

● ERRATA
(SEPTEMBER 1, 1991)

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

● BULLETIN E1 (BUL E1)
SECOND EDITION, DECEMBER 1, 1990

American Petroleum Institute
1220 L Street, Northwest
Washington, DC 20005



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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AMERICAN PETROLEUM INSTITUTE
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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)

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
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 stearate 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 (oilfos) 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

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
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

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
Solvents 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)	Fire, Immediate (Acute), Delayed (Chronic)
Spotting Fluids Nonoil base spotting fluid Oil base spotting fluid (diesel oil base) Oil base spotting fluid (mineral oil base) Sulfonated vegetable ester	Fire, Immediate (Acute), Delayed (Chronic)
Sulfur Dioxide (CAS#7446-09-5)	Sudden Release of Pressure, Immediate (Acute), Delayed (Chronic)
Surfactants - Corrosive Alcohol ether sulfates Amines Quarternary polyamine Sulfonic acids	Immediate (Acute), Delayed (Chronic)
Surfactants - Ethylene Diamine Ethylene Diamine (CAS#107-15-3)	Fire, Immediate (Acute)
Surfactants - Flammable Amines Ammonium salts Fatty alcohols Isopropanol (CAS#67-63-0) Methanol (CAS#67-56-1) Oxyalkylated phenols Petroleum naphtha (CAS#8030-30-6) Sulfonates	Fire, Immediate (Acute), Delayed (Chronic)
Surfactants - Miscellaneous Amine salts Glycols	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
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

SECTION 4
GENERIC TIER TWO INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES
FOR THE OIL & GAS EXPLORATION AND PRODUCTION INDUSTRY

GENERIC TWO TIER INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES FOR THE OIL & GAS EXPLORATION AND PRODUCTION INDUSTRY

Reporting Codes

I. Volume Range Codes

Code	Weight Range in Pounds		Barrel Equivalent Range*	
	From ...	To ...	From ...	To ...
01	0	99	0	1
02	100	999	1	2
03	1,000	9,999	2	20
04	10,000	99,999	20	200
05	100,000	999,999	200	2,000
06	1,000,000	9,999,999	2,000	20,000
07	10,000,000	49,999,999	20,000	100,000
08	50,000,000	99,999,999	100,000	200,000
09	100,000,000	499,999,999	200,000	1,000,000
10	500,000,000	999,999,999	1,000,000	2,000,000
11	1 billion	higher than 1 billion	2,000,000	higher than 2,000,000

*One barrel is assumed to weigh 500 pounds.

II. Storage Type Codes

III. Temperature and Pressure Condition Codes

Code	Types of Storage	Code	Storage Conditions
A	Above ground tank	Pressure	
B	Below ground tank	1	Ambient pressure
C	Tank inside building	2	Greater than ambient pressure
D	Steel drum	3	Less than ambient pressure
E	Plastic or non-metallic drum	Temperature	
F	Can	4	Ambient temperature
G	Carboy	5	Greater than ambient temperature
H	Silo	6	Less than ambient temperature but not cryogenic
I	Fiber drum	7	Cryogenic conditions
J	Bag		
K	Box		
L	Cylinder		
M	Glass bottles or jugs		
N	Plastic bottles or jugs		
O	Tote bin		
P	Tank wagon		
Q	Rail car		
R	Other		

Revised June 1990

Tier Two EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY

*Specific
Information
by Chemical*

Facility Identification

Name _____
Street _____
City _____ County _____ State _____ Zip _____
SIC Code _____
Dun & Brad Number _____

FOR
OFFICIAL
USE
ONLY
ID # _____
Date Received _____

Owner/Operator Name

Name _____ Phone () _____
Mail Address _____

Emergency Contact

Name _____ Title _____
Phone () _____ 24 Hr. Phone () _____
Name _____ Title _____
Phone () _____ 24 Hr. Phone () _____

☐ Check if information below is identical to the information submitted last year.

From January 1 to December 31, 19 _____

Reporting Period

Important: Read all instructions before completing form

Chemical Description

CAS _____ Trade Secret ☐
Chem. Name _____
Check all that apply: _____
Pure _____ Mix _____ Solid _____ Liquid _____ Gas _____ EHS _____
EHS Name _____

Physical and Health Hazards (check all that apply)

Fire _____
Sudden Release of Pressure _____
Reactivity _____
Immediate (acute) _____
Delayed (chronic) _____

Inventory

Max. Daily Amount (code) _____
Avg. Daily Amount (code) _____
No. of Days On-site (days) _____

Container Type _____
Temperature _____
Pressure _____

Storage Codes and Locations (Non-Confidential) Storage Locations

CAS _____ Trade Secret ☐
Chem. Name _____
Check all that apply: _____
Pure _____ Mix _____ Solid _____ Liquid _____ Gas _____ EHS _____
EHS Name _____

Fire _____
Sudden Release of Pressure _____
Reactivity _____
Immediate (acute) _____
Delayed (chronic) _____

Max. Daily Amount (code) _____
Avg. Daily Amount (code) _____
No. of Days On-site (days) _____

Container Type _____
Temperature _____
Pressure _____

Certification (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in pages one through _____, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner/operator OR owner/operator's authorized representative _____

Signature _____

Date signed _____

Optional Attachments

☐ I have attached a site plan
☐ I have attached a list of site coordinate abbreviations
☐ I have attached a description of dikes and other safeguard measures

OIL AND GAS EXPLORATION AND PRODUCTION INDUSTRY
GENERIC TIER TWO INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES

THE GENERIC TIER II INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES MAY BE USED IN COMPLYING WITH SARA TITLE III SECTION 312. THE GENERIC REPORT IS COMPREHENSIVE AND LISTS THE CATEGORIES OF HAZARDOUS CHEMICALS RATHER THAN TRADE NAMES AND SPECIFIC CHEMICAL NAMES.

