DEPARTMENT OF TRANSPORTATION
MATERIALS TRANSPORTATION BUREAU
WASHINGTON D.C. 20590

[49 CFR Part 172]

[Docket No. HM-159]

HAZARDOUS MATERIALS TABLE AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS; FORBIDDEN MATERIALS

Advance Notice of Proposed Rulemaking

AGENCY: Materials transportation Bureau (MTB), DOT.

ACTION: Advance Notice of Proposed Rulemaking.

SUMMARY: This advance notice requests public comment on the proposal to add the names of materials to the Hazardous Materials Table (49 CFR 172.101) that are known to be too hazardous to be permitted in commercial transportation.

DATE: Comments must be received on or before June 22, 1978.

ADDRESS COMMENTS TO: Dockets Section, Office of Hazardous Materials Operations, Department of Transportation, Washington, D.C. 20590. It is requested that five copies be submitted.

FOR FURTHER INFORMATION CONTACT:

Alan I. Roberts, Director, Office of Hazardous Materials Operations, 2100 2nd Street SW., Washington, D.C. 20590, 202-426-0656.

SUPPLEMENTARY INFORMATION: This action is prompted by a serious explosion that occurred during the transportation of a chemical having properties which made it a forbidden explosive under the regulations governing the transportation of hazardous materials but which was not specifically listed by name in the Hazardous Materials Table. The chemical involved possessed properties which made it a forbidden explosive under the provisions of §§ 173.21, 173.51, and 173.86 of Title 49 CFR. The MTB believes that as a supplement to the basic performance standards describing the kinds of materials barred from transportation, the listing of specific materials known to have, or strongly suspected of having, chemical properties which would require that they be forbidden from transportation in commerce may be helpful in preventing similar accidents in the future.

The regulations now address forbidden materials in one or more of three different fashions: (1) By describing chemical properties which, if possessed by any given substance, make it a forbidden material; (2) by chemical name listings in the Hazardous Materials Table together with the notation "forbidden"; or (3) by chemical name in separate textual provisions within the appropriate topical hazard classification portions of the regulations. The MTB believes that (2) and (3) should be consolidated and supplemented with the chemical names of as many materials as can be readily recognized to possess the chemical properties described in (1). As part of this notice, there are lists of those materials currently addressed in the text of the regulations but not in the Hazardous Materials Table and those not addressed by chemical name anywhere in the regulations but which are considered by MTB to meet the "forbidden" criteria in the regulations.

The primary drafters of this document are Charles W. Schultz, Technical Services Branch, Office of hazardous Materials Operations, and Evan C. Braude, Office of the Chief Counsel, Research and Special Programs Directorate.

The materials shown in the appendices to this notice are grouped as follows:

List IA—Forbidden explosives presently in the Regulations by Name but not Specifically Listed in Section 172.101.
List IB—Forbidden materials presently in the Regulations by Name but not specifically Listed as Forbidden in Section 172.101.
List IIA—Forbidden Explosives not Presently in the Regulations or Hazardous Materials Table by Name.
List IIB—Forbidden Materials not Presently in the Regulations or Hazardous Materials Table by Name.

The principal sources used in compiling these lists are:

1. Title 49, Code of Federal Regulations (Parts 100 to 199), Revised as of December 31, 1976.
2. Compilation of Data on Organic Explosives, A. H. Blatt 1942, National Defense Research Committee of the Office of Scientific Research and Development.
3. The Chemistry of Powder and Explosives, Tenney L. Davis 1943, Angriff Press Hollywood, California.
4. Handbook of Chemistry and Physics 47th Edition 1966-1967, The Chemical Rubber Co., Cleveland, Ohio.
5. Laboratory reports on file with the Bureau of Explosives, Association of American Railroads.

The MTB is requesting comments on the following questions:

1. Should the Hazardous Materials Table be the consolidated central location for the listing of forbidden materials by chemical name or should that listing be placed in a separate section?
2. What, if any, additional materials should be identified in the regulations as forbidden?
3. Are there any materials listed in this notice which do not meet the regulatory criteria making it a forbidden material? If so, identify these materials and explain why they should not be considered forbidden materials.

In responding to Question No. 3, the MTB requests that any comments or specific materials include specific data. General comments, such as "I do not believe copper acetylide should be shown as a forbidden material," without supporting data, are not helpful.

(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53(e) and paragraph (a)(4) of App. A to Part 102.)

Issued in Washington, D.C., on February 16, 1978.

ALAN I. ROBERTS,
Director, Office of Hazardous Materials Operations.

