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## Part II

### Department of Transportation

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Research and Special Programs  
Administration

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Use of United Nations Shipping  
Descriptions; Final Rule

*HM-171 B*

**DEPARTMENT OF TRANSPORTATION**

**Research and Special Programs Administration**

**49 CFR Parts 171, 172, 176, and 178**

[Docket No. HM-171B; Amdt. Nos. 171-67, 172-75, 176-14, 178-73]

**Use of United Nations Shipping Descriptions**

**AGENCY:** Materials Transportation Bureau (MTB), Research and Special Programs Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This document amends the Optional Hazardous Materials Table (Optional Table) which appears in 49 CFR 172.102. The amendment has been necessitated by a number of changes to the International Maritime Organization (IMO), International Maritime Dangerous Goods Code (IMDG Code) upon which the Optional Table is based. The changes have been published by IMO as Amendment 19-80 to the IMDG Code. The purpose of this amendment to the Optional Table is to maintain alignment between the Optional Table and the corresponding provisions of the IMDG Code, in order to insure that the import and export of hazardous materials will not be adversely affected by potentially conflicting and duplicative requirements for the description, classification, labeling and marking of hazardous materials. Since the use of the Optional Table is, as the name implies, an option for international shipments, this rule will not impose an undue burden on persons affected by the regulations.

**EFFECTIVE DATE:** October 1, 1982.

**FOR FURTHER INFORMATION CONTACT:** Edward A. Altemos, Office of Hazardous Materials Regulation, Materials Transportation Bureau, U.S. Department of Transportation, 400 Seventh Street, S.W., Washington, D.C. 20590, (202) 426-0856.

**SUPPLEMENTARY INFORMATION:** The purpose of the Optional Table is to facilitate the international transportation of hazardous materials and to minimize a duplicity of shipping paper descriptions and package marking and labeling requirements that would be required to comply with both domestic and international standards. In order to satisfy this intent, it is essential that the

Optional Table be maintained in alignment with the provisions of the applicable international standards as close as practical.

The Optional Table, in its present form, is reflective of the provisions of the IMDG Code including all amendments through Amendment 18-79. Recently, IMO published Amendment 19-80 to the IMDG Code, and established November 1, 1982, as the world-wide implementation date for the amendment. Consequently, MTB is revising the Optional Table to maintain the necessary alignment with the IMDG Code, but is establishing October 1, 1982, as the effective date for revision of the Optional Table in order to insure that the updated version of the Optional Table appears in the October 1, 1982, reprinting of the Code of Federal Regulations. Users are, therefore, cautioned that the amended entries in the Optional Table are not considered effective by IMO until November 1, 1982.

Amendment 19-80 to the IMDG Code includes changes to or deletion of approximately 140 existing hazardous materials entries and the addition of approximately 60 new entries. In addition, this amendment corrects several errors and omissions in the existing Optional Table.

On May 22, 1982, the name of the Inter-Governmental Maritime Consultative Organization (IMCO) was changed to the International Maritime Organization (IMO). Also, since IMO identifies its International Maritime Dangerous Goods Code by the term "IMDG Code," MTB is changing its term for this code from "IMCO Code" to "IMDG Code." Accordingly, where applicable, these changes are being incorporated into the regulations.

This is the third publication of a final rule under Docket Number HM-171. The first rule under this docket was published in the Federal Register on May 22, 1980 (45 FR 34560). The second rule under this docket which is designated as HM-171A was published in the Federal Register on June 1, 1981 (46 FR 29392). The final rule published herein is designated HM-171B. Succeeding rules published under docket HM-171 will be designated in alphabetical sequence.

Since this rule does not impose mandatory additional requirements, notice and procedure thereon are considered unnecessary. Further, given

the need to provide the widest possible dissemination of the changes to the Optional Table and October 1, 1982 schedule for republication of the affected title of the Code of Federal Regulations, I find that good cause exists for making this rule effective in fewer than 30 days after its publication in the Federal Register. Again, affected persons are reminded that the amended entries are not considered effective by IMO until November 1, 1982.

**List of Subjects**

*49 CFR Part 171*

Hazardous materials transportation, References, Terms and acronyms.

*49 CFR Part 172*

Hazardous materials transportation, Hazardous materials description, Terms and acronyms.

*49 CFR Part 176*

Hazardous materials transportation, Maritime carriers, Terms and acronyms.

*49 CFR Part 178*

Hazardous materials transportation, Terms and acronyms.

In consideration of the foregoing, 49 CFR Parts 171, 172, 176 and 178 are amended as follows:

**PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS**

1. In § 171.7 paragraph (d)(17) is revised to read as follows:

§ 171.7 Matter incorporated by reference.

d. \* \* \*

(17) "International Maritime Dangerous Goods Code" (IMDG Code), Volumes I, II, III and IV, 1977 Edition, and Amendments 14-76, 15-77, 16-78, 17-79, 18-79, and 19-80 thereto.