Chemical Description		Physical and Health Hazards (Check All That Apply)		Inventory		Storage Codes & Locations (Non-Confidential) Storage Locations	
CAS	<input type="text"/>	Fire	<input type="checkbox"/>	Max. Daily Amount (Codes)	<input type="text"/>	Production, Workover/Completion	<input type="checkbox"/>
Chem. Name	ACIDS, INORGANIC	Sudden Release of Pressure	<input type="checkbox"/>	Avg. Daily Amount (Codes)	<input type="text"/>	Production, Workover/Completion	<input type="checkbox"/>
Check all that apply:	<input checked="" type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS	Reactivity	<input checked="" type="checkbox"/>	No. of Days On-Site (Days)	<input type="text"/>		
EHS Name		Immediate (acute)	<input checked="" type="checkbox"/>				
		Delayed (chronic)	<input type="checkbox"/>				
CAS	<input type="text"/>	Fire	<input type="checkbox"/>	Max. Daily Amount (Codes)	<input type="text"/>	Workover/Completion	<input type="checkbox"/>
Chem. Name	ACID, INORGANIC-HYDROFLUORIC ACID	Sudden Release of Pressure	<input type="checkbox"/>	Avg. Daily Amount (Codes)	<input type="text"/>		
Check all that apply:	<input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input checked="" type="checkbox"/> EHS	Reactivity	<input checked="" type="checkbox"/>	No. of Days On-Site (Days)	<input type="text"/>		
EHS Name	HYDROGEN FLUORIDE	Immediate (acute)	<input checked="" type="checkbox"/>				
		Delayed (chronic)	<input type="checkbox"/>				
CAS	<input type="text"/>	Fire	<input type="checkbox"/>	Max. Daily Amount (Codes)	<input type="text"/>	Production, Workover/Completion	<input type="checkbox"/>
Chem. Name	ACIDS, INORGANIC-SULFURIC ACID	Sudden Release of Pressure	<input checked="" type="checkbox"/>	Avg. Daily Amount (Codes)	<input type="text"/>		
Check all that apply:	<input checked="" type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input checked="" type="checkbox"/> EHS	Reactivity	<input checked="" type="checkbox"/>	No. of Days On-Site (Days)	<input type="text"/>		
EHS Name	SULFURIC ACID	Immediate (acute)	<input checked="" type="checkbox"/>				
		Delayed (chronic)	<input type="checkbox"/>				
CAS	<input type="text"/>	Fire	<input checked="" type="checkbox"/>	Max. Daily Amount (Codes)	<input type="text"/>	Production, Workover/Completion	<input type="checkbox"/>
Chem. Name	ACIDS, ORGANIC	Sudden Release of Pressure	<input type="checkbox"/>	Avg. Daily Amount (Codes)	<input type="text"/>		
Check all that apply:	<input checked="" type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS	Reactivity	<input checked="" type="checkbox"/>	No. of Days On-Site (Days)	<input type="text"/>		
EHS Name		Immediate (acute)	<input checked="" type="checkbox"/>				
		Delayed (chronic)	<input type="checkbox"/>				
CAS	<input type="text"/>	Fire	<input type="checkbox"/>	Max. Daily Amount (Codes)	<input type="text"/>	Drilling, Production	<input type="checkbox"/>
Chem. Name	ACRYLAMIDE MONOMER	Sudden Release of Pressure	<input type="checkbox"/>	Avg. Daily Amount (Codes)	<input type="text"/>	Drilling, Production	<input type="checkbox"/>
Check all that apply:	<input checked="" type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input checked="" type="checkbox"/> EHS	Reactivity	<input checked="" type="checkbox"/>	No. of Days On-Site (Days)	<input type="text"/>	Drilling, Production	<input type="checkbox"/>
EHS Name	ACRYLAMIDE	Immediate (acute)	<input checked="" type="checkbox"/>			Drilling, Production	<input type="checkbox"/>
		Delayed (chronic)	<input checked="" type="checkbox"/>			Drilling, Production	<input type="checkbox"/>

OIL AND GAS EXPLORATION AND PRODUCTION INDUSTRY
GENERIC TIER TWO INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES

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THE GENERIC TIER II INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES MAY BE USED IN COMPLYING WITH SARA TITLE III SECTION 312. THE GENERIC REPORT IS COMPREHENSIVE AND LISTS THE CATEGORIES OF HAZARDOUS CHEMICALS RATHER THAN TRADE NAMES AND SPECIFIC CHEMICAL NAMES.

