the house".

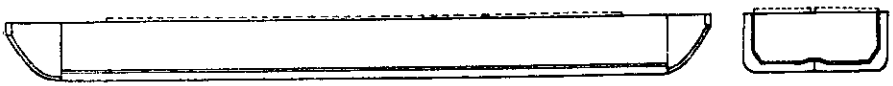


AD Hull constructed of steel or wood, completely decked over, fitted with cargo hatches, with or without superstructure house covering the deck, and capable of stowing cargo "On deck" or "On deck within the house" or "Under deck", having holds that are not ceiled.



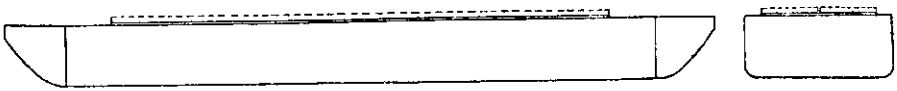
Class "B" Barges

BA Hull constructed of steel or wood with partial deck at ends and/or sides, fitted with hatches with or without coaming and having ceiled holds and loading cargo "Under deck" only.



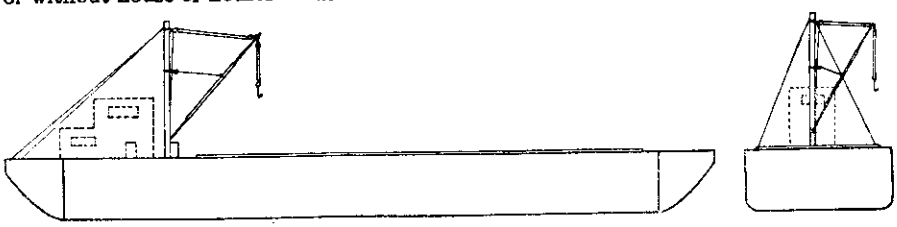
BB Hull constructed of steel or wood with partial deck at ends and/or sides, with open ceiled hold or holds.

BC Hull constructed of steel or wood with partial deck at ends and/or sides, with or without hatches and having hold or holds without ceiling.

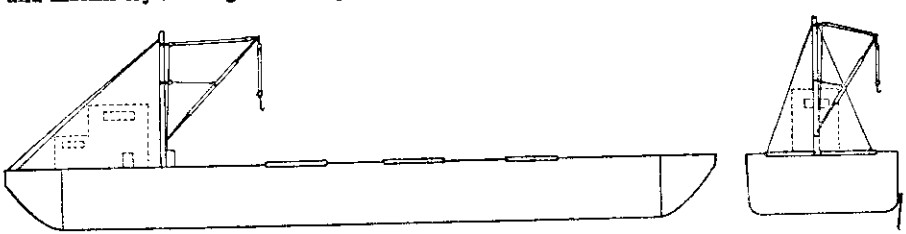


Class "C" Barges

CA Hull constructed of steel or wood, completely decked over and stowing cargo "On deck in open" only, fitted with cargo mast and boom, and machinery for cargo handling, with or without house or houses on deck.

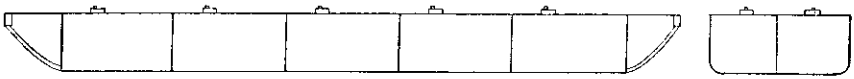


CB Hull constructed of steel or wood, completely decked over, having cargo hatches in deck, and stowing cargo "On deck in open" or "Under deck", fitted with cargo mast and boom and machinery for cargo handling, with or without house or houses on deck.

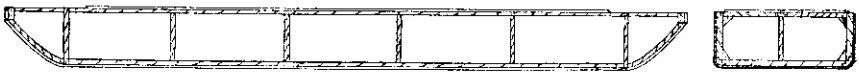


Class "D" Barges

DA Hull constructed of steel having division bulkheads forming tight compartments (tanks) integral with the hull of the barge, to be utilized for the transportation, in bulk, of dangerous substances in liquid form, other than inflammable and combustible liquids.



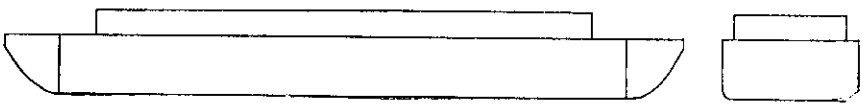
DB Hull constructed of wood having division bulkheads and ceiling forming tight compartments integral with the hull of the barge, to be utilized for the transportation, in bulk, of dangerous substances other than liquids.



Class "E" Barges

EA Hull constructed of steel or wood, having cargo carrying compartments of hopper type and fitted with bottom dump or side dump (known as dump scows, mud scows, garbage scrows, etc.).

EB Barge constructed of wood completely decked and having boxlike structure on deck not roofed over.



(b) The term "ceiled" applied to a barge constructed of wood means the hold space is fitted with a tight plank floor and that tight planking or wooden cargo battens are carried up the sides of the hold to provide a smooth floor and reasonably smooth sides without unnecessary projections. Floor or siding fitted "tight" shall have removable sections for purposes of clean-out and access for inspection of hull. When cargo battens are fitted at sides the floor shall be carried out to the skin of the barge and fitted reasonably tight around the frames.

(c) When applied to a barge constructed of steel, the term "ceiled" means the construction shall be such as to provide a reasonably flush floor or tank top and sides, free from unnecessary projections within the cargo space. Tight wooden flooring and ceiling or battens may be fitted in the cargo spaces of steel barges in lieu of steel platings.

§ 146.10-4 Carfloats and barges used as carfloats.

Explosives or other dangerous articles or substances laden in railway or highway vehicles in compliance with the provisions of the Interstate Commerce Commission regulations governing such transportation may be carried or conveyed on board carfloats and barges used as carfloats subject to the following conditions:

(a) Carfloats and barges used as carfloats shall not be utilized to transport, carry, convey or store vehicles laden with any explosive expressly prohibited by subsection 3 of R.S. 4472, as amended.

(b) Carfloats and barges used as carfloats shall not be utilized to transport, carry, convey or store vehicles laden with any permitted explosive or other dangerous article or substance unless in compliance with the provisions of the regulations in this part with respect to "Barges".

(c) Dangerous cargo laden in vehicles being transported on carfloats and barges used as carfloats is not subject to any other provision of the regulations in this part unless the packages, or the substances if in bulk, are removed from the vehicle for any reason other than transfer of the article or substance from the vehicle to a vessel.

(d) Transfer of explosives from vehicles on board carfloats and barges used as carfloats to vessels shall be governed by the permit requirements of §§ 146.20-85,, 146.20-87.

[CGFR 57-33, 22 F.R. 8571, Oct. 29, 1957, as amended by CGFR 59-46, 24 F.R. 9391, Nov. 21, 1959]

§ 146.10-5 On deck protection.

Wooden barrels, wooden or fiberboard boxes, fiber drums, plywood drums containing explosives, inflammable liquids, inflammable solids or oxidizing materials or poisons that are stowed "On deck in open" on barges shall be protected by tarpaulins. The following hazardous articles, burlap bags, camphene, calcium carbide, bleaching powder, cork, cotton, cotton and textile waste, excelsior, fibers, hay, naphthalene, oakum, wood shavings shall when stowed "On deck in open" on barges be protected by tarpaulins.

