

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

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986, EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT, TITLE III SECTIONS 311 AND 312

API BULLETIN E1
SECOND EDITION, DECEMBER 1990

REAFFIRMED, JUNE 2000



AMERICAN PETROLEUM INSTITUTE

ERRATA
(SEPTEMBER 1, 1991)

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BULLETIN E1 (BUL E1)
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American Petroleum Institute
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Section 3, SARA Title III § 311 Generic List of Hazardous Chemical Categories for the Oil and Gas Exploration and Production Industry. *"Ironite Sponge" should be replaced in the list of hazardous chemicals with "Iron Sponge" under the category of Corrosion Inhibitors.*

Appendix C, Alphabetized List of Representative Hazardous Chemicals and Cross Reference of Hazardous Chemical Categories, Page 83, *"Ironite Sponge" should be replaced with "Iron Sponge."*

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**GENERIC HAZARDOUS CHEMICAL CATEGORY LIST AND INVENTORY FOR
THE OIL AND GAS EXPLORATION AND PRODUCTION INDUSTRY: SUPER-
FUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986, EMERGENCY
PLANNING AND COMMUNITY RIGHT-TO-KNOW, TITLE III SECTIONS 311 and 312.**

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FOREWORD

Under sections 311 and 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III), also known as the Emergency Planning and Community Right to Know Act of 1986 (EPCRA) (42 U.S.C. Sections 11021, 11022) owners or operators of oil and gas exploration and production (E&P) facilities must provide to state and local emergency response agencies information on the hazardous chemicals they produce or use in production, drilling, workover, and completion operations. Because the SARA Title III reporting requirements were basically designed to allow communities to plan for emergencies at major industrial sites, they have presented difficulties to E&P operators.

E&P operators have thousands of leases throughout the country and millions of pieces of equipment on the leases. They employ hundreds of contractors who use a wide variety of chemicals at production sites for short periods of time.

Generic reporting, a simplified means of compliance, was developed in response to the problems which SARA Title III reporting requirements create for the E&P industry. The American Petroleum Institute (API) believes the generic reporting approach outlined in this publication (1) can satisfy section 311 and 312 reporting requirements and (2) will be benefit emergency response agencies in planning for or responding to an emergency situation. The Environmental Protection Agency (EPA) agrees the generic reporting concept can meet section 311 and 312 reporting requirements under certain conditions (see Appendix A). State Emergency Response Commissions in most producing states also accept generic reporting. Facility Operators should check with the appropriate authorities.

API encourages you to review this publication carefully. It contains the filing instructions, generic reports and a detailed explanation of their development and use. The generic reports have been developed to assist in preparing reports under sections 311 and 312 of SARA Title III and should be subject to your independent legal review.

SECTION 1
SUMMARY OF RECOMMENDED FILING PROCEDURES

SECTION 1 SUMMARY OF RECOMMENDED FILING PROCEDURES

Become familiar with the regulations concerning SARA Title III sections 311 and 312. See the latest version of 40 Code of Federal Regulations Part 370, and check for additional rulemakings in the *Federal Register*.

Identify extremely hazardous substances (EHSs) and hazardous chemicals you use or produce. See Section 2 for a list of EHSs which must be treated separately.

Review your operations to determine filing basis: 1) define your facility(ies) (for example, lease or field), and 2) determine your aggregated reporting area (see Section 5 and Appendix A).

Identify the State Emergency Response Commissions (SERCs), Local Emergency Planning Committees (LEPCs) and local fire departments with jurisdiction over the aggregated reporting area and determine if they will need additional information.

Section 311: Generic List of Hazardous Chemical Categories (Deadline: Within three months of the presence of a hazardous chemical or EHS in threshold amounts).

- Cross off of the Generic List of Hazardous Chemical Categories the categories of chemicals, such as “Acids, Organic”, which are not and *will not* be present. The Generic Inventory in Section 4 identifies the types of operations — production, drilling, and work-over/completion — during which the categories of hazardous chemicals may be present. The EHS list in Section 2 shows EHSs which can be present in E&P operations and their category.
- Submit the list to the SERCs, LEPCs, and local fire departments for the reporting areas, along with any information the SERCs, LEPCs, or fire departments require; see example transmittal letter, Appendix B.
- Update the list as necessary within three (3) months after a new category of hazardous chemical is present.