Chemical Description		Physical and Health Hazards		Inventory		Storage Codes & Locations		Optional	
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <input type="text"/> ALKALINITY AND PH CONTROL MATERIAL Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic) <input type="checkbox"/> Check All That Apply		0 4 Max. Daily Amount (Codes) 0 4 Avg. Daily Amount (Codes) 3 6 5 No. of Days On-Site (Days)		WORKOVER/COMPLETION, PRODUCTION DRILLING WORKOVER/COMPLETION		Temperature <input type="text"/> Pressure <input type="text"/> Container Type <input type="text"/> Storage Locations	
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <input type="text"/> BIODIDES Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		Fire <input checked="" type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic) <input type="checkbox"/> Check All That Apply		0 3 Max. Daily Amount (Codes) 0 3 Avg. Daily Amount (Codes) 3 6 5 No. of Days On-Site (Days)		DRILLING, PRODUCTION, WORKOVER/COMPLETION DRILLING, PRODUCTION, WORKOVER/COMPLETION DRILLING, PRODUCTION, WORKOVER/COMPLETION DRILLING, PRODUCTION, WORKOVER/COMPLETION		D 1 4 J 1 4 R 1 4	
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <input type="text"/> BIODIDES-ACROLEIN Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		Fire <input checked="" type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic) <input type="checkbox"/> Check All That Apply		0 2 Max. Daily Amount (Codes) 0 2 Avg. Daily Amount (Codes) 3 6 5 No. of Days On-Site (Days)		PRODUCTION PRODUCTION		C 2 4 D 1 4	
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <input type="text"/> BIODIDES-ANHYDROUS AMMONIA Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		Fire <input checked="" type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic) <input type="checkbox"/> Check All That Apply		0 2 Max. Daily Amount (Codes) 0 2 Avg. Daily Amount (Codes) 3 6 5 No. of Days On-Site (Days)		PRODUCTION PRODUCTION		C 2 4 L 2 4	
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <input type="text"/> BIODIDES-FORMALDEHYDE Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		Fire <input checked="" type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic) <input type="checkbox"/> Check All That Apply		0 3 Max. Daily Amount (Codes) 0 3 Avg. Daily Amount (Codes) 3 6 5 No. of Days On-Site (Days)		PRODUCTION PRODUCTION		C 1 4 E 1 4	

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THE GENERIC TIER II INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES MAY BE USED IN COMPLYING WITH SARA TITLE III SECTION 312. THE GENERIC REPORT IS COMPREHENSIVE AND LISTS THE CATEGORIES OF HAZARDOUS CHEMICALS RATHER THAN TRADE NAMES AND SPECIFIC CHEMICAL NAMES.

Chemical Description		Physical and Health Hazards		Inventory		Storage Codes & Locations	
Check All That Apply		Check All That Apply				Non-Confidential Storage Locations	
CAS	Trade Secret	Fire	Sudden Release of Pressure	0 2	Max. Daily Amount (Codes)	D 1 4	WORKOVER/COMPLETION, PRODUCTION
Chem. Name	BREAKERS, EMULSION/GEL	Reactivity	Immediate (acute)	0 2	Avg. Daily Amount (Codes)	J 1 4	WORKOVER/COMPLETION
Check all that apply:	Pure Mix Solid Liquid Gas EHS	Delayed (chronic)		3 6 5	No. of Days On-Site (Days)	R 1 4	WORKOVER/COMPLETION, PRODUCTION
EHS Name							
CAS	Trade Secret	Fire	Sudden Release of Pressure	0 2	Max. Daily Amount (Codes)	J 1 4	DRILLING, WORKOVER/COMPLETION
Chem. Name	BUFFERS, PH	Reactivity	Immediate (acute)	0 2	Avg. Daily Amount (Codes)	R 1 4	DRILLING, WORKOVER/COMPLETION
Check all that apply:	Pure Mix Solid Liquid Gas EHS	Delayed (chronic)		3 6 5	No. of Days On-Site (Days)		
EHS Name							
CAS	Trade Secret	Fire	Sudden Release of Pressure	0 3	Max. Daily Amount (Codes)	A 1 4	DRILLING
Chem. Name	CALCIUM COMPOUNDS	Reactivity	Immediate (acute)	0 3	Avg. Daily Amount (Codes)	D 1 4	DRILLING, PRODUCTION
Check all that apply:	Pure Mix Solid Liquid Gas EHS	Delayed (chronic)		3 6 5	No. of Days On-Site (Days)	F 1 4	DRILLING, PRODUCTION
EHS Name						J 1 4	DRILLING
CAS	Trade Secret	Fire	Sudden Release of Pressure	0 5	Max. Daily Amount (Codes)	A 1 4	DRILLING, WORKOVER/COMPLETION
Chem. Name	CEMENT AND ASSOCIATED ADDITIVES	Reactivity	Immediate (acute)	0 5	Avg. Daily Amount (Codes)	D 1 4	DRILLING, WORKOVER/COMPLETION
Check all that apply:	Pure Mix Solid Liquid Gas EHS	Delayed (chronic)		3 6 5	No. of Days On-Site (Days)	J 1 4	DRILLING, WORKOVER/COMPLETION
EHS Name						R 1 4	DRILLING, WORKOVER/COMPLETION
CAS	Trade Secret	Fire	Sudden Release of Pressure	0 2	Max. Daily Amount (Codes)	L 2 4	PRODUCTION
Chem. Name	CHLORINE GAS	Reactivity	Immediate (acute)	0 2	Avg. Daily Amount (Codes)		
Check all that apply:	Pure Mix Solid Liquid Gas EHS	Delayed (chronic)		3 6 5	No. of Days On-Site (Days)		
EHS Name							

THE GENERIC TIER II INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES MAY BE USED IN COMPLYING WITH SARA TITLE III SECTION 312. THE GENERIC REPORT IS COMPREHENSIVE AND LISTS THE CATEGORIES OF HAZARDOUS CHEMICALS RATHER THAN TRADE NAMES AND SPECIFIC CHEMICAL NAMES.