LIST IA—FORBIDDEN EXPLOSIVES PRESENTLY IN THE REGULATIONS BY NAME BUT NOT SPECIFICALLY LISTED IN SECTION 172.101

Diazodinitrophenol (dry) (49 CFR 193.70).
Fulminate of mercury (dry) (49 CFR 173.71).
Guanyl nitrosamino guanylidene hydrazine (dry) (49 CFR 173.72).
Lead azide (dry) (49 CFR 173.73).
Lead mononitroresorsinate (dry) (49 CFR 173.70).
Lead styphnate (dry) (49 CFR 173.74).
Nitromannite (dry) (49 CFR 173.75).
Pentaerythrite tetranitrate (dry) (49 CFR 173.77).
Shaped charges containing more than 8 ounces of explosives (49 CFR 173.53(h)).
Tetrazine (dry) (49 CFR 173.78).
Explosive compositions and fireworks that ignite spontaneously or undergo marked decomposition when subjected to a temperature of 75° C. for 48 consecutive hours. (49 CFR 173.51(a)(1).)
Explosives or fireworks containing an ammonium salt and a chlorate. (49 CFR 173.51(a)(2).)
Liquid explosives which can be exploded in Bureau of Explosives Impact apparatus under a drop of less than 10 inches. (49 CFR 173.53(f).)
Firecrackers, flash crackers, or salutes with explosive contents exceeding 12 grains. (49 CFR 173.51(a)(7).)
Firecrackers, salutes, etc., which on functioning, are liable to project or disperse metal, glass, or brittle plastic fragments. (49 CFR 173.51(a)(7).)
Fireworks containing an explosive and a detonator or blasting cap. (49 CFR 173.51(a)(8).)
Fireworks containing copper sulfate and a chlorate. (49 CFR 173.51(a)(9).)
Fireworks containing yellow or white phosphorous. (49 CFR 173.51(a)(10).)
Pest control bombs with explosive content of more than 18 grains. (49 CFR 173.51(a)(7).)
Toy torpedoes containing a cap composed of a mixture of red phosphorous and potassium chlorate exceeding an average of one-half (0.5) grains per cap. (49 CFR 173.51(a)(14).)
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 exceeding four grains. (49 CFR 173.51(a)(13).)

LIST IB—FORBIDDEN MATERIALS PRESENTLY IN THE REGULATIONS BY NAME BUT NOT SPECIFICALLY LISTED AS FORBIDDEN IN SECTION 172.101

Acetyl benzoyl peroxide, solid, or in solution exceeding 40 percent by weight. (49 CFR 173.222.)
Acetyl peroxide, solid, or in solution exceeding 25 percent by weight. (49 CFR 173.222.)
Aluminum or magnesium dross, wet or hot. (49 CFR 173.173.)
Coal briquettes, hot. (49 CFR 173.162(a)(3).)
Monochloroacetone, unstabilized.
Peracetic acid in excess of 40 percent concentration by weight. (49 CFR 173.223.)