Section 312: Generic Tier Two Inventory of Hazardous Chemical Categories (Deadline: annually on March 1 for operations in the previous calendar year).

- Review your operations for the previous calendar year to determine what hazardous chemicals were present in threshold quantities. Cross through those *categories* on the Generic Tier Two Inventory of Hazardous Chemical Categories (Section 4) not present in threshold quantities. The reporting threshold for extremely hazardous substances is 500 pounds or the “threshold planning quantity,” whichever is less. For hazardous chemicals, the threshold is 10,000 pounds.
- Review columns 3 and 4 (“Inventory” and “Storage Codes and Locations”) of the Tier Two report to determine whether the information provided represents your operations accurately (see Sections 5.4 and 5.5, Development of Generic Reports and Detailed Filing Instructions). *Amend the information on the Tier Two report, if necessary, by modifying columns 3 and 4.*
- Complete page one of the Tier Two report (provide a street address of a production or field office, not a mailing address) and sign the certification.
- Submit the form to the SERCs, LEPCs, and local fire departments with other information they might require, such as a location plat for permanent installations (as EPA suggests); see example transmittal letter, Appendix B.

Section 311/312 Updates: Update the filings as soon as possible if significant new information becomes available, such as a new hazard category on a Material Safety Data Sheet or a new phone number for the emergency contact.

SECTION 2

EXTREMELY HAZARDOUS SUBSTANCES

SECTION 2 EXTREMELY HAZARDOUS SUBSTANCES

Regulations at 40 Code of Federal Regulations section 370.28 implementing sections 311 and 312 of SARA Title III require reporting of extremely hazardous substances (EHSs) present in pure form or in mixture form if the concentration equals in weight one percent (0.1 percent if carcinogenic). The rule requires a facility owner or operator to add up the quantities of each EHS present in several mixtures (or in pure form and in mixtures) to determine whether the facility meets the threshold for reporting. The rule allows the report to list either the total quantity

of the EHS present or the total quantity of each mixture, noting on the Tier Two form the presence of the EHS component. The following table shows ten EHSs which can be present in exploration and production operations and provides information on how they appear in the generic reports. Should other EHSs be present, they must be identified separately on a tailored generic report. See Section 5.5 for detailed instructions. Some EHSs are listed in the Generic Reports by name and others are listed under their chemical category.

EHSs/Alphabetical Order

<u>EHS Name</u>	<u>CAS Number</u>	<u>Generic Reports Listing</u>
Acrolein	107-02-8	Biocides-Acrolein
Acrylamide	79-06-1	Acrylamide monomer
Ammonia	7664-41-7	Biocides-Anhydrous Ammonia
Chlorine	7782-50-5	Chlorine Gas
Ethylenediamine	107-15-3	Surfactant-Ethylene Diamine
Formaldehyde	50-00-0	Biocides-Formaldehyde
Hydrogen Fluoride	7664-39-3	Acids, Inorganic- Hydrofluoric Acid
Hydrogen Sulfide	7783-06-4	Hydrogen Sulfide
Sulfur Dioxide	7446-09-5	Sulfur Dioxide
Sulfuric Acid	7664-93-9	Acids, Inorganic-Sulfuric Acid

EHSs/CAS Number Order

<u>CAS Number</u>	<u>EHS Name</u>	<u>Generic Report Listing</u>
50-00-0	Formaldehyde	Biocides-Formaldehyde
79-06-1	Acrylamide	Acrylamide monomer
107-02-8	Acrolein	Biocides-Acrolein
107-15-3	Ethylenediamine	Surfactant-Ethylene Diamine
7446-09-5	Sulfur Dioxide	Sulfur Dioxide
7664-39-3	Hydrogen Fluoride	Acids, Inorganic- Hydrofluoric Acid
7664-41-7	Ammonia	Biocides-Anhydrous Ammonia
7664-93-9	Sulfuric Acid	Acids, Inorganic-Sulfuric Acid
7782-50-5	Chlorine	Chlorine Gas
7783-06-4	Hydrogen Sulfide	Hydrogen Sulfide