Chemical Description										Physical and Health Hazards <small>(Check All That Apply)</small>						Inventory						Storage Codes & Locations <small>(Non-Confidential) Storage Locations</small>										
CAS										Trade Secret										X	Fire	Sudden Release of Pressure	Reactivity	Immediate (acute)	Delayed (chronic)	0	3	Max. Daily Amount (Codes)	D	I	4	DRILLING, PRODUCTION, WORKOVER/COMPLETION
Chem. Name	<u>CORROSION INHIBITORS</u>																								E	I	4	DRILLING, PRODUCTION, WORKOVER/COMPLETION				
Check all that apply:	Pure	Mix	Solid	Liquid	Gas														X						0	3	Avg. Daily Amount (Codes)	F	I	4	DRILLING	
EHS Name																			X						3	6	5	No. of Days On-Site (Days)	J	I	4	DRILLING
																									R	I	4	WORKOVER/COMPLETION				
CAS										Trade Secret									X	Fire	Sudden Release of Pressure	Reactivity	Immediate (acute)	Delayed (chronic)	0	4	Max. Daily Amount (Codes)	D	I	4	WORKOVER/COMPLETION	
Chem. Name	<u>CROSSLINKERS</u>																								0	4	Avg. Daily Amount (Codes)	J	I	4	WORKOVER/COMPLETION	
Check all that apply:	Pure	Mix	Solid	Liquid	Gas														X						3	6	5	No. of Days On-Site (Days)	R	I	4	WORKOVER/COMPLETION
EHS Name																																
CAS										Trade Secret										Fire	Sudden Release of Pressure	Reactivity	Immediate (acute)	Delayed (chronic)	0	4	Max. Daily Amount (Codes)	D	I	4	PRODUCTION	
Chem. Name	<u>DEFOAMING AGENTS</u>																								0	4	Avg. Daily Amount (Codes)	F	I	4	DRILLING, PRODUCTION	
Check all that apply:	Pure	Mix	Solid	Liquid	Gas														X						3	6	5	No. of Days On-Site (Days)	J	I	4	DRILLING
EHS Name																																
CAS										Trade Secret										Fire	Sudden Release of Pressure	Reactivity	Immediate (acute)	Delayed (chronic)	0	4	Max. Daily Amount (Codes)	D	I	4	PRODUCTION	
Chem. Name	<u>DEFLOCCULANTS</u>																								0	4	Avg. Daily Amount (Codes)	F	I	4	DRILLING, PRODUCTION	
Check all that apply:	Pure	Mix	Solid	Liquid	Gas														X						3	6	5	No. of Days On-Site (Days)	J	I	4	DRILLING
EHS Name																																
CAS										Trade Secret									X	Fire	Sudden Release of Pressure	Reactivity	Immediate (acute)	Delayed (chronic)	0	3	Max. Daily Amount (Codes)	D	I	4	DRILLING, PRODUCTION	
Chem. Name	<u>DETERGENTS/FOAMERS</u>																								0	3	Avg. Daily Amount (Codes)	E	I	4	DRILLING, PRODUCTION	
Check all that apply:	Pure	Mix	Solid	Liquid	Gas														X						3	6	5	No. of Days On-Site (Days)	F	I	4	DRILLING, PRODUCTION
EHS Name																																

OIL AND GAS EXPLORATION AND PRODUCTION INDUSTRY
GENERIC TIER TWO INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES

THE GENERIC TIER II INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES MAY BE USED IN COMPLYING WITH SARA TITLE III SECTION 312. THE GENERIC REPORT IS COMPREHENSIVE AND LISTS THE CATEGORIES OF HAZARDOUS CHEMICALS RATHER THAN TRADE NAMES AND SPECIFIC CHEMICAL NAMES.

Chemical Description		Physical and Health Hazards (Check All That Apply)		Inventory		Storage Codes & Locations (Non-Confidential)	
CAS	Trade Secret	Fire	Sudden Release of Pressure	Max. Daily Amount (Codes)	Drilling, Workover/Completion	Drilling, Workover/Completion	10001490
Chem. Name	EXPLOSIVES	Reactivity	Immediate (acute)	Avg. Daily Amount (Codes)	Drilling, Workover/Completion	Drilling, Workover/Completion	
Check all that apply:	Pure <input type="checkbox"/> Mix <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/>	Delayed (chronic)		No. of Days On-Site (Days)			
EHS Name							
CAS	Trade Secret	Fire	Sudden Release of Pressure	Max. Daily Amount (Codes)	Drilling, Workover/Completion	Drilling, Workover/Completion	
Chem. Name	FILTRATION CONTROL AGENTS/ FLOCCULANTS	Reactivity	Immediate (acute)	Avg. Daily Amount (Codes)	PRODUCTION	PRODUCTION	
Check all that apply:	Pure <input checked="" type="checkbox"/> Mix <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/>	Delayed (chronic)		No. of Days On-Site (Days)	PRODUCTION	DRILLING	
EHS Name							
CAS	Trade Secret	Fire	Sudden Release of Pressure	Max. Daily Amount (Codes)	Workover/Completion	Workover/Completion	
Chem. Name	FLUORIDE GENERATING COMPOUNDS	Reactivity	Immediate (acute)	Avg. Daily Amount (Codes)	Workover/Completion	Workover/Completion	
Check all that apply:	Pure <input checked="" type="checkbox"/> Mix <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/>	Delayed (chronic)		No. of Days On-Site (Days)	Workover/Completion		
EHS Name							
CAS	Trade Secret	Fire	Sudden Release of Pressure	Max. Daily Amount (Codes)	Workover/Completion	Workover/Completion	
Chem. Name	FRICTION REDUCERS	Reactivity	Immediate (acute)	Avg. Daily Amount (Codes)	Workover/Completion	Workover/Completion	
Check all that apply:	Pure <input checked="" type="checkbox"/> Mix <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/>	Delayed (chronic)		No. of Days On-Site (Days)			
EHS Name							
CAS	Trade Secret	Fire	Sudden Release of Pressure	Max. Daily Amount (Codes)	Drilling, Production, Workover/Completion	Drilling, Production, Workover/Completion	
Chem. Name	FUELS	Reactivity	Immediate (acute)	Avg. Daily Amount (Codes)	PRODUCTION	PRODUCTION	
Check all that apply:	Pure <input type="checkbox"/> Mix <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/>	Delayed (chronic)		No. of Days On-Site (Days)	DRILLING, PRODUCTION, WORKOVER/COMPLETION	DRILLING, PRODUCTION, WORKOVER/COMPLETION	
EHS Name							

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OIL AND GAS EXPLORATION AND PRODUCTION INDUSTRY GENERIC TIER TWO INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES

THE GENERIC TIER II INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES MAY BE USED IN COMPLYING WITH SARA TITLE III SECTION 312. THE GENERIC REPORT IS COMPREHENSIVE AND LISTS THE CATEGORIES OF HAZARDOUS CHEMICALS RATHER THAN TRADE NAMES AND SPECIFIC CHEMICAL NAMES.

