

APPENDIX E
SARA TITLE III LISTED CHEMICALS

NOTES

LIST OF SARA TITLE III CHEMICALS

The American Petroleum Institute (API) and Independent Petroleum Association of America (IPAA) have developed a generic report approach for oil and gas operators' use in complying with the requirements of Title III of SARA (Superfund Amendments and Reauthorization Act), also known as the Emergency Planning and Community Right-to-Know Act of 1986. API/IPAA developed two generic reports to assist an E&P operator in complying with the reporting requirements. The following Generic List of Hazardous Chemical Categories is provided as Exhibit A in the API/IPAA document of November, 1988, titled:

Superfund Amendments and Reauthorization Act of 1986
Emergency Planning and Community Right-to-Know Act
Sections 311 and 312

Generic Hazardous Chemical Category List and Inventory
for the Oil and Gas Exploration and Production Industry

NOTES

SARA TITLE III §311
GENERIC LIST OF HAZARDOUS* CHEMICAL CATEGORIES
FOR THE OIL AND GAS EXPLORATION AND PRODUCTION INDUSTRY

Hazardous Chemical Category (With Examples of Representative Chemicals)	Physical and Health Hazards
Acids, Inorganic Hydrochloric acid (<30%) (CAS#7647-01-0)	Reactivity, Immediate (Acute)
Acids, Inorganic - Hydrofluoric Acid Hydrofluoric acid (<12%) (CAS#7664-39-3)	Immediate (Acute)
Acids, Inorganic - Sulfuric Acid Sulfuric Acid (CAS#7664-93-9)	Reactivity, Immediate (Acute)
Acids, Organic Acetic acid (CAS#64-19-7) Acetic anhydride (CAS#108-24-7) Benzoic acid (CAS#65-85-0) Citric acid (CAS#5949-29-1) Formic acid (CAS#64-18-6)	Fire, Reactivity, Immediate (Acute)
Acrylamide Monomer (CAS#79-06-1)	Immediate (Acute), Delayed (Chronic)
Alkalinity and pH Control Materials Calcium hydroxide (CAS#1305-62-0) Potassium hydroxide (CAS#1310-58-3) Soda ash (CAS#497-19-8) Sodium bicarbonate (CAS#144-55-8) Sodium carbonate (CAS#497-19-8) Sodium hydroxide (CAS#1310-73-2)	Reactivity, Immediate (Acute)
Biocides Amines Glutaraldehyde (CAS#111-30-8) Isopropanol (CAS#67-63-0) Thiozolin	Fire, Immediate (Acute), Delayed (Chronic)
Biocides - Acrolein Acrolein (CAS#107-02-8)	Fire, Sudden Release of Pressure, Reactivity, Immediate (Acute)
Biocides - Anhydrous Ammonia Anhydrous ammonia	Sudden Release of Pressure, Immediate (Acute)

- Note: The list refers to the chemicals as "hazardous;" however, for the purposes of SARA Title III, "hazardous" indicates any chemical required to have a material data safety sheet (MSDS). All chemicals listed in this appendix are not necessarily hazardous as defined by RCRA.

The specific chemicals listed are representative examples in each applicable Hazardous Chemical Category