SECTION 3
SARA TITLE III §311
GENERIC LIST OF HAZARDOUS CHEMICAL CATEGORIES
FOR THE OIL AND GAS EXPLORATION AND PRODUCTION INDUSTRY

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)
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)

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

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
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 bromide (CAS#71626-99-8) Calcium hypochlorite (CAS#7778-54-3) 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#7447-40-7) 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)
Cement Additives - Weight Modification Barite (CAS#7727-43-7) Bentonite Diatomaceous earth (CAS#68855-54-9) Fly ash Glass beads Hematite (CAS#1317-60-8) Ilmenite Pozzolans	Immediate (Acute)
Chlorine Gas (CAS#7782-50-5)	Sudden Release of Pressure, Reactivity, Immediate (Acute), Delayed (Chronic)

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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
Corrosion Inhibitors 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)	Fire, Immediate (Acute), Delayed (Chronic)
Crosslinkers (Polymer Linking) Boron compounds Organo-metallic complexes	Fire, Immediate (Acute), Delayed (Chronic)
Defoaming Agents Aluminum sterate Fatty acid salt formation Mixed alcohols Silicones Tributylphosphate (CAS#126-73-8)	Immediate (Acute)
Deflocculants Acrylic polymer Calcium lignosulfonate Chrome-free lignosulfonate Chromium lignosulfonate Iron lignosulfonate Quebracho Sodium acid pyrophosphate (SAPP) Sodium hexametaphosphate (CAS#10124-56-8) Sodium phosphate (oifos) Sodium tetraphosphate Sodium tripolyphosphate (STP) Styrene, maleic anhydride co-polymer salt Sulfo-methylated tannin	Immediate (Acute)
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

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

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
Filtration Control Agents/Flocculants Acrylamide AMPS copolymer Aniline formaldehyde copolymer hydrochlorite Anionic polyacrylamide Causticized leonardite Leonardite Partially hydrolyzed polyacrylamide Polyalkanolamine ester Polyamine acrylate Polyanionic cellulose Potassium lignite Preserved starch Sodium carboxymethyl cellulose (CAS#9004-32-4) Starch (CAS#9005-25-8) 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)
Herbicides	Immediate (Acute)
Hydraulic Fluids	Fire, Immediate (Acute)
Hydrogen Sulfide (CAS#7783-06-4)	Fire, Immediate (Acute)
Inert Gases Carbon dioxide (CAS#124-38-9) Nitrogen (CAS#7727-37-9)	Sudden Release of Pressure, Immediate (Acute)

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

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
Lost Circulation Materials Cane fibers Cedar fibers Cellophane fibers Corn cob Cottonseed hulls Mica (CAS#12001-26-2) Nut shells Paper Rock wool Sawdust	Immediate (Acute)
Lubricants, Drilling Mud Additives Graphite (CAS#7782-42-5) Mineral oil formulations Organo-fatty acid salt Vegetable oil formulations Walnut shells	Immediate (Acute)
Lubricants, Engine Grease Motor oil	Immediate (Acute)
Miscellaneous Drilling Additives Diatomaceous earth (CAS#68855-54-9) Oxalic acid (CAS#144-62-7) Potassium acetate (CAS#127-08-2) Zinc bromide (CAS#7699-45-8)	Immediate (Acute), Delayed (Chronic)
Odorants Mercaptans, aliphatic	Fire, Immediate (Acute)
Oil Based Mud Additives 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	Fire, Immediate (Acute), Delayed (Chronic)
Paint and Paint Thinner	Fire, Delayed (Chronic)
Pipe Joint Compound	Delayed (Chronic)
Preservatives Dithiocarbamates Isothiazions Paraformaldehyde (CAS#30525-89-4)	Immediate (Acute), Delayed (Chronic)

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

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
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)
Silica Immediate (Acute), Delayed (Chronic)	

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