Chemical Description		Physical and Health Hazards		Inventory		Storage Codes & Locations		
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input checked="" type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="text"/> Max. Daily Amount (Codes) <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> No. of Days On-Site (Days)		F I 4 J I 4 R I 4		DRILLING DRILLING, WORKOVER/COMPLETION DRILLING, WORKOVER/COMPLETION
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input checked="" type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="text"/> Max. Daily Amount (Codes) <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> No. of Days On-Site (Days)		D I 4 J I 4 R I 4		WORKOVER/COMPLETION WORKOVER/COMPLETION WORKOVER/COMPLETION
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input checked="" type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="text"/> Max. Daily Amount (Codes) <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> No. of Days On-Site (Days)		A 2 5 A 2 6 A 1 5		PRODUCTION PRODUCTION PRODUCTION
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input checked="" type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="text"/> Max. Daily Amount (Codes) <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> No. of Days On-Site (Days)		D 1 4 E 1 4		PRODUCTION PRODUCTION
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input checked="" type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input checked="" type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="text"/> Max. Daily Amount (Codes) <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> No. of Days On-Site (Days)		A 1 4 R 2 4		DRILLING, PRODUCTION DRILLING, PRODUCTION

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Chemical Description										Physical and Health Hazards <small>(Check All That Apply)</small>						Inventory						Storage Codes & Locations <small>(Non-Confidential) Storage Locations:</small>								
CAS				7	7	8	3	0	6	4	Trade Secret <input type="checkbox"/>																			
Chem. Name	HYDROGEN SULFIDE																													
Check all that apply:	Pure	X	Mix	X	Solid		Liquid		Gas	X	Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)						Max. Daily Amount (Codes) Avg. Daily Amount (Codes) No. of Days On-Site (Days)						DRILLING, PRODUCTION, WORKOVER/COMPLETION							
EHS Name	HYDROGEN SULFIDE																													
CAS											Trade Secret <input type="checkbox"/>																			
Chem. Name	INERT GASES																													
Check all that apply:	Pure	X	Mix		Solid		Liquid		Gas	X	Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)						Max. Daily Amount (Codes) Avg. Daily Amount (Codes) No. of Days On-Site (Days)						PRODUCTION, WORKOVER/COMPLETION							
EHS Name																														
CAS											Trade Secret <input type="checkbox"/>																			
Chem. Name	LOST CIRCULATION MATERIAL																													
Check all that apply:	Pure	X	Mix	X	Solid		Liquid		Gas	X	Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)						Max. Daily Amount (Codes) Avg. Daily Amount (Codes) No. of Days On-Site (Days)						DRILLING							
EHS Name																														
CAS											Trade Secret <input type="checkbox"/>																			
Chem. Name	LUBRICANTS, DRILLING MUD ADDITIVES																													
Check all that apply:	Pure	X	Mix	X	Solid		Liquid		Gas	X	Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)						Max. Daily Amount (Codes) Avg. Daily Amount (Codes) No. of Days On-Site (Days)						DRILLING							
EHS Name																														
CAS											Trade Secret <input type="checkbox"/>																			
Chem. Name	LUBRICANTS, ENGINE																													
Check all that apply:	Pure		Mix	X	Solid		Liquid		Gas	X	Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)						Max. Daily Amount (Codes) Avg. Daily Amount (Codes) No. of Days On-Site (Days)						DRILLING, PRODUCTION, WORKOVER/COMPLETION							
EHS Name																														

THE GENERIC TIER II INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES MAY BE USED IN COMPLYING WITH SARA TITLE III SECTION 312. THE GENERIC REPORT IS COMPREHENSIVE AND LISTS THE CATEGORIES OF HAZARDOUS CHEMICALS RATHER THAN TRADE NAMES AND SPECIFIC CHEMICAL NAMES.