§ 146.10-6 Stowage of explosives.

(a) Barges having cargoes of permitted explosives and other dangerous articles are required to observe the provisions of the stowage and storage chart of explosives and other dangerous articles in § 146.10-50.

(b) Explosives required by the regulations in this part to be stowed in magazines shall when on board barges as cargo be stowed either in a house or "Under deck" as permitted for the particular type of barge by the provisions of table shown in § 146.10-50.

[Order 74, 6 F.R. 280, Jan. 11, 1941, as amended, 9 F.R. 14343, Dec. 6, 1944]

§ 146.10–50 Stowage of explosives or other

There is indicated in this table the explosives or other dangerous articles or substances, separated according to barges. Unless otherwise stated in the table, a permitted stowage applies to substances when in containers only. substances which are loaded and carried without benefit of containers or wrappers, and received and delivered by

Substances	Label	Class "A" barge			
		AA	AB	AC	AD
Explosives	See table in § 146.20.	Yes	Yes	Yes	On deck only
Inflammable liquids	Red	Yes [1]	Yes [2]	Yes	On deck only [1]
Inflammable solids and oxidizing materials.	Yellow	Yes [1] [4]	Yes [2] [4]	Yes	No
Corrosive liquids	White	Yes, also bulk in tanks.[1]	Yes, also bulk in tanks.[1]	Yes, also bulk in tanks.	No except bulk in tanks.
Inflammable compressed gases.	Red gas	Yes	On deck only	Yes [1]	On deck only
Non-inflammable compressed gases.	Green gas	Yes	Yes	Yes	On deck only
Poisonous articles:					
Class "A"	"Poison gas" or "Poison" or "Tear gas." or "Radioactive Materials."	Yes [1]	Yes [2]	Yes	On deck only [1]
Class "B"					
Class "C"					
Class "D"					
Hazardous articles	No label required.	Yes [1] [4]	Yes [2]	Yes	On deck only [1] [4]

[1] Outside containers vulnerable to damage by water shall not be given this stowage.
[2] Outside containers vulnerable to damage by water shall be stowed under deck only.
[3] Outside containers vulnerable to damage by water shall be stowed under cover only.
[4] Substances affected by water shall not be given this stowage.
[5] Substances affected by water shall be stowed under deck only.
[6] Substances affected by water shall be stowed under cover only.
[7] Stowage shall be "on deck in house" only.

[Order 74, 6 F.R. 280, Jan. 11, 1941, as amended, CGFR 62–11, 27 F.R. 5281, June 5, 1962]

Subpart 146.20—Detailed Regulations Governing Explosives

SOURCE: The provisions of this Subpart 146.20 contained in CGFR 52–8, 17 F.R. 6464, July 17, 1952, unless otherwise noted.

§ 146.20–1 An explosive.

For the purpose of the regulations in this subchapter an explosive is defined as any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion, i.e., with substantially instantaneous release of gas and heat, unless such compound, mixture, or device is otherwise specifically classified in the regulations in this part.

[CGFR 52–8, 17 F.R. 6464, July 17, 1952]

§ 146.20–3 Prohibited or not permitted explosives.

The offering of the following explosives for transportation, carriage, conveyance, storage, stowage, or use on board vessels is forbidden:

(a) Fulminates or other detonating compounds in bulk in dry condition.

(b) Explosive compositions that ignite spontaneously or undergo marked decomposition when subjected for 48 consecutive hours to a temperature of 75° C. (167° F.).

(c) Explosives containing an ammonium salt and a chlorate.

(d) Liquid nitroglycerin, diethylene glycol dinitrate, or other liquid explosives not authorized by the Commandant of the Coast Guard.

(e) Explosives condemned by the Interstate Commerce Commission (except properly packed samples for laboratory examinations). Appeal may be made to the Interstate Commerce Commission from such condemnations.

(f) Leaking or damaged packages of explosives.

(g) Condemned or leaking dynamite shall not be repacked and offered for shipment unless written authority is granted by the Interstate Commerce Commission and the repacking is done by a competent person in the presence of an inspector designated by the Interstate Commerce Commission.

(h) Firecrackers, flash crackers, salutes, or similar commercial devices which produce or are intended to produce an audible effect, the explosive content of which exceeds 12 grains each in weight, and pest control bombs, the ex-

dangerous articles or substances on board barges.

their classification, that are permitted or restricted in their transportation and stowage on board the various class When such substances are permitted "in bulk" a notation to that effect appears in the table. ("In Bulk" means the vessel without mark or count.)

Class "B" barge			Class "C" barge		Class "D" barge		Class "E" barge	
BA	BB	BC	CA	CB	DA	DB	EA	EB
Yes	Yes	No	No	No	No	No	No	No.
Yes	Yes [1]	No	Yes [1]	Yes [1]	No [1]	No	No	No.
Yes	No	No	Yes [1]	Yes [1]	Yes	Yes	No	No.
Yes, also bulk in tanks.	Yes, also bulk in tanks.[1]	No, except bulk in tanks.	Yes [1]	Yes [1]	Yes	No	No	No
No	No	No	Yes	On deck only.	No	No	No	No.
Yes	Yes	No	Yes	Yes	No	No	No	No.
Yes	Yes [1]	No	Yes [1] [4]	Yes [1] [4]	No	No	No	No.
Yes	Yes [1] [4]	No, except bulk in tanks.	Yes [1] [4]	Yes [1] [4]	Yes	Yes, except liquids.	No	Yes.

[1] Transportation of inflammable or combustible liquids, in bulk, is governed by rules and regulations for tank vessels.

NOTE: Containers of dangerous articles vulnerable to damage by water or dangerous substances affected by water when loaded in weatherproof railroad vehicles in accordance with requirements of the Interstate Commerce Commission regulations are exempt from the provisions of stowage restrictions shown in this table and numbered (1) to (7), inclusive.

plosive content of which exceeds 18 grains in weight; and any such devices, without respect to explosive content, which on functioning are liable to project or disperse metal, glass or brittle plastic fragments.

(i) Fireworks that combine an explosive and a detonator or blasting cap.

(j) Fireworks containing an ammonium salt and a chlorate.

(k) Fireworks containing yellow or white phosphorus.

(l) Fireworks or fireworks compositions that ignite spontaneously or undergo marked decomposition when subjected for 48 consecutive hours to a temperature of 75° C. (167° F.).

(m) Fireworks condemned by the Interstate Commerce Commission except properly repacked samples for laboratory examinations.

(n) Toy torpedoes, the maximum outside dimension of which exceeds ⅞ inch, or toy torpedoes containing a mixture of potassium chlorate, black antimony and sulfur with an average weight of explosive composition in each torpedo exceeding 4 grains.

(o) Toy torpedoes containing a cap composed of a mixture of red phosphorus and potassium chlorate exceeding an average of one-half (0.5) grain per cap.

(p) Fireworks containing copper sulfate and a chlorate.

(q) New explosives except samples for laboratory examination and military explosives approved by the United States Army Materiel Command; Chief, Bureau of Naval Weapons, Department of the Navy; or Commander, Air Force Systems Command and Commander, Air Force Logistics Command, Department of the Air Force. All other new explosives must be approved for transportation by the Interstate Commerce Commission.