Hazardous Chemical Category (With Examples of Representative Chemicals)	Physical and Health Hazards
Biocides - Formaldehyde Formaldehyde	Fire, Immediate (Acute), Delayed (Chronic)
Breakers, Emulsion/Gel Ammonium persulfate (CAS#7727-54-0) Benzoic acid (CAS#65-85-0) Enzyme Sodium acetate (CAS#127-09-3) Sodium persulfate (CAS#7772-27-1)	Fire, Immediate (Acute)
Buffers, pH Sodium acetate (CAS#127-09-3) Sodium bicarbonate (CAS#144-55-8) Sodium carbonate (CAS#497-19-8) Sodium diacetate	Immediate (Acute)
Calcium Compounds Calcium bromite (CAS#71626-99-8) Calcium hypochlorite (CAS#17778-54-3) Calcium oxide (CAS#1305-78-8) Gypsum (CAS#10101-41-4) Lime (CAS#1305-78-8)	Immediate (Acute)
Cement (CAS#65997-15-1)	Immediate (Acute)
Cement Additives - Accelerators Calcium chloride (CAS#10035-04-8) Gypsum (CAS#10101-41-4) Potassium chloride (CAS#7337-40-7) Sodium chloride (CAS#7647-14-5) Sodium metasilicate	Immediate (Acute)
Cement Additives - Fluid Loss Cellulose polymer Latex	Immediate (Acute)
Cement Additives - Miscellaneous Cellulose flakes (CAS#9004-34-6) Coated aluminum Gilsonite (CAS#12002-43-6) Lime (CAS#1305-78-8) Long chain alcohols	Immediate (Acute)
Cement Additives - Retarders Cellulose polymer Lignosulfonates	Immediate (Acute)

The specific chemicals listed are representative examples in each applicable Hazardous Chemical Category

Hazardous Chemical Category
 (With Examples of Representative Chemicals)

Physical and Health Hazards

Cement Additives - Weight Modification

Immediate (Acute)

Barite (CAS#7727-43-7)
 Bentonite
 Diatomaceous earth (CAS#68855-54-9)
 Fly ash
 Glass beads
 Hematite (CAS#1317-60-8)
 Ilmenite
 Pozzolans

Chlorine GasSudden Release of Pressure, Reactivity,
Immediate (Acute), Delayed (Chronic)**Corrosion Inhibitors**

Fire, Immediate (Acute), Delayed (Chronic)

2-Butoxyethanol
 4-4' Methylene dianiline (CAS#101-77-9)
 Acetylenic alcohols
 Amine formulations
 Ammonium bisulfite (CAS#10192-30-0)
 Gelatin
 Ironite sponge (CAS#1309-37-1)
 Sodium chromate (CAS#7775-11-3)
 Sodium dichromate (CAS#10588-01-9)
 Sodium polyacrylate
 Zinc carbonate (CAS#3486-35-9)
 Zinc lignosulfonate
 Zinc oxide (CAS#1314-13-2)

Crosslinkers (Polymer Linking)

Fire, Immediate (Acute), Delayed (Chronic)

Boron compounds
 Organo-metallic complexes

Defoaming Agents

Immediate (Acute)

Aluminum stearate
 Fatty acid salt formation
 Mixed alcohols
 Silicones
 Tributylphosphate (CAS#126-73-8)

Deflocculants

Immediate (Acute)

Acrylic polymer
 Calcium lignosulfonate
 Chrome-free lignosulfonate
 Chromium lignosulfonate
 Iron lignosulfonate
 Quebracho
 Sodium acid pyrophosphate (SAPP)
 Sodium hexametaphosphate (CAS#10124-56-8)
 Sodium phosphate (oilfos)
 Sodium tetraphosphate
 Sodium tripolyphosphate (STP)
 Styrene, maleic anhydride co-polymer salt
 Sulfo-methylated tannin

The specific chemicals listed are representative examples in each applicable Hazardous Chemical Category

Hazardous Chemical Category (With Examples of Representative Chemicals)	Physical and Health Hazards
Detergents/Foamers Amphoteric surfactant formulation Detergents Ethoxylated phenol	Fire, Immediate (Acute)
Explosives Charged well jet perforating gun, Class C explosives Detonators, Class A explosives Explosive power device, Class B	Sudden Release of Pressure
Filtration Control Agents/Flocculants Acrylamide AMPS copolymer Aniline formaldehyde copolymer hydrochlorite Anionic polyacrylamide Causticized leonardite Leonardite Partially hydrolyzed polyacrylamide Polyaklanolamine ester Polyamine acrylate Polyanionic cellulose Potassium lignite Preserved starch Sodium carboxymethyl cellulose (CAS#9004-32-4) Starch (CAS#9905-25-8) Sulfomethylated phenol formaldehyde Vinylsulfonate copolymer	Immediate (Acute)
Fluoride Generating Compounds Ammonium bifluoride (CAS#1341-49-7) Ammonium fluoride (CAS#12125-01-8)	Immediate (Acute)
Friction Reducers Acrylamide methacrylate copolymers Sulfonates	Immediate (Acute)
Fuels Acetylene gas (CAS#74-86-2) Diesel (CAS#68476-34-6) Fuel oil Gasoline (CAS#8006-61-9) Kerosene (CAS#8008-20-6) Propane (CAS#74-98-6)	Fire, Sudden Release of Pressure, Immediate (Acute), Delayed (Chronic)
Gelling Agents Cellulose and guar derivatives	Immediate (Acute)
Gel Stabilizers Sulfites Thiosulfates	Immediate (Acute)
Heat Transfer Fluids Ethylene glycol (CAS#107-21-1) Freon	Immediate (Acute), Delayed (Chronic)