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**PART 172—HAZARDOUS MATERIALS TABLES AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS**

§ 172.102 [Amended]

2. In § 172.102 the Optional Hazardous Materials Table is amended with the following additions, deletions, and corrections:

Notes and symbols	Dangerous goods description and proper shipping names	IMO class	UN No.	Label(s) required	Packaging group	ST C	OW P	Other requirements
	Acetaldehyde ammonia	9	UN1841	None	III	1,2	1,2	Stow "away from" foodstuffs.

Notes and symbols	Dangerous goods description and proper shipping names	IMD class	UN No.	Label(s) required	Packaging group	ST C	OW P	Other requirements
	Acetic acid, glacial (or) Acetic acid solution, (more than 80% acid, by weight)	8	UN2789	Corrosive, Flammable Liquid	II	1,2	1,2	Segregation same as for flammable liquids. Glass carboys in hampers prohibited under deck.
	Acetic acid solution, (more than 25% but not more than 80% acid, by weight)	8	UN2790	Corrosive	II/III	1,2	1,2	Glass carboys in hampers prohibited under deck.
	Aircraft thrust device (for assisted take-off)	4.1	UN2791	Flammable Solid	II	1,2	5	
	Aluminium borohydride (or) Aluminium borohydride in devices	4.2	UN2870	Spontaneously Combustible, Dangerous When Wet	I	1	5	
	Amyl butyrates	3.3	UN2620	Flammable Liquid	III	1,2	1,2	
	Benzoquinone	6.1	UN2587	Poison	II	1,2	1,2	
	Bromine chloride	2.3	UN2901	Poison Gas, Oxidizer	I	1	5	Stow "away from" combustible materials.
	Bromotrifluoroethylene	2.1	UN2419	Flammable Gas		1,2	5	
	Butene. (See) Butylene	3.3	UN2840	Flammable Liquid	III	1,2	1,2	
	Butyraldoxime	3.3	UN2882	Corrosive	II	1,2	1,2	
	Caesium hydroxide, solid	8	UN2880	Oxidizer	II	1,2	1,2	Keep dry.
	Calcium hypochlorite, hydrated (or) Calcium hypochlorite, hydrated mixtures (containing not less than 5.5% and not more than 10% water)	5.1	UN2880	Oxidizer	II	1,2	1,2	Stow "away from" sources of heat where temperatures in excess of 55° C for a period of 24 hours or more will be encountered.
	Carbon dioxide, refrigerated liquid	2.2	UN2187	Nonflammable Gas		1,2	1	
	Castor beans, Castor meal, Castor pomace (or) Castor flake	9	UN2969	None	II	1,2	5	Stow "away from" living quarters, foodstuffs, and oxidizing substances.
	Chlorine pentafluoride	2.3	UN2548	Poison Gas, Oxidizer, Corrosive		1	5	Stow "away from" combustible materials.
	Chlorodifluoroethanes	2.1	UN2517	Flammable Gas		1,2	1	Stow "away from" living quarters.
	Chlorotrifluoromethane and trifluoromethane azeotropic mixture (with approximately 80% chlorotrifluoromethane).	2.2	UN2589	Nonflammable Gas		1,2	1,2	
	Cyclobutane	2.1	UN2601	Flammable Gas		1,2	1	
	Dibromodifluoromethane	9	UN1941	None	III	1,2	1,2	Shade from radiant heat, Stow "away from" foodstuffs.