Chemical Description	Physical and Health Hazards (Check All That Apply)	Inventory	Storage Codes & Locations (Non-Confidential) Storage Locations:	Options
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <u>MISCELLANEOUS DRILLING ADDITIVES</u> Trade Secret <input type="checkbox"/> Check all that apply: <input type="checkbox"/> Pure <input checked="" type="checkbox"/> Mix <input type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name _____	Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input checked="" type="checkbox"/> Delayed (chronic) <input checked="" type="checkbox"/>	Max. Daily Amount (Codes) <input type="text"/> <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> <input type="text"/> No. of Days On-Site (Days) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	DRILLING DRILLING DRILLING DRILLING	Temperature <input type="text"/> Pressure <input type="text"/> Type <input type="text"/>
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <u>ODORANTS</u> Trade Secret <input type="checkbox"/> Check all that apply: <input type="checkbox"/> Pure <input checked="" type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name _____	Fire <input checked="" type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input checked="" type="checkbox"/> Delayed (chronic) <input type="checkbox"/>	Max. Daily Amount (Codes) <input type="text"/> <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> <input type="text"/> No. of Days On-Site (Days) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	PRODUCTION	Temperature <input type="text"/> Pressure <input type="text"/> Type <input type="text"/>
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <u>OIL BASED MUD ADDITIVES</u> Trade Secret <input type="checkbox"/> Check all that apply: <input checked="" type="checkbox"/> Pure <input checked="" type="checkbox"/> Mix <input type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name _____	Fire <input checked="" type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input checked="" type="checkbox"/> Delayed (chronic) <input checked="" type="checkbox"/>	Max. Daily Amount (Codes) <input type="text"/> <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> <input type="text"/> No. of Days On-Site (Days) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	DRILLING DRILLING DRILLING DRILLING	Temperature <input type="text"/> Pressure <input type="text"/> Type <input type="text"/>
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <u>PAINT AND PAINT THINNER</u> Trade Secret <input type="checkbox"/> Check all that apply: <input type="checkbox"/> Pure <input checked="" type="checkbox"/> Mix <input type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name _____	Fire <input checked="" type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic) <input checked="" type="checkbox"/>	Max. Daily Amount (Codes) <input type="text"/> <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> <input type="text"/> No. of Days On-Site (Days) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	DRILLING, PRODUCTION DRILLING, PRODUCTION	Temperature <input type="text"/> Pressure <input type="text"/> Type <input type="text"/>
CAS <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Chem. Name <u>PIPE JOINT COMPOUND</u> Trade Secret <input type="checkbox"/> Check all that apply: <input type="checkbox"/> Pure <input checked="" type="checkbox"/> Mix <input type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name _____	Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic) <input checked="" type="checkbox"/>	Max. Daily Amount (Codes) <input type="text"/> <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> <input type="text"/> No. of Days On-Site (Days) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	DRILLING, WORKOVER/COMPLETION	Temperature <input type="text"/> Pressure <input type="text"/> Type <input type="text"/>

OIL AND GAS EXPLORATION AND PRODUCTION INDUSTRY
GENERIC TIER TWO INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES

THE GENERIC TIER II INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES MAY BE USED IN COMPLYING WITH SARA TITLE III SECTION 312. THE GENERIC REPORT IS COMPREHENSIVE AND LISTS THE CATEGORIES OF HAZARDOUS CHEMICALS RATHER THAN TRADE NAMES AND SPECIFIC CHEMICAL NAMES.

Chemical Description		Physical and Health Hazards		Inventory		Storage Codes & Locations	
CAS <input type="text"/> Chem. Name <input type="text"/> Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="text"/> Max. Daily Amount (Codes) <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> No. of Days On-Site (Days)		Container Type <input type="text"/> Temperature <input type="text"/> Storage Locations (Non-Confidential)	
CAS <input type="text"/> Chem. Name <input type="text"/> Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="text"/> Max. Daily Amount (Codes) <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> No. of Days On-Site (Days)		Container Type <input type="text"/> Temperature <input type="text"/> Storage Locations (Non-Confidential)	
CAS <input type="text"/> Chem. Name <input type="text"/> Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="text"/> Max. Daily Amount (Codes) <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> No. of Days On-Site (Days)		Container Type <input type="text"/> Temperature <input type="text"/> Storage Locations (Non-Confidential)	
CAS <input type="text"/> Chem. Name <input type="text"/> Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="text"/> Max. Daily Amount (Codes) <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> No. of Days On-Site (Days)		Container Type <input type="text"/> Temperature <input type="text"/> Storage Locations (Non-Confidential)	
CAS <input type="text"/> Chem. Name <input type="text"/> Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="text"/> Max. Daily Amount (Codes) <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> No. of Days On-Site (Days)		Container Type <input type="text"/> Temperature <input type="text"/> Storage Locations (Non-Confidential)	
CAS <input type="text"/> Chem. Name <input type="text"/> Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="text"/> Max. Daily Amount (Codes) <input type="text"/> Avg. Daily Amount (Codes) <input type="text"/> No. of Days On-Site (Days)		Container Type <input type="text"/> Temperature <input type="text"/> Storage Locations (Non-Confidential)	

THE GENERIC TIER II INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES MAY BE USED IN COMPLYING WITH SARA TITLE III SECTION 312. THE GENERIC REPORT IS COMPREHENSIVE AND LISTS THE CATEGORIES OF HAZARDOUS CHEMICALS RATHER THAN TRADE NAMES AND SPECIFIC CHEMICAL NAMES.