The specific chemicals listed are representative examples in each applicable Hazardous Chemical Category

Hazardous Chemical Category (With Examples of Representative Chemicals)	Physical and Health Hazards
Herbicides	Immediate (Acute)
Hydraulic Fluids	Fire, Immediate (Acute)
Hydrogen Sulfide (CAS#7783-0604)	Fire, Immediate (Acute)
Inert Gases Carbonate dioxide (CAS#124-38-9) Nitrogen (CAS#7727-37-9)	Sudden Release of Pressure, Immediate (Acute)
Lost Circulation Materials	Immediate (Acute)
Cane Fibers Cedar fibers Cellophane fibers Corn cob Cottonseed hulls Mica (CAS#12001-26-2) Nut Shells Paper Rock wool Sawdust	
Lubricants, Drilling Mud Additives	Immediate (Acute)
Graphite (CAS#7782-42-5) Mineral oil formulations Organo-fatty acid salt Vegetable oil formulations Walnut shells	
Lubricants, Engine	Immediate (Acute)
Grease Motor oil	
Miscellaneous Drilling Additives	Immediate (Acute), Delayed (Chronic)
Diatomaceous earth (CAS#68855-54-9) Oxalic acid (CAS#144-62-7) Potassium acetate (CAS#127-08-2) Zinc bromide (CAS#7699-45-8)	
Odorants	Fire, Immediate (Acute)
Mercaptans, aliphatic	
Oil-Based Mud Additives	Fire, Immediate (Acute), Delayed (Chronic)
Amid polymer formulations Amine treated lignite Asphalt Diesel (CAS#68476-34-6) Gilsonite (CAS#12002-43-6) Mineral Oil Organophilic clay Organophilic hectorite Petroleum distillate (CAS#8030-30-6) Polyethylene powder Polymerized organic acids Sulfonate surfactant	

The specific chemicals listed are representative examples in each applicable Hazardous Chemical Category

Hazardous Chemical Category (With Examples of Representative Chemicals)	Physical and Health Hazards
Paint and Paint Thinner	Fire, Delayed (Chronic)
Pipe Joint Compound	Delayed (Chronic)
Preservatives Dithiocarbamates Isothiazions Paraformaldehyde (CAS#30525-89-4)	Immediate (Acute), Delayed (Chronic)
Produced Hydrocarbons Condensate Crude oil (CAS#8002-05-9) Natural gas	Fire, Sudden Release of Pressure, Immediate (Acute), Delayed (Chronic)
Proppants Bauxite (CAS#1318-16-7) Resin coated sand Zirconium proppant	Immediate (Acute)
Resin and Resin Solutions Melamine resins Phenolic resins Polyglycol resins	Fire, Immediate (Acute)
Salt Solutions Aluminum chloride (CAS#7446-70-0) Ammonium chloride (CAS#12125-02-9) Calcium bromide (CAS#71626-99-8) Calcium chloride (CAS#10035-04-8) Calcium sulfate (CAS#778-18-9) Ferrous sulfate (CAS#7782-63-0) Potassium chloride (CAS#7447-40-7) Sodium chloride (CAS#7647-14-5) Sodium sulfate (CAS#7757-82-6) Zinc bromide (CAS#7699-45-8) Zinc chloride (CAS#7646-85-7) Zinc sulfate	Immediate (Acute)
Scale Inhibitors Ethylenediaminetetraacetic acid (EDTA) (CAS#60-00-4) Inorganic phosphates Nitrilotriacetic acid (NTA) (CAS#139-13-9) Organic phosphates Phosphonates Polyacrylate Polyphosphates	Fire, Immediate (Acute), Delayed (Chronic)
Shale Control Additives Hydrolyzed polyacrylamide polymer Organo-aluminum complex Polyacrylate polymer Sulfonated asphaltic residuum	Immediate (Acute)