(r) Loaded firearms.

[CGFR 52-8, 17 F.R. 6464, July 17, 1952, as amended by CGFR 56-29, 21 F.R. 7055, Sept. 20, 1956; CGFR 58-48, 23 F.R. 9635, Dec. 12, 1958; CGFR 62-48, 27 F.R. 12133, Dec. 7, 1962; CGFR 65-17, 30 F.R. 7439, June 5, 1965]

§ 146.20-5 Acceptable explosives.

(a) Acceptable explosives are divided by the Interstate Commerce Commission regulations into three classes according to degree of hazard in transportation, as follows:

Class A explosives, detonating or otherwise of maximum hazard.
Class B explosives, inflammable hazard.
Class C explosives, minimum hazard.

(b) Acceptable explosives are defined by the Interstate Commerce Commission regulations as set forth in this subpart, and such definitions are binding upon all shippers making shipments of any explosives by common carrier vessels engaged in interstate or foreign commerce by water. Such definitions are accepted and adopted and form part of the regulations in this subchapter applying to all shippers making shipments of explosives by any vessel and shall apply to the owners, charterers, agents, masters or persons in charge of vessels and to other persons transporting, carrying, conveying, storing, stowing or using explosives on board any vessel.

§ 146.20–7 Class A explosives.

Class A explosives are defined as:

(a) *Type 1.* Solid explosives which can be caused to deflagrate by contact with sparks or flame such as produced by safety fuse or an electric squib, but cannot be detonated [1] by means of a No. 8 test blasting cap.[2] Examples: Black powder and low explosives.

(b) *Type 2.* Solid explosives which contain a liquid explosive ingredient, and which, when unconfined,[3] can be detonated by means of a No. 8 test blasting cap;[2] or which can be exploded in at least 50 percent of the trials in the Bureau of Explosives' Impact Apparatus,[4] under a drop of 4 inches or more, but cannot be exploded in more than 50 percent of the trials under a drop of less than 4 inches. Examples: Commercial dynamite containing a liquid explosive ingredient.

(c) *Type 3.* Solid explosives which contain no liquid explosive ingredient and which can be detonated, when unconfined,[3] by means of a No. 8 test blasting cap;[2] or which can be exploded in at least 50 percent of the trials in the Bureau of Explosives' Impact Apparatus[4] under a drop of 4 inches or more, but cannot be exploded in more than 50 percent of the trials under a drop of less than 4 inches. Examples: Commercial dynamite containing no liquid explosive ingredient, trinitrotoluene, amatol, tetryl, picric acid, urea nitrate, pentolite and commercial boosters.

(d) *Type 4.* Solid explosives which can be caused to detonate, when unconfined,[3] by contact with sparks or flame such as produced by safety fuse or an electric squib; or which can be exploded in the Bureau of Explosives' Impact Apparatus[4] in more than 50 percent of the trials under a drop of less than 4 inches. Examples: Initiating and priming explosives, lead azide, fulminate of mercury, etc.

(e) *Type 5.* Desensitized liquid explosives are explosives which may be detonated separately, or when absorbed in sterile absorbent cotton, by a No. 8 test blasting cap;[2] but which cannot be exploded in the Bureau of Explosives' Impact Apparatus[4] by a drop of less than 10 inches. The desensitizer must not be significantly more volatile than nitroglycerin and the desensitized explosive must not freeze at temperatures above minus 10° F. Example: Desensitized nitroglycerin.

(f) *Type 6.* Liquid explosives that can be exploded in the Bureau of Explosives' Impact Apparatus[4] under a drop of less than 10 inches. Example: Nitroglycerin. See "Prohibited or not permitted explosives" in § 146.20–3.

(g) *Type 7.* (1) Blasting caps[5] are small tubes, usually made of an alloy of either copper or aluminum, or of molded plastic, closed at one end and loaded with a charge of initiating or priming explosives, Class A—Type 4, either with or without other suitable explosives. The total weight of explosives per unit shall not exceed 150 grains. Blasting caps[5] which have been provided with a means for firing by an electric current, and sealed, are known as electric blasting caps.

(2) Detonating primers are devices for commercial use which contain a detona-

[1] The detonation test is performed by placing the sample in an open-end fiber tube which is set on the end of a lead block approximately 1½ inches in diameter and 4 inches high which, in turn, is placed on a solid base. A steel plate may be placed between the fiber tube and the lead block.

[2] A No. 8 test blasting cap is one containing 2 grams of a mixture of 80 percent mercury fulminate and 20 percent potassium chlorate, or a cap of equivalent strength.

[3] "Unconfined" as used in this section does not exclude the use of a paper or soft fiber tube wrapping to facilitate tests.

[4] The Bureau of Explosives impact apparatus is a testing device designed so that a guided 8-pound weight may be dropped from predetermined heights so as to impact specific quantities of liquid or solid materials under fixed conditions. Detailed prints may be obtained from the Bureau of Explosives, 63 Vesey Street, New York 7, N. Y.

[5] Blasting caps, blasting caps with safety fuse, or electric blasting caps in quantities of 1,000 or less are classified as Class C explosives.

tor and an additional charge of explosives, all assembled in a suitable envelope.

(3) Detonating fuzes, class A explosives, are used in the military service to detonate the high explosive bursting charges of projectiles, mines, bombs, torpedoes, and grenades. In addition to a powerful detonator, they may contain several ounces of a high explosive, such as tetryl or dry nitrocellulose, all assembled in a heavy steel envelope. They may also contain a small amount of radioactive component. Those that are so made and packed that they will not cause functioning of other fuzes, explosives, or explosive devices in the same or adjacent containers are classed as class C explosives.

(h) *Type 8.* (1) Any solid or liquid compound, mixture or device which is not specifically included in any of the above types, and which under special conditions may be so designated and approved by the Bureau of Explosives. Example: Shaped charge, commercial.

(2) A shaped charge, commercial, consists of a plastic, paper, or other suitable container comprising a charge of not to exceed 8 ounces of a high explosive containing no liquid explosive ingredient and with a hollowed-out portion (cavity) lined with a rigid material. Detonators or other initiating elements shall not be assembled in the device.

(i) *Charged oil well jet perforating guns.* Charged oil well jet perforating guns are steel tubes or metallic strips into which are inserted shaped charges connected in series by primacord. Shaped charges installed in the steel tube or metallic strip shall contain not over 4 ounces of high explosive. These devices are not permitted to be shipped as cargo aboard any vessel subject to the regulations in this subchapter.

(j) *Type 9.* Propellant explosives, class A, are solid chemicals or solid mixtures which are designed to function by rapid combustion of successive layers, generally with little or no smoke. The combustion is controlled by composition, size, and form of grain. Propellant explosives, Class A, include some types of smokeless powder and some types of solid propellant explosives for jet thrust units, rockets or other devices. Any propellant explosive in Class A which detonates in any one out of five trials when tested in the packages in which it is offered for transportation. In conducting the test, one propellant container shall be surrounded by inert loaded containers of the same weight, including one inert container placed on top of the propellant container. The propellant shall be ignited by means of a commercial electric squib placed within 4 inches of the bottom of the container. The presence of a crater and the absence of flame shall be considered as evidence of detonation.