	Dichlorodifluoromethane and difluoroethane, azeotropic mixture, (with approximately 74% dichlorodifluoromethane)	2.2	UN2602	Nonflammable Gas		1,2	1,2	
	Ethyl acetylene	2.1	UN2452	Flammable Gas		1	5	
	Ethyl fluoride	2.1	UN2453	Flammable Gas		1,2	5	
	Fuel, pyrophoric, n.o.s.	4.2	UN1875	Spontaneously Combustible	I	1	5	Prohibited on any ship carrying explosives (except explosives in Division 1.4, Compatibility Group S).
	Gallium, (metal)	8	UN2803	Corrosive	III	1,2	1	Stow "away from" sources of heat and acids.
	Hexachlorocyclopentadiene	6.1	UN2646	Poison	I	1	5	Stow "away from" living quarters.
	Hexafluoroethane	2.2	UN2193	Nonflammable Gas		1,2	1,2	
	1-Hexene. (See) Hex-1-ene	3.3	UN2840	Flammable Liquid	III	1,2	1,2	
	Hydrofluoric acid and sulphuric acid mixtures	8	UN1786	Corrosive, Poison	I	1	5	Stow "away from" fluorides.
	Igniter for aircraft thrust device (for assisted take-off)	4.1	UN2792	Flammable Solid	II	1,2	5	
	Isocyanates, n.o.s. (or) Isocyanate solutions, n.o.s. (flashpoint not less than -18° C but less than 23° C)	3.2	UN2478	Flammable Liquid, Poison	II	1	5	
	Isosorbide dinitrate mixture (with not less than 60% lactose, mannose, starch, or calcium hydrogen phosphate)	4.1	UN2907	Flammable Solid	II	1,2	5	
	Lithium ferrosilicon	4.3	UN2830	Dangerous When Wet	II	1,2	6	
	Lithium hydride, fused solid	4.3	UN2805	Dangerous When Wet	II	1,2	6	
	Lithium nitride	4.3	UN2806	Dangerous When Wet	I	1,2	5	
	3-Methyl-1-butene	3.2	UN2561	Flammable Liquid	II	1,2	1	
	Methyl fluoride	2.1	UN2454	Flammable Gas		1,2	5	
	Methyl nitrite	2.1	UN2455	Flammable Gas		1	5	
	2-Methylpentan-2-ol	3.3	UN2560	Flammable Liquid	II	1,2	1,2	
	Nitrating acid, mixtures	8	UN1788	Corrosive, Oxidizer (not required if nitric acid content not more than 50%)	I/II	1	5	Stow "away from" fluorides.
	Nitroethane	3.3	UN2842	Flammable Liquid	II	1,2	1,2	
	Nitrous oxide, refrigerated liquid	2.2	UN2201	Nonflammable Gas		1,2	1	
	Octafluorobut-2-ene	2.2	UN2422	Nonflammable Gas		1,2	1,2	
	Octafluoropropane	2.2	UN2424	Nonflammable Gas		1,2	1,2	
	Organic peroxides, n.o.s., trial quantities	5.2	UN2699	Organic Peroxide		1	5	
	Phenol, molten	6.1	UN2312	Poison	II	1	1	
	Propadiene	2.1	UN2200	Flammable Gas		1	5	
	Propylene tetramer	3.3	UN2850	Flammable Liquid	III	1,2	1,2	
	Refrigerating machines (containing non-flammable, non-toxic liquefied gases)	2.2	UN2857	Nonflammable Gas		1,2	1,2	
	Resin solution, poisonous	6.1	UN1896	Poison, Flammable Liquid (only if flashpoint between 23 and 81 deg C)	I/II	1,2	1,2	If flashpoint between 23 and 81 deg C, segregation same as for flammable liquids.
			UN1896	St. Andrews Cross, Flammable Liquid (only if flashpoint between 23 and 81 deg C)	III	1,2	1,2	If flashpoint between 23 and 81 deg C, segregation same as for flammable liquids.