The specific chemicals listed are representative examples in each applicable Hazardous Chemical Category

Hazardous Chemical Category
 (With Examples of Representative Chemicals)

Physical and Health Hazards

Silica	Immediate (Acute), Delayed (Chronic)
Solvents	Fire, Immediate (Acute), Delayed (Chronic)
1,1,1 - Trichloroethane (CAS#71-55-6)	
Acetone (CAS#67-64-1)	
Aliphatic hydrocarbons	
t-Butyl alcohol (CAS#75-65-0)	
Carbon tetrachloride (CAS#56-23-5)	
Chloroform (CAS#67-6-3)	
Diacetone alcohol (CAS#123-42-2)	
Ethylene glycol monobutyl ether (CAS#111-76-2)	
Kerosene (CAS#8008-20-6)	
Isopropanol (CAS#67-63-0)	
Methyl ethyl ketone (MEK)(CAS#78-93-3)	
Methyl isobutyl ketone (MIBK) (CAS#108-10-1)	
Methylene chloride (CAS#75-09-2)	
Methanol (CAS#67-56-1)	
Naphtha (CAS#8032-32-4)	
Toluene (CAS#108-88-3)	
Turpentine (CAS#8006-64-2)	
Xylene (CAS#1330-20-7)	
Spotting Fluids	Fire, Immediate (Acute), Delayed (Chronic)
Non-oil base spotting fluid	
Oil base spotting fluid (diesel oil base)	
Oil base spotting fluid (mineral oil base)	
Sulfonated vegetable ester	
Sulphur Dioxide (CAS#7446-09-5)	Sudden Release of Pressure, Immediate (Acute), Delayed (Chronic)
Surfactants - Corrosive	Immediate (Acute), Delayed (Chronic)
Alcohol ether sulfates	
Amines	
Quaternary polyamine	
Sulfonic acid	
Surfactants - Ethylene Diamine	Fire, Immediate (Acute)
Ethylene Diamine (CAS#107-15-3)	
Surfactants - Flammable	Fire, Immediate (Acute), Delayed (Chronic)
Amines	
Ammonium salts	
Fatty alcohols	
Isopropanol (CAS#67-63-0)	
Methanol (CAS#67-56-1)	
Oxyalkylated phenols	
Petroleum naphtha (CAS#8030-30-6)	
Sulfonates	
Surfactants - Miscellaneous	Immediate (Acute)
Amine salts	
Glycols	

The specific chemicals listed are representative examples in each applicable Hazardous Chemical Category

Hazardous Chemical Category (With Examples of Representative Chemicals)	Physical and Health Hazards
Temporary Blocking Agents Benzoic acid (CAS#65-85-0) Naphthalene (CAS#91-20-3) Petroleum wax polymers Sodium chloride (CAS#7647-14-5)	Immediate (Acute)
Tracers Ammonium nitrate Potassium nitrate	Fire
Viscosifiers Attapulgate Bentonite Guar gum (CAS#9000-30-0) Sepiolite Xanthan gum	Immediate (Acute)
Weight Materials Barite (CAS#7727-43-7) Calcium carbonate (CAS#1317-65-3) Galena Hematite (CAS#1317-60-8) Iron carbonate Siderite	Immediate (Acute)
Welding Materials Solder Welding Rods	Immediate (Acute)

The specific chemicals listed are representative examples in each applicable Hazardous Chemical Category