LIST IIA—FORBIDDEN EXPLOSIVES NOT PRESENTLY IN REGULATIONS OR HAZARDOUS MATERIALS TABLE BY NAME

Acetylene (liquid).
Acetylene silver nitrate.
Ammonium azide.
Ammonium bromate.
Ammonium fulminate.
Ammonium nitrite.
Azaurolic acid (salt of), dry.
Azidodithiocarbonic acid.
Azidoethyl nitrate.
Azido guanidine pricrate, (dry).
5-Azido-1-hydroxyletrazol.
Azido hydroxy tetrazole (mercury & silver salts).
3-Azido-1,2-propylene glycol dinitrate.
Azotetrazole, (dry).
Benoxinazoles, (dry).
Benzene diazonium chloride.
Benzene diazonium nitrate (dry).
Benzene triozonide.
Benzoyl azide.
Biphenyl triozonide.
Bis (1-hydroxyletrazole), (dry).
Bromide azide.
Bromosilane.
1,2,4-Butane triol trinitrate.
Carbazide.
Chlorine azide.
Copper acetylide.
Copper amine azine.
Copper azide.
Copper tetramine nitrate.
Cyano methyl nitrate.
Cyanuric triazide.
Cyclo tetramethylene tetranitramine, (dry), (HMX).
p-Diazidobenzene.
1,2-Diazido ethane.
1,3-Diazido propane.
1,1 Diazoaminonapthalene.
Diazoamino tetrazole (dry).
Diazodiphenylmethane.
Diazonium nitrates, (dry).
Diazonium perchlorates, (dry).
Dibromoacetylene.
Dichloracetylene.
N,N¹-Dichlorazodicarbonamidine (salts of), (dry).
2,6-Dichloro-4-nitrophenol.
Dicyclopentylidene peroxide.
Diethanol Nitrosoamine dinitrate, (dry).
Diethyl gold bromide.
1,8-Dihydroxy-3,4,5,7-tetra-nitroanthraquinone (Chrysamminic acid).
Diiodoacetylene.
Dinotro-7,8-dimethylglycouril, (dry).
1,3-Dinitro-5,5-dimethylhydantoin.
1,3-Dinitro-4,5-dinitrosobenzene.
1,1-Dinitroethane, (dry).
1,2-Dinitroethane.
Dinitroglycoluril.
Dinitromethane.
Dinitropropylene glycol.
2,4-Dinitroresourcinol (heavy metal salts of), (dry)
4,6-Dinitroresourchol (heavy metal salts of), (dry).
3,5-Dinitrosalicylic Acid (lead salt), (dry).
2,2¹-Dinitrostilbene.
2,4-Dinitrostilbene.
2,4-Dinitro-1,3,5-trimethylbenzene.
Dinitrosobenzylamidine & salts of, (dry).
1,4-Dinitro-1,1,4,4-tetramethylol-butanetetranitrate, (dry).
Di(beta-nitroxyethyl)ammonium nitrate
a,a¹-Di(nitroxy)methylether.
1,9-Dinitroxypentamethylene-2,4,6,8-tetramine, (dry).
Ethanol amine dinitrate.
Ethylene diamine diperchlorate.
Ethylene glycol dinitrate.
Ethyl perchlorate
FEFO (Chemical composition is security Classification).
Fulminating gold.
Fulminating mercury.
Fulminating platinum.
Fulminating silver.
Fulminic acid.
Galactan trinitrate.
Glycerol-1,3-dinitrate.
Glycerol monoglucenate trinitrate.
Glycerol monolactate trinitrate.
Hexamethylene triperoxide diamine (dry).
Hexamethylol benzene hexanitrate.
Hexanitroazoxybenzene.
2,4,6,2¹,4¹,6¹ Hexanitro-3,3¹ dihydroxyazobenzene (dry).
2,4,6,2¹,3¹,4¹-Hexanitrodiphenylamine.
2,4,6,3¹,4¹,6¹-Hexanitrodiphenylether.
N,N¹ (Hexanitrodiphenyl) ethylene dinitramine, (dry).
Hexanitrodiphenyl urea.
Hexanitroethane.
Hexanitro oxanilide.
Hydrazine azide.
Hydrazine chlorate.
Hydrazinedicarbonic acid diazide.
Hydrazine perchlorate, (dry).
Hydrazine selenate.
Hydrazoic acid.
Hydroxyl amine iodide.
Hyponitrous acid.
Idoso and idoxy compounds, (dry).
Initiating explosives, dry.
Inositol Hexanitrate, (dry).
Inulin trinitrate, (dry).
Iodine azide, (dry).
Iridium nitratopentamine iridium nitrate.
Lead picrate, (dry).
Loose mixtures of sulfur and a chlorate.
Mannitan tetranitrate.
Mercurous azide.
Mercury acetylide.
Mercury iodide aquabasic ammonobasic (Iodide of Million's base).
Mercury nitride.
Mercury oxycyanide.
Metal salts of methyl nitramine, (dry).
Methazoic acid.
Methylamine dinitramine and dry salts thereof.
Methylamine nitroform.
Methylamine perchlorate, (dry).
Methylene glycol dinitrate.
a-Methylglucoside tetranitrate.
a-Methylglycerol Trinitrate.
Methyl nitrate.
N-Methyl-N¹-nitro-N-nitrosoguanidine.
Methyl picric acid, (Heavy metal salts of).
Methyl trimethylol methane trinitrate.
Mixtures of phosphorous (either white or red) and a chlorate.
Mixtures of antimony sulfide and a chlorate.
Mixtures of arsenic sulfide and a chlorate.
Naphthalene diozonide.
Naphthyl amine perchlorate.
Nickel picrate.
Nitrated paper (unstable).
Nitrates of diazonium compounds.
N-nitroaniline.
m-Nitrobenzene diazonium perchlorate.
6-Nitro-4-diazotoluene-3-sulfonic acid, (dry).
Nitorethylene polymer.
m-Nitroethyl nitrate.
Nitrogen triiodide.
Nitrogen triiodide monoamine.
Nitroguanidine nitrate.
1-Nitrohydantoin.
N-Nitro-n-methylglycolamide nitrate.
2-Nitro-2-methylproponol nitrate.
m-Nitrophenyldinitro methane.
Nitrosugars, (dry).
1,7-Octadiene-3,5-diyne-1,8-dimethoxy-9-octoadecynoic acid.
Pentanitroaniline, (dry).
m-Phenylenediaminediperchlorate (dry).
Potassium carbonyl.
Pyridine perchlorate.
Quebrachitol pentanitrate.
Selenium nitride.
Silver acetylide, (dry).
Silver azide, (dry).
Silver chlorite, (dry).
Silver fulminate (dry).
Silver oxalate, (dry).
Silver picrate, (dry).
Sodium picryl peroxide.
Sodium tetranitride.
Sucrose octanitrate (dry).
Tetra azidobenzoquinone.
Tetra ethylammoniumperchlorate (dry).
Tetra methylene diperoxide dicarbamide.
Tetra nitro diglycerin.
2,3,4,6-Tetranitrophenol.
2,3,4,6-Tetranitrophenyl methyl nitramine.
2,3,4,6-Tetranitrophenylnitramine.
Tetra nitro resorcinol (dry).
2,3,5,6-Tetranitrosonitrobenzene (dry).
2,3,5,6-Tetrahitroso-1,4-dinitrobenzene.
Tetrazolyl azide (dry).
Triazenes.
Triazoles, (dry).
Trichloro methyl perchlorate.
Triformoxime trinitrate.
Trimethylene glycoldiperchlorate.
Trimethylol nitro methane trinitrate.
1,3,5-Trimethyl-2,4,6-trinitrobenzene.
Trinitro acetic acid.
Trinitroacetonitrile.
Trinitro amine cobalt.
2,4,4-Trinitro-1,3-diazobenzene.
Trinitro ethanol.
Trinitroethyl nitrate.
Trinitro methane.
2,4,6,-Trinitoro-3-methyl nitraminoaniseol.
1,3,5-Trinitro naphthalene.
2,4,6-Trinitrophenyl guanidine (dry).
2,4,6-Trinitro phenyl nitramine.
2,4,6-Trinitro phenyl trimethylol methyl-nitramine trinitrate (dry).
2,4,6-Trinitro-1,3,5 triazidobenzene, (dry).
Tri (beta-nitroxyethyl) ammonium nitrate.
Tri nitrotetramine cobalt nitrate.
Tris, Bis-Difluore aminodiethoxy propane (TVOPA).
Vinyl nitrate polymer.
p-Xylyl diazide.