Notes and symbols	Dangerous goods description and proper shipping names	IMC class	UN No.	Label(s) required	Packaging group	ST C	OW P	Other requirements
	Sodium aluminum hydride	4.3	UN2835	Dangerous When Wet	II	1,2	5	
	Titanium sponge granules (or) Titanium sponge powders	4.1	UN2878	Flammable Solid	III	1,2	1,2	
	Trisocyanatofocyanurate of isophoronedisocyanate, solution (70%, by weight)	3.3	UN2908	Flammable Liquid	III	1,2	1,2	
	Trinitrobenzene, wetted (with not less than 30% water, by weight)	4.1	UN1354	Flammable Solid	I	1,2	5	Stow "away from" heavy metals and their compounds.
	Trinitrobenzoic acid, wetted (with not less than 30% water, by weight)	4.1	UN1355	Flammable Solid	I	1,2	5	Stow "away from" heavy metals and their compounds.
	Trinitrotoluene, wetted (with not less than 30% water, by weight)	4.1	UN1356	Flammable Solid	I	1,2	5	Stow "away from" heavy metals and their compounds.
	Urea nitrate, wetted (with not less than 20% water, by weight)	4.1	UN1357	Flammable Solid	I	1,2	1,2	
	Vinyl butyrate, inhibited	3.2	UN2838	Flammable Liquid	II	1,2	1	
	Vinyl chloroacetate	6.1	UN2589	Poison, Flammable Liquid	II	1,2	1,2	Segregation same as for flammable liquids.
	Vinylidene chloride, (inhibited)	3.1	UN1303	Flammable Liquid	I	1,2	5	Keep cool.
	Xenon, refrigerated liquid	2.2	UN2591	Nonflammable Gas		1,2	1	
	<b>Deletions</b>							
	Acetic acid solution (containing not less than 80% of acid)	3.3	UN1842	Flammable Liquid, Corrosive	II	1,2	1,2	Stow "separated from" oxidizers.
	Acid mixtures, (hydrofluoric and sulphuric)	8	UN1786	Corrosive	I/II	1	5	Stow "away from" fluorides.
	Acid mixtures, (nitrating acid)	8	UN1798	Corrosive	I/II	1	5	Stow "away from" fluorides.
	Adhesives, n.o.s. (See) Cement, adhesive, (containing a flammable liquid)							
	Alkanosulphonic acids	8	UN1889	Corrosive	II	1,2	1	
	Amorces	1.4 S	UN0022	None. Package to be marked "1.4 S"		1,3	1,3	
	Calcium hydrogen sulphite, (solution)	8	UN1901	Corrosive	II	1,2	1,2	
	Caps, percussion	1.4 S	UN0044	None. Package to be marked "1.4 S"		1,3	1,3	
	Caps, toy. (See) Amorces							
	Chlorinated anthracene oil	6.1	UN2230	Poison	II	1,3	1,3	Stow "away from" sources of heat. Segregation same as for flammable liquids.
	2-Chloroethanol	3.3	UN1135	Flammable Liquid	II	1,2	1,2	
	Coal tar light oil	3.2	UN1137	Flammable Liquid	II	1,2	1	
		3.3	UN1137	Flammable Liquid	II	1,2	1,2	
	Cyclohexylamine	3.3	UN2357	Flammable Liquid, Corrosive	II	1,2	1,2	
	N,N-Dimethylcyclohexylamine	8	UN2264	Corrosive, Flammable Liquid	II	1,3	1,3	Keep cool. Segregation same as for flammable liquids.
	2-Ethoxyethyl acetate	3.3	UN1172	Flammable Liquid	III	1,2	1,2	
	Ethylene, (liquid)	2.1	UN1038	Flammable Gas		1,2	5	Stow "away from" living quarters.
	Fungicides, [(poisonous)], n.o.s.	6.1	UN1609	Poison	I/II	1,2	1,2	Stow "separated from" foodstuffs.
		6.1	UN1609	St. Andrews Cross	II	1,2	1,2	Stow "separated from" foodstuffs.
		9	UN1609	None	II	1,2	1,2	Stow "away from" foodstuffs.
N	Gaives, with detonator	1.1B	UN0225	Explosive (1.1B)				
N	Gaives, with detonator	1.2B	UN0289	Explosive (1.2B)				
N	Gaives, without detonator	1.1D	UN0342	Explosive (1.1D)				
N	Gaives, without detonator	1.2D	UN0283	Explosive (1.2D)				
	Germicides, (poisonous), n.o.s.	6.1	(UN1601)	Poison	I/II	1,2	1,2	Stow "separated from" foodstuffs.
		6.1	(UN1601)	St. Andrews Cross	II	1,2	1,2	Stow "separated from" foodstuffs.
		8	(UN1601)	None	III	1,2	1,2	Stow "away from" foodstuffs.
	Hydrofluoric and sulphuric acid, (mixtures. See) Acid mixtures, (hydrofluoric and sulphuric)							
	Hydrogen, (liquid)	2.1	UN1965	Flammable Gas -		5	5	
	Naphthal distillate	3.2	(UN1268)	Flammable Liquid	II	1,2	1	
	Nitrating acid. (See) Acid mixtures, (nitrating acid)							
	<b>Changes</b>							
	Acetyl bromide	8	UN1716	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels. Keep cool.
	Adhesives, (containing a flammable liquid)	3.1	UN1133	Flammable Liquid	II	1,2	5	
		3.2	UN1133	Flammable Liquid	II	1,2	1	
		3.3	UN1133	Flammable Liquid	II	1,2	1,2	
	Alkaline corrosive liquids, n.o.s. (See) Corrosive liquids, n.o.s.							
	Alkaline earth metal amalgams, n.o.s.	4.3	UN1392	Dangerous When Wet	I	1,2	1,2	
	Aluminium bromide solution	8	UN2580	Corrosive	II	1,2	1,2	
	Aluminium chloride solution	8	UN2581	Corrosive	II	1,2	1,2	
	Aluminium resinates	4.1	UN2715	Flammable Solid	III	1,2	1,2	
	Ammonium dinitro- <i>o</i> -cresolate	6.1	UN1843	Poison	II	1,2	1	Stow "away from" heavy metals, "separated from" flammable substances and "separated longitudinally by an intervening complete compartment or hold from" explosives.
	Ammonium nitrate fertilizer, (containing ammonium nitrate), n.o.s.	5.1	UN2072	Oxidizer	II	1,2	1,2	
	Ammunition, tear producing, non-explosive, (with neither burster nor expelling charge, non-fuzed)	6.1	UN2017	Poison, Corrosive	II	1,2	5	Keep dry. Stow "away from" living quarters. Segregation same as for corrosives.
	Argon, refrigerated liquid	2.2	UN1951	Nonflammable Gas		1,3	1	
	Arsenic bromide	6.1	UN1555	Poison	I	1,2	1,2	Keep cool. Stow "away from" living quarters.
	Arsenic compounds, solid, n.o.s.	6.1	UN1557	Poison	I/II	1,2	1,2	