Chemical Description		Physical and Health Hazards (Check All That Apply)		Inventory		Storage Codes & Locations (Non-Confidential) Storage Locations	
CAS	Trade Secret	Fire	Sudden Release of Pressure	Max. Daily Amount (Codes)	Production, Workover/Completion	Production, Workover/Completion	
Chem. Name	SCALE INHIBITORS	Reactivity	Immediate (acute)	Avg. Daily Amount (Codes)	Production, Workover/Completion	Production, Workover/Completion	
Check all that apply:	Pure <input checked="" type="checkbox"/> Mix <input checked="" type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> EHS	Delayed (chronic)		No. of Days On-Site (Days)			
EHS Name							
CAS	Trade Secret	Fire	Sudden Release of Pressure	Max. Daily Amount (Codes)	Drilling	Drilling	
Chem. Name	SHALE CONTROL ADDITIVES	Reactivity	Immediate (acute)	Avg. Daily Amount (Codes)	Drilling	Drilling	
Check all that apply:	Pure <input checked="" type="checkbox"/> Mix <input checked="" type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> EHS	Delayed (chronic)		No. of Days On-Site (Days)			
EHS Name							
CAS	Trade Secret	Fire	Sudden Release of Pressure	Max. Daily Amount (Codes)	Workover/Completion	Workover/Completion	
Chem. Name	SILICA	Reactivity	Immediate (acute)	Avg. Daily Amount (Codes)	Workover/Completion	Workover/Completion	
Check all that apply:	Pure <input checked="" type="checkbox"/> Mix <input checked="" type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> EHS	Delayed (chronic)		No. of Days On-Site (Days)			
EHS Name							
CAS	Trade Secret	Fire	Sudden Release of Pressure	Max. Daily Amount (Codes)	Drilling, Production, Workover/Completion	Drilling, Production, Workover/Completion	
Chem. Name	SOLVENTS	Reactivity	Immediate (acute)	Avg. Daily Amount (Codes)	Drilling, Production, Workover/Completion	Drilling, Production, Workover/Completion	
Check all that apply:	Pure <input checked="" type="checkbox"/> Mix <input checked="" type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> EHS	Delayed (chronic)		No. of Days On-Site (Days)			
EHS Name							
CAS	Trade Secret	Fire	Sudden Release of Pressure	Max. Daily Amount (Codes)	Drilling	Drilling	
Chem. Name	SPOTTING FLUIDS	Reactivity	Immediate (acute)	Avg. Daily Amount (Codes)	Drilling	Drilling	
Check all that apply:	Pure <input checked="" type="checkbox"/> Mix <input checked="" type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> EHS	Delayed (chronic)		No. of Days On-Site (Days)			
EHS Name							

OIL AND GAS EXPLORATION AND PRODUCTION INDUSTRY
GENERIC TIER TWO INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES

THE GENERIC TIER II INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES MAY BE USED IN COMPLYING WITH SARA TITLE III SECTION 312. THE GENERIC REPORT IS COMPREHENSIVE AND LISTS THE CATEGORIES OF HAZARDOUS CHEMICALS RATHER THAN TRADE NAMES AND SPECIFIC CHEMICAL NAMES.

Chemical Description		Physical and Health Hazards		Inventory		Storage Codes & Locations	
		(Check All That Apply)				(Non-Confidential) Storage Locations	
CAS	7 4 4 6 0 9 5	Trade Secret		0 2	Max. Daily Amount (Codes)	C 2 4	PRODUCTION
Chem. Name	SULFUR DIOXIDE			0 2	Avg. Daily Amount (Codes)	R 2 4	PRODUCTION
Check all that apply:	Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/>	Fire <input type="checkbox"/>	Sudden Release of Pressure <input checked="" type="checkbox"/>	3 6 5	No. of Days On-Site (Days)		
EHS Name	SULFUR DIOXIDE	Reactivity <input type="checkbox"/>	Immediate (acute) <input type="checkbox"/>				
		Delayed (chronic) <input checked="" type="checkbox"/>					
CAS		Trade Secret		0 3	Max. Daily Amount (Codes)	D 1 4	PRODUCTION, WORKOVER/COMPLETION
Chem. Name	SURFACTANTS, CORROSIVE			0 3	Avg. Daily Amount (Codes)	E 1 4	PRODUCTION, WORKOVER/COMPLETION
Check all that apply:	Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/>	Fire <input type="checkbox"/>	Sudden Release of Pressure <input type="checkbox"/>	3 6 5	No. of Days On-Site (Days)	R 1 4	PRODUCTION, WORKOVER/COMPLETION
EHS Name		Reactivity <input type="checkbox"/>	Immediate (acute) <input type="checkbox"/>				
		Delayed (chronic) <input checked="" type="checkbox"/>					
CAS	1 1 0 7 1 5 3	Trade Secret		0 4	Max. Daily Amount (Codes)	A 1 4	PRODUCTION
Chem. Name	SURFACTANT-ETHYLENE DIAMINE			0 4	Avg. Daily Amount (Codes)	D 1 4	PRODUCTION
Check all that apply:	Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/>	Fire <input checked="" type="checkbox"/>	Sudden Release of Pressure <input type="checkbox"/>	3 6 5	No. of Days On-Site (Days)	R 2 4	PRODUCTION
EHS Name	ETHYLENE DIAMINE	Reactivity <input type="checkbox"/>	Immediate (acute) <input type="checkbox"/>				
		Delayed (chronic) <input type="checkbox"/>					
CAS		Trade Secret		0 4	Max. Daily Amount (Codes)	D 1 4	DRILLING, PRODUCTION, WORKOVER/COMPLETION
Chem. Name	SURFACTANTS, FLAMMABLE			0 4	Avg. Daily Amount (Codes)	F 1 4	DRILLING, PRODUCTION, WORKOVER/COMPLETION
Check all that apply:	Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/>	Fire <input checked="" type="checkbox"/>	Sudden Release of Pressure <input type="checkbox"/>	3 6 5	No. of Days On-Site (Days)	R 1 4	DRILLING, PRODUCTION, WORKOVER/COMPLETION
EHS Name		Reactivity <input type="checkbox"/>	Immediate (acute) <input type="checkbox"/>				
		Delayed (chronic) <input checked="" type="checkbox"/>					
CAS		Trade Secret		0 3	Max. Daily Amount (Codes)	D 1 4	DRILLING, PRODUCTION, WORKOVER/COMPLETION
Chem. Name	SURFACTANTS, MISCELLANEOUS			0 3	Avg. Daily Amount (Codes)	F 1 4	DRILLING, PRODUCTION, WORKOVER/COMPLETION
Check all that apply:	Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/>	Fire <input type="checkbox"/>	Sudden Release of Pressure <input type="checkbox"/>	3 6 5	No. of Days On-Site (Days)	R 1 4	DRILLING, PRODUCTION, WORKOVER/COMPLETION
EHS Name		Reactivity <input type="checkbox"/>	Immediate (acute) <input type="checkbox"/>				
		Delayed (chronic) <input type="checkbox"/>					

OIL AND GAS EXPLORATION AND PRODUCTION INDUSTRY
GENERIC TIER TWO INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES

THE GENERIC TIER II INVENTORY OF HAZARDOUS CHEMICAL CATEGORIES MAY BE USED IN COMPLYING WITH SARA TITLE III SECTION 312. THE GENERIC REPORT IS COMPREHENSIVE AND LISTS THE CATEGORIES OF HAZARDOUS CHEMICALS RATHER THAN TRADE NAMES AND SPECIFIC CHEMICAL NAMES.