[CGFR 52-8, 17 F.R. 6464, July 17, 1952; CGFR 52-62, 17 F.R. 11881, Dec. 31, 1952, as amended by CGFR 53-54, 18 F.R. 8231, Dec. 16, 1953; CGFR 54-52, 19 F.R. 8514, Dec. 14, 1954; CGFR 55-20, 20 F.R. 4053, June 10, 1555; CGFR 57-33, 22 F.R. 8572, Oct. 29, 1957; CGFR 57-49, 22 F.R. 10060, Dec. 14, 1957; CGFR 59-46, 24 F.R. 9391, Nov. 21, 1959; CGFR 62-11, 27 F.R. 5281, July 5, 1962; CGFR 65-52, 30 F.R. 15216, Dec. 9, 1965]

§ 146.20-9 Class B explosives.

(a) Class B explosives are defined as those explosives which in general function by rapid combustion rather than detonation and include some explosive devices, such as special fireworks, flash powders, some pyrotechnic signal devices and liquid or solid propellant explosives which include some smokeless powders.

(b) Propellant explosives, Class B, are solid or liquid chemicals or chemical mixtures which function by combustion. The combustion is controlled by composition, size, form of grain, or other chemical or mechanical means. Any propellant is Class B which fails to detonate in five trials when tested in the package in which it is offered for shipment. In conducting the test, one propellant container shall be surrounded by inert loaded containers of the same weight, including one inert container placed on top of the propellant container. The propellant shall be ignited by means of a commercial electric squib placed within 4 inches of the bottom of the container. The presence of a crater and absence of flame shall be considered as evidence of detonation. Propellant explosives, Class B, include smokeless powder for small arms, smokeless powder for cannon, liquid monopropellant fuel, smokeless powder, or solid propellant explosives for rockets, jet thrust units, or other devices. Black powder is not included in this classification and is defined in § 146.20-7(a). Fire extinguisher charges containing not to exceed 50 grains of propellant explosives per unit are exempt from the regulations in this part.

[CGFR 65-52, 30 F.R. 15216, Dec. 9, 1965]

§ 146.20–11 Class C explosives.

Class C explosives are defined as certain types of manufactured articles which contain Class A or Class B explosives, or both, as components but in restricted quantities, and certain types of fireworks.

[CGFR 65–52, 30 F.R. 15216, Dec. 9, 1965]

§ 146.20–13 Samples of explosives and explosive articles for laboratory and examination purposes.

(a) New explosives, including fireworks and explosive devices, other than Army, Navy or Air Force explosive or chemical ammunition of a security classification, must be approved by the I.C.C. as safe for transportation before being offered for shipment, except that a sample of such explosives, fireworks and explosive devices, not to exceed 5 pounds net weight, may be offered for transportation on board cargo vessels subject to the regulations in this subchapter for the purpose of this examination. Samples of explosives, except liquid nitroglycerin, other than new explosives for laboratory examination not exceeding 5 pounds net weight may be offered for transportation by cargo vessels subject to the regulations of this subchapter. For the purposes of the regulations in this part a new explosive, including fireworks and explosive devices, is the product of a new factory or an explosive or explosive device of an essentially new composition or character made by any factory.

(b) Before being offered for shipment, explosive articles in the experimental state must be made safe by removal of ignition elements or otherwise.

(c) Shipments of samples of explosives, fireworks and explosive devices must be packed, marked and described as required by the Interstate Commerce Commission regulations in effect at the time of shipment for the explosive contained therein.

(d) *Label.* Each outside package containing samples of explosives for laboratory examination will have securely and conspicuously attached to it a square red label as shown under subpart pertaining to shipper's requirements.

[CGFR 52–8, 17 F.R. 6464, July 17, 1952, as amended by CGFR 59–14, 24 F.R. 5270, June 30, 1959]

§ 146.20–15 Stowage of explosives.

(a) All articles of cargo classified as explosives by the regulations in this subpart shall be stowed on board a vessel in conformity with the conditions specified for the individual articles as set forth in Tables A, B, and C in §§ 146.20–100, 146.20–200, and 146.20–300. Mixed stowage of explosives with other explosives shall be in conformity with the stowage chart § 146.20–90. Magazine specifications required for stowage of explosives are detailed in subpart 146.09.

(b) Vessels engaged in transfer of explosives between receiving points and delivery points within the harbors, bays, sounds, lakes and rivers including the explosive anchorages on the navigable waters may, when transporting explosives, stow such cargo "On deck in open", "On deck under cover", or "Under deck." Explosives stowed "On deck in open" shall after loading and during transportation be covered by fire-resistant and/or flame-proof tarpaulins securely lashed in place.

[CGFR 64–20, 29 F.R. 6790, May 23, 1964]

§ 146.20–16 Stowage of blasting caps and small quantities of other explosives.

(a) The District Commander or the Captain of the Port may approve the stowage of blasting caps or small quantities of explosives in locations other than "Under deck", such as in an isolated compartment, mast or deck house, or in magazines (which may be portable) secured "On deck" provided:

(1) No other stowage is available.

(2) The compartment or area is sheathed with wood.

(3) The location is at least 8 feet from the vessel's side.

(4) The stowage is separated from other incompatible explosives and other dangerous articles by at least a permanent steel deck or bulkhead and a minimum distance of 25 feet. A minimum distance of 10 feet is permitted if two steel decks or bulkheads separate the stowages. On deck, with no steel deck or bulkhead intervening, the separation shall not be less than 40 feet in any direction.

(b) "Under deck" stowage of blasting caps (more than 1000) shall be according to the compatibility requirements for Class A explosives. A minimum distance of 25 feet and a permanent steel bulkhead or deck shall intervene between the stowage of blasting caps and other incompatible explosives.

(c) Blasting caps (1000 or less) being transported with other dangerous

cargoes shall be stowed according to the compatibility requirements applicable to Class C explosives.

(d) Stowage of blasting caps in any amount being transported with other explosives shall conform with the compatibility requirements set forth in § 146.20-90, stowage and storage chart for explosives.

[CGFR 64-20, 29 F.R. 6790, May 23, 1964]

§ 146.20-17 Stowage of explosives in holds containing coal.

Unless specifically authorized by the Commandant of the Coast Guard, explosives shall not be stowed in a hold containing coal, nor shall explosives be stowed in a hold above or adjacent to a hold containing coal.

[CGFR 62-11, 27 F.R. 5282, June 5, 1962]

§ 146.20-19 On deck stowage of explosives.

(a) Articles classified as explosives, the stowage of which is permitted "On deck" by the regulations in this part, shall be properly secured. Such security may be obtained by using existing vessel's structures such as bulwarks, hatch coamings, shelter deck and poop bulkheads as part boundaries and effectively closing in the cargo by fitting angle bar closing means secured by bolting to clips or other parts of the ship's structure. Lashing of deck stowage permitted, provided eye pads are fitted to carry such lashings. Guard rails shall not be used to secure such lashings.

(b) Bulky articles may be secured by lashing with individual wire rope lashings.