Notes and symbols	Dangerous goods description and proper shipping names	IMO class	UN No.	Label(s) required	Packaging group	ST C	OW P	Other requirements
	Benzyl chloride	6.1	UN1557	St. Andrews Cross	III	1,2	1,2	
	Bis(isotridecyl) peroxidicarbonate, (technical pure)	5.2	UN2089	Poison, Corrosive	II	1	5	Keep dry. Segregation same as for corrosives.
	Bleaching powder. (See) Calcium hypochlorite mixtures, dry, (with more than 10% but not more than 35% available chlorine)							Control temperature -10 deg C. Emergency temperature 0 deg C.
	(Borate and chlorate, mixtures. See) Chlorate and borate (mixtures)							
	Bromochloromethane	8.1	UN1887	Organic Peroxide	II	1	5	
	Bromoform	8.1	UN2515	St. Andrews Cross	III	1,2	1,2	
	Butylacrylate, inhibited	3.3	UN2348	St. Andrews Cross	III	1,3	1,3	Keep cool.
	n-Butyl chloride. (See) Chlorobutanes			Flammable Liquid	II	1,2	1,2	
	Butylphenols, liquid	6.1	UN2228	St. Andrews Cross	III	1,2	1,2	
	Calcium Chlorate, (aqueous) solution	5.1	UN2429	Oxidizer	II	1,2	1	Stow "away from" powdered metals and "separated from" ammonium compounds.
	Calcium cyanide	6.1	UN1575	Poison	I	1,2	1,2	
	Calcium hydrosulphite	4.2	UN1923	Spontaneously Combustible	II	1,2	5	Keep dry.
	Calcium hypochlorite mixtures, dry, (with more than 10%, but not more than 30%, available chlorine)	5.1	UN2208	Oxidizer	III	1,2	1,2	
	Carbolic acid. (See) Phenols, Phenol solutions (or) Phenol, molten							
	Celluloid, scrap	4.2	UN2002	Spontaneously Combustible	III	1	5	
	Cement, (liquid). (See) Adhesives, (containing a flammable liquid)							
	(Charcoal, non-activated, of animal or vegetable origin. See) Carbon, (non-activated, of animal or vegetable origin)							
	Chlorate and borate, (mixtures)	5.1	UN1458	Oxidizer	II	1,2	5	Stow "away from" powdered metals and "separated from" ammonium compounds.
	Chloroacetophenone	6.1	UN1697	Poison	II	1	5	Keep cool. Stow "away from" living quarters.
	Chlorobutanes	3.2	UN1127	Poison	II	1,2	1	
	Chloroplatinic acid, solid	6	UN2507	Flammable Liquid	III	1,2	1,2	
	Chloroprene, inhibited	3.2	UN1991	Corrosive	I	1,2	1	
				Flammable Liquid, Poison	I	1,2	1	
	Coal tar distillate	3.2	UN1136	Flammable Liquid	II	1,2	1	
	Corrosive liquids, n.o.s.	3.3	UN1187	Flammable Liquid	III	1,2	1,2	
		8	UN1760	Corrosive, Flammable Liquid (only if flashpoint between 23 and 61 deg C)	I/II/III	1	5	For a material that meets only the corrosion to skin criteria of 49 CFR 173.240(a)(1), "under deck" stowage is also authorized if the description includes the additional entry specified in Sec. 173.203(f)(3). If flashpoint below 61 deg C, segregation same as for flammable liquids.
	Crotonaldehyde, inhibited	3.2	UN1143	Flammable Liquid	II	1,2	1	
	1,5,9-Cyclododecatriene	8	UN2518	Corrosive	II	1	5	Stow "away from" living quarters.
	Cyclohexylamine	3.2	UN2957	Flammable Liquid, Corrosive	II	1,2	1	
		3.3	UN2957	Flammable Liquid, Corrosive	II	1,2	1,2	
	Diacetone alcohol	3.2	UN1148	Flammable Liquid	II	1,2	1	
	N,N-Di-n-butylaminoethanol	3.3	UN1148	Flammable Liquid	II	1,2	1,2	
	Dichloroacetyl chloride	6.1	UN2673	St. Andrews Cross	III	1,2	1,2	
	p-Dichlorobenzene	8	UN1765	Corrosive	II	1	5	Keep dry.
	Dichloroethyl ether	6.1	UN1592	St. Andrews Cross	III	1,2	1,2	
		6.1	UN1916	Poison, Flammable Liquid	II	1,2	1,2	Segregation same as for flammable liquids. Stow "away from" living quarters and sources of heat.
	N,N-Diethylaniline	6.1	UN2432	St. Andrews Cross	III	1,2	1,2	
	N,N-Diethylene diamine	8	UN2666	Corrosive, Flammable Liquid	II	1,3	1,3	Keep cool. Segregation same as for flammable liquids.
	Difluoromonochloroethane. (See) Chloro-difluoroethanes							
	N,N-Diisopropyl ethanofamine	8	UN2825	Corrosive	III	1,2	1,2	Stow "away from" caustic alkalis.
	Diketene, inhibited	3.3	UN2521	Flammable Liquid	II	1,2	1,2	
	N,N-Dimethylaniline	6.1	UN2253	Poison	II	1,3	1,3	Stow "away from" sources of heat.
	N,N-Dimethylcarbamoyl chloride	8	UN2262	Corrosive	II	1,2	1,2	
	N,N-Dimethylcyclohexylamine	8	UN2264	Corrosive, Flammable Liquid	II	1,3	1,3	Keep cool. Segregation same as for flammable liquids.
	N,N-Dimethylformamide	3.3	UN2265	Flammable Liquid	III	1,2	1,2	
	Dimethyl-p-nitrosoaniline. (See) p-Nitrosodimethylaniline							
	Diphenylmethane diisocyanate (M.D.I.)	6.1	UN2489	St. Andrews Cross	III	1,2	1,2	Stow "away from" sources of heat.
	Epibromohydrin	6.1	UN2558	Poison, Flammable Liquid	I	1	5	Stow "away from" living quarters. Segregation same as for flammable liquids. Shade from radiant heat.
	Ethylbenzene	3.2	UN1175	Flammable Liquid	II	1,2	1,2	
	Ethyl bromide	6.1	UN1891	Poison	II	1,3	1	Stow "away from" sources of heat.