LIST IIB—FORBIDDEN MATERIALS NOT PRESENTLY IN REGULATIONS OR HAZARDOUS MATERIALS TABLE BY NAME

Acetyl acetone peroxide in excess of 40 percent concentrations by weight.
Cetyl cyclo hexane sulfonyl peroxide: (a) Wetted with less than 12 percent water by weight, (b) solution exceeding 32 percent by weight.
Ascaridole (organic peroxide).

2,2-Bis (4,4-ditertiary butylperoxy cyclohexyl) propane exceeding 42 percent by weight with inert solid.
t-Butyl diperphthalate exceeding 55 percent by weight in solution.
2,2-Bis(t-Butylperoxy) butane exceeding 55 percent by weight in solution.
t-Butyl hydroperoxide exceeding 90 percent by weight in water.
t-Butyl peracetate exceeding 76 percent by weight solution.
t-Butyl perisobutyrate exceeding 77 percent by weight in solution.
n-Butyl peroxydicarbonate exceeding 52 percent by weight in solution.
t-Butyl perneodeconate exceeding 77 percent by weight in solution.
4-Bromo-1,2-dinitrobenzene (unstable at 59° C).
1-Bromo-2-nitrobenzene (unstable at 59° C).
Chlorine dioxide (not hydrate).
Diacetone alcohol peroxides exceeding 57 percent by weight in solution.
Dibenzyl peroxydicarbonate exceeding 87 percent by weight in water.
2,4-Dichlorobenzoyl peroxide wet with water exceeding 75 percent by weight of peroxide.
Diisopropyl benzene hydroperoxide exceeding 72 percent by weight in solution.
Diethyl peroxy dicarbonate exceeding 27 percent by weight in solution.
2,5-Diemthyl-2,5-dihyroperoxy hexane exceeding 82 percent by weight in water.
Di (1-naphthoyl) peroxide.
Ethyl hydroperoxide (exp. above 100° C).
Iso thiocyanic acid (polymerization hazard).
Methyl ethyl ketone peroxide exceeding 60 percent by weight in solution.
Methyl isobutyl ketone peroxide exceeding 82 percent by weight in solution.
Propionyl peroxide exceeding 28 percent by weight in solution.

[FR Doc. 78-4834 Filed 2-22-78; 8:45 am]