(c) Shoring of such bulky articles of cargo shall be in addition to the foregoing means of securing.

(d) Explosives stowed "On deck" shall be so stowed as to provide safe access to the crew's quarters and to all parts of the deck required to be used in the navigation and necessary working of the vessel.

(e) Airing spaces for the crew shall be maintained free and clear of the stowed cargo.

(f) When runways for use of crew are built over stowed cargo, they shall be so constructed and fitted with rails and lifelines as to afford complete protection to the crew when in use.

(g) Explosives permitted by the regulations in this part to be stowed "On deck" shall not be stowed on or under a bridge deck or within a distance, in a horizontal plane, of 25 feet of an operating or embarkation point of any lifeboat.

(h) "On deck" cargoes of explosives shall not be stowed nearer than 25 feet in a horizontal plane to the access means provided for crew quarters.

(i) [Reserved]

(j) Fire plugs, sounding pipes, and access to same shall be maintained free and clear of explosive cargo stowed on deck.

(k) Of the open deck space available after allowing for above restrictions for the stowage of explosives "On deck", not more than 50 percent of such available deck space shall be occupied by the stowage of these articles or explosives.

§ 146.20-21 Stowage of fireworks.

(a) Fireworks that can be "exploded en masse" shall not be offered or accepted for transportation except as high explosives and shall be stowed in magazines. Magazines may be of a portable type as detailed in § 146.09-6.

(b) Fireworks (other than the type that can be "exploded en masse") shall, when permitted to be transported on passenger vessels, be stowed in metal lockers, such metal lockers to be located either "On deck under cover" or "Tween decks readily accessible". (See § 146.09-5 for specifications of locker.)

(c) Fireworks shall not be stowed in the same hold in which magazines containing explosives are located.

(d) All containers packed with permissible special fireworks acceptable for transportation on board vessels in accordance with these regulations shall have attached the (red) special fireworks label as shown in § 146.05-17(s).

§ 146.20-23 Stowage of explosives with other dangerous articles.

The stowage of explosives with other dangerous articles shall conform to the following conditions.

(a) Class A or Class B explosives shall not be stowed on a vessel carrying inflammable liquids below deck or in excess of one ton on deck unless the engine and boiler room spaces or one complete hatch intervenes.

(b) Class A or Class B explosives shall not be stowed in a hold or compartment immediately below an "On deck" stowage of one ton or less of inflammable liquids.

(c) Class C explosives shall not be stowed in the same hold or compartment with inflammable liquids.

(d) Class A or Class B explosives shall not be stowed in the same hold or com-

partment with, nor in a hold or compartment above, below or adjacent to one containing inflammable solids, nor in a hatch above which inflammable solids are stowed on deck.

(e) Class C explosives shall not be stowed in the same hold or compartment with inflammable solids.

(f) Class A or Class B explosives shall not be stowed in the same hold or compartment with, nor in a hold or compartment above, below or adjacent to one containing oxidizing materials, nor in a hatch above which oxidizing materials are stowed on deck.

(g) Dynamite, commercial boosters and/or other non-priming non-initiating types of explosives which are compatible with dynamite may be stowed with ammonium nitrate or nitro carbo nitrate as follows if the aggregate is considered Class A explosives:

(1) Stowage of these explosives in the same or adjacent holds or compartments to ammonium nitrate or nitro carbo nitrate is permitted provided the ammonium nitrate or nitro carbo nitrate is packaged in strong metal cans, metal or fiber drums, barrels, kegs, or wooden or fiberboard boxes with non-combustible inside containers.

(2) These explosives and ammonium nitrate or nitro carbo nitrate in non-rigid combustible containers may be stowed in proximity if the two are separated by a steel deck or bulkhead or a fire retardant wooden bulkhead built to the specifications of § 146.09-2 sheathed on the oxidizing materials stowage side with one-inch asbestos board. The oxidizing materials must be stowed in accordance with § 146.22-30(f).

(h) Class C explosives shall not be stowed in the same hold or compartment with oxidizing materials.

(i) Class A or Class B explosives shall not be stowed on a vessel carrying corrosive liquids below deck unless one complete hatch or the engine and boiler room spaces intervene, nor on a vessel carrying corrosive liquids on deck unless the engine and boiler room spaces or bridge structural erections intervene.

(j) Class C explosives shall not be stowed in the same hold or compartment with corrosive liquids.

(k) Class A or Class B explosives shall not be stowed on a vessel carrying inflammable compressed gases "On deck" unless the engine and boiler room spaces or bridge structural erections intervene, nor in the same hold with non-inflammable compressed gases.

(l) Class C explosives shall not be stowed in a hold or compartment immediately below an "On deck" stowage of inflammable compressed gases.

(m) Class A or Class B explosives shall not be stowed in the same hold or compartment with poisonous articles.

(n) Class C explosives shall not be stowed in the same hold or compartment with Class D poisons.

(o) Class A or Class B explosives shall not be stowed in the same hold or compartment with combustible liquids.

(p) Explosives shall not be stowed in the same hold or compartment with hazardous articles.

(q) Explosives shall not be stowed on a vessel carrying cotton unless the engine and boiler room spaces or one complete hatch intervenes.

(r) Small arms ammunition without explosives loaded bullets may be stowed in a hold or compartment above, below, or adjacent to a hold or compartment containing cotton provided the hatch covers separating the hold or compartment concerned are covered with asbestos paper, tarpaulins and dunnage.

[CGFR 59-14, 24 F.R. 5270, June 30, 1959, as amended, CGFR 64-20, 29 F.R. 6790, May 23, 1964; CGFR 65-17, 30 F.R. 7439, June 5, 1965]

§ 146.20-25 Stowage of explosives and nondangerous cargo.

Magazines in which explosives are stowed shall be protected from damage by heavy nondangerous cargo stowed in the same hold. Shafting, steel bar, steel shapes, pipe, heavy machinery and similar types of cargo shall, if stowed within the same hold, be so isolated or dunnaged or secured as to prevent damage to magazine under any conditions likely to be encountered during the voyage.

§ 146.20-27 Stowage and dunnaging of containers of explosives.

(a) Containers of explosives shall be so stowed and dunnaged as to prevent movement in any direction.

(b) Boxes of explosives marked "This Side Up" shall be so stowed.

(c) Kegs of black powder shall be stowed in an upright position, the bungs up, and each tier shall be completely dunnaged.

(d) The top tier of boxes and kegs shall be so braced and blocked or secured in such a manner that no displacement

of any package can occur either upwardly or laterally.

(e) Containers of explosives shall be so braced and dunnaged that they shall not be liable to be pierced by the dunnaging or crushed by superimposed weight.

[CGFR 52-8, 17 F.R. 6464, July 17, 1952, as amended by CGFR 57-33, 22 F.R. 8572, Oct. 29, 1957; CGFR 59-14, 24 F.R. 5270, June 30, 1959]

§ 146.20-29 Preparation of magazines, decks, hatches and holds before handling explosives.

(a) The floors of all magazines and holds shall be cleared of all rubbish and discarded dunnage, and be swept broom clean before commencing to load any explosive items of cargo. Bilges shall be examined and any residue of previous cargo removed therefrom.