Notes and symbols	Dangerous goods description and proper shipping names	IMO class	UN No.	Label(s) required	Packaging group	STG	OWP	Other requirements
	Ethyl chloroacetate	6.1	UN1161	Poison, Flammable Liquid	II	1,2	1,2	Segregation same as for flammable liquids. Stow "away from" sources of heat and living quarters.
	Ethylene chlorohydrin	6.1	UN1105	Poison, Flammable Liquid	II	1,2	1,2	Segregation same as for flammable liquids. Stow "away from" living quarters and sources of heat.
	Ethylene glycol monoethyl ether	3.3	UN1171	Flammable Liquid	III	1,2	1,2	
	Ethylene glycol monoethyl ether acetate	3.3	UN1172	Flammable Liquid	III	1,2	1,2	
	Ethylene oxide and carbon dioxide, mixtures (containing not more than 10% carbon dioxide)	2.1	UN1041	Flammable Gas, Poison Gas	III	1,2	1	Stow "away from" living quarters.
	Ethylene oxide, (containing not more than 0.2% of nitrogen)	2.1	UN1040	Flammable Gas, Poison Gas	III	1,2	1	Stow "away from" living quarters.
	Ethylene, (refrigerated liquid)	2.1	UN1038	Flammable Gas	I	5		Stow "away from" living quarters.
	Ethyl ether (See) Diethyl ether							
	Ethyl mercaptan	3.1	UN2363	Flammable Liquid, Poison	II	1,3	5	Keep cool and dry. Stow "separated from" foodstuffs and all odor absorbing cargo.
	Ethyl methacrylate, inhibited	3.2	UN2277	Flammable Liquid	II	1,2	1	
	Ethyl oxalate	4.3	UN2525	St. Andrews Cross	III	1,2	1,2	
	Ferrosilicon, (containing more than 30% but less than 80% silicon)	8.1	UN1408	Dangerous When Wet, Poison	III	1,2	1,2	Stow in a well-ventilated compartment.
	Ferrous metal borings, shavings, turnings, (or) cuttings (in a form liable to self heating)	4.2	UN2793	Spontaneously Combustible	III	1,2	1,2	
	(Film from which gelatine has been removed. See) Celluloid, scrap							
	Fishmeal (or) fish scrap, (antioxidant treated, moisture content greater than 6% but not exceeding 12% by weight, fat content not exceeding 18% by weight)	4.2	UN2216	None. Package to be marked "Class 4.1"	III	1,2	1,2	Double strip stowage recommended. Provide good surface and through ventilation.
	Fishmeal (or) fish scrap, (not antioxidant treated, moisture content greater than 6% but not exceeding 12% by weight, fat content not exceeding 15% by weight)	4.2	UN1374	None. Package to be marked "Class 4.1"	III	1,2	1,2	Double strip stowage recommended. Provide good surface and through ventilation.
	Fluoric acid. (See) Hydrofluoric acid, solution							
	Formic acid	8	UN1778	Corrosive	II	1,2	1,2	Glass, carboy, in hampers prohibited under deck.
	Fuzes, detonating, (with protective features)	1.2D	UN0409	Explosive (1.2D)				
	Fuzes, detonating, (with protective features)	1.4D	UN0410	Explosive (1.4D)				
	Glyceryl trinitrate, solution (up to 1%) in alcohol	3.2	UN1204	Flammable Liquid	II	1,2	1	
	Helium, refrigerated liquid	2.2	UN1963	Nonflammable Gas	I	1,2	1	
	Hexamethylenediamine, solid	8	UN2280	Corrosive	III	1,3	1,3	Keep cool.
	Hydrazine hydrate (or) Hydrazine aqueous solutions (containing not more than 64% by weight, hydrazine)	8	UN2030	Corrosive, Poison	II	1,2	5	Under deck - permitted only if containing not more than 35% by weight, hydrazine. Stow "away from" nitric acids and perchloric acids not exceeding 50% acid by weight.
	Hydrofluoric acid, solution	8	UN1790	Corrosive, Poison	III	1	5	Keep cool.
	Hydrogen fluoride, anhydrous	2.3	UN1052	Poison Gas, Corrosive	I	1	5	Stow "away from" living quarters.
	Iron carbonyl. (See) Iron pentacarbonyl							
	Iron pentacarbonyl	6.1	UN1994	Poison, Flammable Liquid	I	1	5	Segregation same as for flammable liquids. Shade from radiant heat.
	Isocyanates, n.o.s. (or) Isocyanate solutions, n.o.s., (boiling point not less than 300 deg C)	6.1	UN2207	St. Andrews Cross	III	1,2	1,2	Stow "away from" sources of heat.
	Isocyanates, n.o.s. (or) Isocyanate solutions, n.o.s., (flashpoint not less than 23 deg C, boiling point less than 300 deg C)	6.1	UN2206	Poison, Flammable Liquid (only if flashpoint is below 61 deg C)	II	1,3	1	Shade from radiant heat. Segregation same as for flammable liquids if flashpoint below 61 deg C.
	Isocyanates, n.o.s. (or) Isocyanate solutions, n.o.s. (flashpoint less than -18 deg C)	3.1	UN2478	Flammable Liquid, Poison	II	1	5	Stow "away from" sources of heat. Keep cool.
	Isophorone diisocyanate	6.1	UN2260	Poison	II	1,2	1	Stow "away from" living quarters.
	Isopropyl mercaptan	3.1	UN2703	Flammable Liquid	II	1,3	5	Keep cool and dry. Stow "away from" foodstuffs and all odor absorbing cargo.
	Krypton, refrigerated liquid	2.2	UN1970	Nonflammable Gas	I	1,2	1	
	Lighters (for cigars and cigarettes, etc., containing) fuel	3.2	UN1228	Flammable Liquid	II	1,2	1	
	Matches, safety	4.1	UN1944	Flammable Solid	III	1,2	1,2	
	Mercurous nitrate	6.1	UN1927	Poison	II	1,2	1,2	
	Mercury compounds, liquid, n.o.s.	6.1	UN2024	Poison	I/II	1,2	1	
	Mercury compounds, solid, n.o.s.	6.1	UN2024	St. Andrews Cross	I/II	1,2	1	
		6.1	UN2025	Poison	I/II	1,2	1,2	
		6.1	UN2025	St. Andrews Cross	III	1,2	1,2	
	Methacrylic acid, inhibited	8	UN2531	Corrosive	III	1	1,2	Keep cool. Glass carboys prohibited on passenger vessels.
	Methylamine, aqueous solution	3.1	UN1235	Flammable Liquid	II	1,3	5	Keep cool. Stow "away from" mercury and its compounds.
	Methyl isocyanate (or) Methyl isocyanate solutions	3.2	UN2480	Flammable Liquid, Poison	I	1	5	Keep cool. Stow "away from" living quarters and sources of heat.
	Methylmorpholine	3.2	UN2535	Flammable Liquid, Corrosive	II	1,2	1	
		3.3	UN2535	Flammable Liquid, Corrosive	II	1,2	1,2	
	Naphthalene, molten	4.1	UN2304	Flammable Solid	III	1	1	
	Neon, refrigerated liquid	2.2	UN1913	Nonflammable Gas	I	1,2	1	

Notes and symbols	Dangerous goods description and proper shipping names	IMO class	UN No.	Label(s) required	Packaging group	ST C	OW P	Other requirements
	Nickel carbonyl	6.1	UN1259	Poison, Flammable Liquid	I	1	5	Keep cool. Prohibited on any ship carrying explosives except explosives in Division 1.4, Compatibility Group S. Shade from radiant heat. Segregation same as for flammable liquids.
	Nicotina sulphate, solid (or) solution	6.1	UN1658	Poison	II	1,2	1,2	
	Nitrobenzotrifluorides	6.1	UN2308	Poison	II	1,2	1,2	Stow "away from" living quarters.
	3-Nitro-4-chlorobenzotrifluoride	6.1	UN2307	Poison	II	1,2	1,2	Stow "away from" living quarters.
	Nitrocresols	6.1	UN2448	St. Andrews Cross	III	1,2	1,2	Stow "away from" living quarters.
	Phenyl mercaptan	6.1	UN2337	Poison, Flammable Liquid	I	1,2	1	Segregation same as for flammable liquids.
	o-Phosphoric acid, (liquid)	8	UN1805	Corrosive	III	1,2	1,2	Glass carboys in hampers prohibited under deck.
	o-Phosphorous acid	8	UN2634	Corrosive	III	1,3	1,3	Stow "away from" sources of heat.
	Phosphorus, white, molten	4.2	UN2447	Spontaneously Combustible, Poison	I	1	5	
	Potassium bifluoride, (solid)	8	UN1811	Corrosive, Poison	II	1,2	1,2	Keep dry.
	Potassium bifluoride, (solution)	8	UN1811	Corrosive, Poison	II	1,2	1,2	
	Pyrophoric fuel, n.o.s. (See) Fuel, pyrophoric, n.o.s.	5.1	UN2428	Oxidizer	II	1,2	1	Stow "away from" powdered metals and "separated from" ammonium compounds.
	Sodium carbonate, (aqueous) solution	6.1	UN1690	St. Andrews Cross	III	1,2	1,2	
	Sodium fluoride, solution	8	UN1823	Corrosive	II	1,2	1,2	Keep dry.
	Sodium hydrogen sulphite, solution. (See) Bisulphites, inorganic, aqueous solutions, n.o.s.	8	UN1824	Corrosive	II	1,2	1,2	
	Sodium hydroxide, solid	3.2	UN1289	Flammable Liquid	II	1,2	1	
	Sodium hydroxide, solution	3.3	UN1289	Flammable Liquid	II	1,2	1,2	
	Sodium methylate, solutions (in alcohol)	4.2	UN1395	Spontaneously Combustible	II	1,2	1,2	Stow "separated from" acids.
	Sodium sulphide, anhydrous (or) Sodium sulphide (containing less than 30% water of crystallization)	8	UN1849	Corrosive	II	1,2	1,2	Stow "away from" acids.
	Sodium sulphide, hydrated, (with at least 30% water)	2.3	UN2676	Poison Gas, Flammable Gas	I	1	5	Stow "away from" living quarters.
	Sibina	3.3	UN2055	Flammable Liquid	II	1,2	1,2	
	Styrene monomer, inhibited	8	UN1931	Corrosive, Poison	I	1,2	1	Stow "away from" fluorides and all other corrosives except nitric acids, sulphur trioxide and other sulphuric acids. On cargo vessels under deck stowage is permitted in metal drums only.
	Sulphuric acid, fuming	8	UN1931	Corrosive, Poison	I	1,2	1	Stow "away from" fluorides. For concentrations of more than 51% acid, stow "away from" all other corrosives except nitric acids, sulphur trioxide and other sulphuric acids. On cargo vessels under deck stowage is permitted in metal drums only.
	Sulphuric acid, spent	8	UN1832	Corrosive	II	1,2	1	Stow "away from" fluorides. For concentrations of more than 51% acid, stow "away from" all other corrosives except nitric acids, sulphur trioxide and other sulphuric acids. On cargo vessels under deck stowage is permitted in metal drums only.
	(Sulphuric and hydrofluoric acid, mixtures. See) Hydrofluoric acid and sulphuric acid mixtures	4.1	UN2448	Flammable Solid	III	1	1	Stow "separated from" oxidizers, "away from" living quarters.
	Sulphur, molten	4.1	UN2448	Flammable Solid	III	1	1	Stow "separated from" oxidizers, "away from" living quarters.
	Tear gas candles, (non-explosive)	6.1	UN1700	Poison, Flammable Solid	II	1	5	Segregation same as for flammable solids. Stow "away from" living quarters.
	4-Thiapentanal	6.1	UN2785	St. Andrews Cross, Flammable Liquid (only if flashpoint below 61 deg C)	III	1	5	Segregation same as for flammable liquids if flashpoint below 61 deg C. Shade from radiant heat and sunlight. Stow "away from" living quarters, acids and bases.
	Titanium (metal) powder, dry	4.2	UN2546	Spontaneously Combustible	II	1	5	
	Toluene diisocyanate (T.D.I.)	6.1	UN2078	Poison	II	1,2	1	Shade from radiant heat. Stow "away from" living quarters.
	Vinyl trichlorosilane, inhibited	3.2	UN1305	Flammable Liquid, Corrosive	I	1,2	1	