(b) All decks, gangways and hatches over or through which explosives must be passed or handled in loading or unloading, shall be freed of all loose material and shall be swept broom clean both before and after loading or unloading.

(c) The hatches and cargo ports opening into a compartment in which explosives are stowed shall be kept closed at all times, except during loading or unloading of the compartment. When closed the hatches shall be covered with tarpaulins securely battened.

(d) Any deck loads over which explosives must be passed shall be limited in height to that of the hatch coaming, bulwark or three feet, whichever is greater.

[CGFR 52-8, 17 F.R. 6464, July 17, 1952, as amended by CGFR 52-62, 17 F.R. 11881, Dec. 31, 1952; CGFR 58-9, 23 F.R. 4839, June 28, 1958]

§ 146.20-31 Loading and unloading explosives.

No Class A dangerous explosives or Class B less dangerous explosives except special fireworks shall be loaded on board any vessel until all other cargo has been placed on board the vessel. This applies to vessels moving from ports where cargo of explosives originate. At intermediate ports or at port of destination explosives shall not be loaded or unloaded at the same time that other cargo is being loaded or unloaded.

§ 146.20-33 Constructing of magazines.

All work in connection with the constructing of a magazine, or other conditioning of holds, decks, or hatches, shall be completed before the actual loading of explosives is undertaken.

§ 146.20-35 Handling explosives.

(a) All explosives must be handled carefully. Packages of explosives must not be thrown, dropped, rolled, dragged or slid over each other or over the decks.

(b) Packaged Class A explosives shall be loaded and discharged from a vessel by hand, by using a regulation chute and mattress or by means of a mechanical hoist, pallet, skipboard, tray or pieplate, fitted with cargo net or sideboards. The maximum load handled in a pallet, skipboard, tray or pieplate shall not exceed 2,400 pounds plus 10 percent. Rope net slings with pallet, skipboard, pieplate or similar base shall be so loaded that when lifted a minimum displacement of items shall occur and the cargo net shall completely encompass the load except on its topside. Not more than one third of the vertical dimension of any package shall extend above the sideboard of the tray. Drafts of explosives shall be hoisted and lowered carefully and only deposited or lowered on to a mattress.

(c) Blasting caps, detonating fuzes, fulminate of mercury and other initiating or priming explosives as defined in this subpart shall be considered as constituting a distinct class of dangerous explosives and they shall be handled with extreme care. A chute and mattress shall not be used when loading or discharging this class of explosives.

(d) "Can" hooks shall not be used for raising or lowering a barrel, drum, or other container of explosives. Metal bale hooks shall not be used in handling packages of explosives.

(e) Except as otherwise provided in this paragraph, power-operated industrial trucks shall not be used in a space in which Class A, Class B, or Class C explosives are stowed.

(1) The Commandant may grant authority for the use of approved power-operated industrial trucks with a recognized testing laboratory designation of "EX" (see § 146.09-15) in spaces in which Class A, Class B, or Class C explosives are stowed in when it can be shown that such trucks can be used with safety.

(2) In a space in which packaged small arms ammunition without explosive bullets is stowed when it can be shown power-operated industrial trucks with a recognized testing laboratory designation of "EX," "EE," "LPS," "GS" and "DS" (see § 146.09-15) may be used

with safety for handling cargo including the handling of such packaged small arms ammunition.

[CGFR 52–8, 17 F.R. 6464, July 17, 1952, as amended by CGFR 52–62, 17 F.R. 11881, Dec. 31, 1952; CGFR 58–9, 23 F.R. 4839, June 28, 1958; CGFR 61–44, 26 F.R. 11019, Nov. 23, 1961; CGFR 62–48, 27 F.R. 12134, Dec. 7, 1962]

§ 146.20–37 Cargo working equipment.

(a) Before explosives are loaded or unloaded on or from a vessel the master or other person in charge of the vessel shall be required to ascertain by examination the condition and working order of all slings, crates, baskets, boxes, chutes, mattresses, tackle and other equipment to be used in the transfer operation.

(b) Any and all equipment which in the judgment of the master or other person in charge of the vessel is not in safe working condition shall be rejected and he shall prohibit its use and take such precautions as he may deem necessary to be certain such rejected equipment is not used for the purpose of loading or unloading explosives. The master or other person in charge of the vessel shall keep watch of all equipment used during the transfer of explosives and if any part of the equipment shows any defect or is damaged in use, work shall be stopped and the damaged or defective equipment repaired or replaced before permitting the loading or unloading to continue.

(c) This inspection of cargo working equipment shall apply to the vessel's equipment and to stevedores or other contractor's equipment.

§ 146.20–39 Installation of loading chute.

The incline of the chute to be used in loading explosives shall be such that the velocity of the packages sliding will not be great enough to cause violent shock when coming in contact with other packages on the chute, or when reaching the bottom of the chute. If otherwise, men shall be stationed alongside the chute to retard and control the velocity of the packages. Chutes shall be carefully wiped down with waste moistened with machine oil before packages of explosives are transferred.

§ 146.20–41 Lights, tools and equipment.

(a) No artificial light except electric lights or electric lamps or floodlights shall be used while loading or unloading explosives.

(b) Flashlights of a non-spark type shall be provided by the vessel owner or operator for persons required to enter holds in which explosives are stowed.

(c) Members of the crew of the vessel and other persons permitted on board the vessel to aid and assist in loading or unloading explosives, shall not be permitted to have or carry on their persons, firearms, matches, bale hooks or metallic tools.

(d) No person engaged in loading Class A dangerous explosives or Class B less dangerous explosives shall wear boots or shoes shod or strengthened with iron nails or other metal, unless such boots or shoes are covered with rubber, leather, felt or some such non-sparking material.

§ 146.20–43 Fires.

(a) No unnecessary fire shall be permitted on docks, lighters or vessels, while loading or unloading explosives.

(b) Fires deemed necessary must be properly safeguarded and left in constant charge of some competent person assigned for that purpose by the master for the entire period of cargo transfer.

(c) A line of fire hose of sufficient length to cover the area of loading operations and connected with an adequate water supply shall be laid ready for use.

§ 146.20–45 Smoking.

(a) Smoking is prohibited on or near any vessel loading or unloading explosives at a waterfront facility. Smoking areas may be designated by the Coast Guard officer having jurisdiction provided such areas are located at a safe distance from the vessel. "No smoking" signs shall be posted during operations of handling, loading or unloading such cargo. At least one "No Smoking" sign shall be located on the pier at a reasonable distance from the vessel when such handling, loading or unloading is taking place.

(b) Smoking is prohibited on or near any vessel handling, loading or unloading explosives at an explosives anchorage, except the Coast Guard officer having jurisdiction may, with concurrence of the master or person in charge of the vessel, designate a compartment as a smoking area. "No Smoking" signs shall be posted conspicuously outside the entrance to this compartment and in other parts of the vessel during the loading or unloading operations.

[CGFR 58–9, 23 F.R. 4839, June 28, 1958]

§ 146.20–47 Liquor or drugs.

No person who, in the judgment of the master or other person in charge of the

vessel, may be considered as being under the influence of liquor or of drugs, shall be permitted on board a vessel while loading, unloading or transporting explosives.