**PARTS 171, 172, 176 AND 178  
[AMENDED]**

§§ 171.7, 171.8, 171.12, 172.102, 172.201, 172.401, 172.407, 172.502, 176.5, 176.11, 176.27, 176.30, 178.0-3 [Amended]

3. In addition to the amendments set forth above, 49 CFR Parts 171, 172, 176,

and 178 are amended by removing the words "Inter-Governmental Maritime Consultative Organization, its acronym "IMCO" and the term "IMCO Code" and inserting in their place the words "International Maritime Organization," its acronym "IMO" and the term "IMDG

Code," respectively, in the following places, as applicable:

- (a) 49 CFR 171.7(c)(23);
- (b) 49 CFR 171.8;
- (c) 49 CFR 171.12(d);
- (d) 49 CFR 172.102(a), (b), (c), (d), (h), (i), (j) and (k);
- (e) 49 CFR 172.201(a)(4)(i);

- (f) 49 CFR 172.401(c)(2);
- (g) 49 CFR 172.407(g) and (h);
- (h) 49 CFR 172.502(c);
- (i) 49 CFR 176.5(b)(8);
- (j) 49 CFR 176.11(a) and (a)(2)(ii);
- (k) 49 CFR 176.27(b);
- (l) 49 CFR 176.30(a), (a)(3), (a)(5)(ii), and (b); and
- (m) 49 CFR 178.0-3(a).

(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53, App. A to Part 1)

Note.—The Materials Transportation Bureau has determined that this document will not result in a "major rule" under terms of Executive Order 12291 or a significant regulation under DOT's regulatory policy and procedures (44 FR 11034) or require an environmental impact statement under the National Environmental Policy Act (49 U.S.C. 4321), *et seq.* I certify that this Amendment

will not have a significant economic impact on a substantial number of small entities. A regulatory evaluation and environmental assessment are available for review in the docket.

Issued in Washington, D.C. on September 28, 1982.

L. D. Santman,

Director, Materials Transportation Bureau.

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