§ 146.20–49 Damaged or leaking containers of explosives.

(a) Any container of explosives showing evidence of damage or leakage of a liquid ingredient shall not be accepted for transportation or storage on board any vessel.

(b) Any container of an explosive when offered for transportation, or storage, showing excessive dampness or which is moldy or shows outward signs of any oil stain or other indications that absorption of the liquid part of the explosive is not perfect, or that the amount of the liquid part of the explosive is greater than the absorbent can carry, shall not be accepted for transportation. The shipper must substantiate any claim that a stain is due to accidental contact with grease, oil, or similar substance. In case of doubt the container shall be refused.

§ 146.20–51 Containers found damaged or leaking on board vessels.

(a) Any container of explosives found damaged or leaking while on board a vessel shall either be repacked or removed from the vessel, whichever course appears advisable within the judgment of the master. If the master elects to jettison the container such jettisoning shall not be accomplished within any area adjacent to the coast line nor in shallow water.

(b) If upon arrival at a foreign port it is found that a container has been damaged or is leaking, the master should consult the local port authorities and request instructions as to disposition of the insecure package.

(c) The owner, charterer, agent, master, or person in charge of a vessel shall report in writing the occurrence of damaged or leaking containers of explosives to the District Commander of the United States Coast Guard or his authorized representative for the district in which the substance was taken on board the vessel setting forth a description of the container; the damage sustained; when possible, a reason for the damage; the name and address of the consignor and consignee (or shipping mark); and a statement of the disposition of the container.

(d) When the failure of a container of explosives results in a casualty involving loss of life, personal injury or damage to the vessel, no report other than those required by the provisions of §§ 136.05–1 to 136.05–10, inclusive, of this chapter shall be made.

§ 146.20–53 Magazine vessels storing explosives.

(a) For the purposes of the regulations in this part, a magazine vessel storing explosives is defined as follows: A magazine vessel is any type of water-borne craft used for the receiving, storing or dispensing of explosives, but not transporting same.

(b) Permitted type of magazine vessels: Single deck vessels with or without house on deck shall be the only acceptable type for use in the storage of explosives.

(c) Stowage on board magazine vessels: Class A dangerous explosives and Class B less dangerous explosives in excess of 5,000 pounds stored in any magazine vessel shall be stowed below deck. No amounts of such explosives shall be stowed above deck unless the vessel is fitted with a deck house the stowage area of which conforms with the requirements of the regulations in this part for the stowage of explosives. Blasting caps and electric blasting caps in excess of 1,000 shall not be stored on the same magazine vessel with Class A dangerous explosives or Class B less dangerous explosives.

(d) The compartment on board a magazine vessel used for stowage of explosives shall be ceiled with wood throughout in such manner as will provide a smooth interior surface. Any metal stanchions within such compartment shall be boxed in the same manner as the compartment is ceiled. Overhead ceiling need not be fitted when the over deck is weather tight. All nail and bolt heads shall be countersunk and all exposed metal shall be covered with wood.

(e) Initiating and priming explosives of the Class A dangerous explosives group when stowed on board magazine vessels at the same time as high explosives are being stowed shall be stowed in a compartment separate from other explosives. Blasting caps and electric blasting caps shall be stowed in a location on board the magazine vessel that shall be separated from the other explosives on board the vessel by a horizontal distance of at least 25 feet from any bulkhead or partition forming a boundary of

51–090—66——7

a compartment in which other explosives are stowed.

(f) Magazine storage vessels having a dry storage space capable of being used for any purpose whatsoever shall have a cofferdam of the minimum width of 24 inches fitted between such dry storage space and the adjacent explosive stowage compartment. This cofferdam may be of wood or steel and be formed by two tight thwartship bulkheads extending from the skin of the vessel to the overdeck. A watertight hatch shall be fitted in the weather deck if such compartment extends thereto for access to such cofferdam.

§ 146.20–55 Lighting in stowage compartments.

No artificial means of lighting shall be fitted within a compartment used for the storage of explosives. The use of oil or chemical burning lamps or lanterns is prohibited on board a magazine vessel except for required navigation, anchorage, warning lights and living quarters. Non-sparking battery supplied, self-contained, unit electric lanterns or non-sparking hand flashlights are the only means of artificial light permitted in such storage compartments.

[CGFR 52-8, 17 F.R. 6464, July 17, 1952, as amended by CGFR 54-16, 19 F.R. 4929, Aug. 6, 1954]

§ 146.20–57 Handling explosives; magazine vessels.

In receiving and dispensing explosives on or from magazine vessels such explosives shall be handled in accordance with the regulations as set forth in §§ 146.20–1 to 146.20–300.

§ 146.20–59 Living quarters on magazine vessels.

Living quarters of magazine vessels shall be fitted on the inside with asbestos board or other fire resistant material. Only bracketed ship's lamps shall be allowed in the living quarters. Stoves for heating or cooking shall be mounted not closer than 6 inches to the deck or sides of the house and shall be well and securely fastened. Smoke pipe for such stoves where passed through top of the house shall be kept clear from any woodwork a distance of not less than 3 inches all around and protected by a layer of asbestos, an air space of at least 1 inch, and a metal collar constructed of not less than No. 16 gauge sheet metal and so formed as to be secured only on the weather side at the top of house. No openings shall be permitted from any living quarters into the stowage compartments of the magazine vessel.

§ 146.20–61 Lamp box on magazine vessels.

A metal lamp box constructed of sheet metal of not less than No. 16 U. S. standard gauge shall be provided and secured in place in an isolated location on the deck. All permitted portable oil lights and the oil supply for same shall, when not in use, be stowed therein.

§ 146.20–63 Storage of other dangerous articles.

Magazine vessels having explosives stowed therein shall not be used for the stowage of other dangerous articles of cargo.

§ 146.20–65 Magazine vessels' stores.

Articles for use as stores on board magazine vessels shall conform to the conditions as set forth in Part 147 of this subchapter.

§ 146.20–67 Matches.

Safety matches requiring a prepared surface for ignition shall be the only type of matches permitted on board a magazine vessel. They shall be kept in a metal box or can with a metal cover and stowed in the custodian's living quarters.

§ 146.20–69 Firearms.

No fire arms or ammunition for same (except as cargo) shall be permitted on board magazine vessels.

§ 146.20–71 Fire extinguishing equipment.

No explosive shall be received or stored on or dispensed from any magazine vessel, unless four (4) 2½-gallon extinguishers of the soda-acid type and four (4) 2-gallon pails filled with dry sand shall be distributed in strategic location about the vessel. In locations where extinguishers are continuously exposed to a temperature lower than 40° F. such extinguishers shall be of the anti-freeze type.

§ 146.20–73 Supervision of magazine vessels.

Magazine vessels in which explosives are stored shall at all times be in charge of a custodian employed for that purpose by the owner or owners of the magazine vessel.

§ 146.20–75 Unauthorized persons on magazine vessels.

Custodian of a magazine vessel shall not permit unauthorized persons to

come on board a magazine vessel except in an emergency tending to preservation of life.

§ 146.20–77 Repacking of explosives on board magazine vessels.

No explosives shall be repacked on board a magazine vessel. Broken or damaged packages shall be placed in an open box and conveyed to a safe location for repacking or other disposition.

§ 146.20–79 Work boat.

For purposes of safety, a work boat shall be part of the equipment of each magazine vessel.

§ 146.20–81 Life preservers.

One approved type live preserver shall be provided for each person employed upon a magazine vessel.

§ 146.20–83 Fenders.

Magazine vessels shall be fitted with fenders in such number and size as will prevent any vessel tying up alongside from actually coming in contact hull to hull.

§ 146.20–85 Authorization to load or discharge explosives.

(a) Unless exempt under paragraph (b) of this section, shipments of Class A explosives shall not be laden on nor discharged from any vessel at any point or place in the United States, its territories or possessions (not including the Panama Canal Zone) until authorization for such loading or discharging has been obtained by the owner, agent, charterer, master or person in charge of the vessel from the Coast Guard District Commander, or his authorized representative.

(b) Shipments of Class A explosives in amounts not exceeding 300 pounds net weight (excluding blasting caps) are exempt from the permit requirement contained in paragraph (a) of this section, except that such exemption shall not be construed to effect in any manner the application of any state, territorial, municipal or other local laws, ordinances or regulations which may control, prohibit, or limit such shipments in particular areas or ports, or in any case where the Coast Guard District Commander, or his authorized representative, finds that such exemption would not be compatible with safety.

[CGFR 54–52, 19 F.R. 8514, Dec. 14, 1954]

§ 146.20–87 Permit for Class A explosives.

Before a permit is issued authorizing the loading or discharging of Class A explosives in accordance with § 146.20–85, the requirements of this section shall be met:

(a) The permittee shall file a written application for a permit authorizing the loading or discharging of explosives. When filed, the application for loading shall be accompanied by a preliminary manifest of all explosives or other dangerous articles comprising the cargo of the vessel together with a preliminary cargo stowage plan showing the proposed stowage of all such cargo. Changes in the final stowage from that shown in the preliminary cargo stowage plan may be made upon approval of the issuing officer.

(b) The permittee shall furnish a certified copy of the shipper's certification stating that the explosives are packed, marked, labeled, or otherwise in conformity with the Interstate Commerce Commission regulations for the transportation of explosives or other dangerous articles in effect at the time of shipment.

(c) The issuing officer shall satisfy himself that no local regulations or rules on limits as to maximum quantity, isolation and remoteness will be violated by the issuance of such permit. When issued, the permit shall specify that the limits as to maximum quantity, isolation and remoteness established by local, municipal, territorial, or state authorities having jurisdiction shall not be exceeded.

§ 146.20–90 Stowage and storage chart of explosives.

The table entitled "Stowage and storage chart of explosives" shows the explosives which must not be loaded or stowed together. Consult detailed regulations of other dangerous articles for provisions regarding stowage of such articles on board vessels transporting explosives. The letter X at an intersection of horizontal and vertical columns shows that these articles must not be loaded or stowed together, for example: Detonating fuzes, horizontal column 7), must not be loaded or stowed with high explosives, vertical column (2). The provisions of this table are not applicable to barges. Stowage on board barges shall be in accordance with the provisions of §§ 146.10–1 to 146.10–50, inclusive.

The letter X at an intersection of horizontal and vertical columns shows that these articles must not be loaded or stowed together.

		Low explosives or black powder	High explosives or propellant explosives, Class A	Initiating or priming explosives, wet; diazodinitrophenol, fulminate of mercury, guanyl nitrosamino guanylidene hydrazine, lead azide, lead styphnate, nitro mannite, nitrosoguanidine, pentaerythrite tetranitrate, tetrazene, lead mononitroresorcinate.	Blasting caps, with or without safety fuse (including electric blasting caps) detonating primers	Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles or shell, ammunition for small arms with explosive bullets, or ammunition for small arms with explosive projectiles, or rocket ammunition with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles or illuminating projectiles [1] and boosters (explosive), bursters (explosive) or supplementary charges (explosive) without detonators [2]	Explosive projectiles, bombs, torpedoes, or mines, rifle or hand grenades (explosive), explosive jet thrust units (jato) Class A [1] or igniters jet thrust (jato) Class A explosives	Detonating fuzes, Class A explosives, with or without radioactive components	Ammunition for cannon with empty, inert-loaded or solid projectiles, or without projectiles, or rocket ammunition with empty projectiles, inert-loaded or solid projectiles or without projectiles
		1	2	3	4	5	6	7	8
	Class A Explosives								
1	Low explosives or black powder			X					
2	High explosives or propellant explosives, class A			X	X			X	
3	Initiating or priming explosives, wet; diazodinitrophenol, fulminate of mercury, guanyl nitrosamino guanylidene hydrazine, lead azide, lead styphnate, nitro mannite, nitrosoguanidine, pentaerythrite tetranitrate, tetrazene, lead mononitroresorcinate	X	X		X	X	X	X	X
4	Blasting caps, with or without safety fuse (including electric blasting caps), detonating primers		X	X		X	X		
5	Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles or shell, ammunition for small arms with explosive bullets, or ammunition for small arms with explosive projectiles, or rocket ammunition with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, or Illuminating projectiles [1] and boosters (explosive), bursters (explosive) or supplementary charges (explosive) without detonators [2]			X	X			X	
6	Explosive projectiles, bombs, torpedoes, or mines, rifle or hand grenades (explosive), jet thrust units (jato) Class A explosives [1] or igniters jet thrust (jato) Class A explosives			X	X			X	
7	Detonating fuzes, class A explosives, with or without radioactive components		X	X		X	X		
	Class B Explosives								
8	Ammunition for cannon with empty, inert-loaded, or solid projectiles, or without projectiles, or rocket ammunition with empty projectiles, inert-loaded or solid projectiles or without projectiles			X					
9	Propellant explosives, class B, jet thrust units (jato), class B explosives, igniters, jet thrust (jato), class B explosives, or starter cartridges, jet engine, class B explosives			X					
10	Fireworks, special	X	X	X	X	X	X	X	
	Class C Explosives								
11	Small arms ammunition			X					
12	Primers for cannon or small arms, empty cartridge bags, black powder igniters, empty cartridge cases, primed, combination primers or percussion caps, toy caps, explosive cable cutters, explosive rivets			X					

See footnotes at end of table.

CHART OF EXPLOSIVES

Propellant explosives, Class B, jet thrust units (jato), Class B explosives, igniters, jet thrust (jato), Class B explosives, or starter cartridges, jet engine, Class B explosives	Fireworks, special, or railway torpedoes	Small arms ammunition	Primers for cannon or small arms, empty cartridge bags—black powder igniters, empty cartridge cases, primed, empty grenades, primed, combination primers or percussion caps, toy caps, explosive cable cutters, explosive rivets	Percussion fuzes, tracer fuzes or tracers	Time, combination, or detonating fuzes Class C explosives	Cordeau detonant fuse, safety squibs, fuse lighters, fuse igniters, delay electric igniters, electric squibs, Instantaneous fuse or igniter cord	Fireworks, common, highway fuses or railway fuses
9	10	11	12	13	14	15	16
	X						X
	X						X
X	X	X	X	X	X	X	X
	X						X
	X						X
	X						X
	X						X