Chemical Description		Physical and Health Hazards (Check All That Apply)		Inventory		Storage Codes & Locations (Non-Confidential) Storage Locations	
CAS <input type="text"/> Chem. Name <input type="text"/> <input type="checkbox"/> Trade Secret <input type="checkbox"/> TEMPORARY BLOCKING AGENTS Check all that apply: <input type="checkbox"/> Pure <input checked="" type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input checked="" type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="checkbox"/> 0 <input type="checkbox"/> 3 Max. Daily Amount (Codes) <input type="checkbox"/> 0 <input type="checkbox"/> 3 Avg. Daily Amount (Codes) <input type="checkbox"/> 3 <input type="checkbox"/> 6 <input type="checkbox"/> 5 No. of Days On-Site (Days)		WORKOVER/COMPLETION WORKOVER/COMPLETION WORKOVER/COMPLETION WORKOVER/COMPLETION	
CAS <input type="text"/> Chem. Name <input type="text"/> <input type="checkbox"/> Trade Secret <input type="checkbox"/> TRACERS Check all that apply: <input type="checkbox"/> Pure <input checked="" type="checkbox"/> Mix <input type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input checked="" type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="checkbox"/> 0 <input type="checkbox"/> 3 Max. Daily Amount (Codes) <input type="checkbox"/> 0 <input type="checkbox"/> 3 Avg. Daily Amount (Codes) <input type="checkbox"/> 3 <input type="checkbox"/> 6 <input type="checkbox"/> 5 No. of Days On-Site (Days)		DRILLING, WORKOVER/COMPLETION DRILLING DRILLING DRILLING	
CAS <input type="text"/> Chem. Name <input type="text"/> <input type="checkbox"/> Trade Secret <input type="checkbox"/> VISCOFIFIERS Check all that apply: <input checked="" type="checkbox"/> Pure <input checked="" type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input checked="" type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="checkbox"/> 0 <input type="checkbox"/> 4 Max. Daily Amount (Codes) <input type="checkbox"/> 0 <input type="checkbox"/> 4 Avg. Daily Amount (Codes) <input type="checkbox"/> 3 <input type="checkbox"/> 6 <input type="checkbox"/> 5 No. of Days On-Site (Days)		DRILLING DRILLING DRILLING DRILLING	
CAS <input type="text"/> Chem. Name <input type="text"/> <input type="checkbox"/> Trade Secret <input type="checkbox"/> WEIGHT MATERIALS Check all that apply: <input checked="" type="checkbox"/> Pure <input checked="" type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input checked="" type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="checkbox"/> 0 <input type="checkbox"/> 4 Max. Daily Amount (Codes) <input type="checkbox"/> 0 <input type="checkbox"/> 4 Avg. Daily Amount (Codes) <input type="checkbox"/> 3 <input type="checkbox"/> 6 <input type="checkbox"/> 5 No. of Days On-Site (Days)		DRILLING DRILLING DRILLING DRILLING	
CAS <input type="text"/> Chem. Name <input type="text"/> <input type="checkbox"/> Trade Secret <input type="checkbox"/> WELDING MATERIALS Check all that apply: <input type="checkbox"/> Pure <input checked="" type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name <input type="text"/>		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input checked="" type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		<input type="checkbox"/> 0 <input type="checkbox"/> 3 Max. Daily Amount (Codes) <input type="checkbox"/> 0 <input type="checkbox"/> 3 Avg. Daily Amount (Codes) <input type="checkbox"/> 3 <input type="checkbox"/> 6 <input type="checkbox"/> 5 No. of Days On-Site (Days)		DRILLING, PRODUCTION, WORKOVER/COMPLETION DRILLING, PRODUCTION, WORKOVER/COMPLETION DRILLING, PRODUCTION, WORKOVER/COMPLETION DRILLING, PRODUCTION, WORKOVER/COMPLETION	

SECTION 5
DISCUSSION OF SARA TITLE III SECTIONS 311 AND 312

SECTION 5

DISCUSSION OF SARA TITLE III SECTIONS 311 AND 312

5.1 INTRODUCTION. The Superfund Amendments and Reauthorization Act of 1986 (SARA) was signed into law on October 17, 1986. Title III of SARA, also known as the Emergency Planning and Community Right-to-Know Act of 1986, was intended to encourage and support emergency planning efforts at the state and local levels and to provide citizens and local governments with information concerning potential chemical hazards present in their communities.

Oil and gas exploration and production (E&P) activities¹ were not originally covered by sections 311 and 312 of SARA. They became subject to sections 311 and 312 with the expansion of the Occupational Safety & Health Administration's (OSHA) Hazard Communication Standard (HAZCOM) (see Title 29 of the Code of Federal Regulations, Part 1910.1200; 52 *Federal Register* 31852 (August 25, 1987) check for updates).

The E&P industry recognized that the unique nature of its operations (millions of pieces of equipment located on thousands of leases) would complicate application of several of the definitions and requirements in the regulations implementing Sections 311 and 312 of SARA Title III. Therefore, an alternative means of compliance, the generic report approach, has been developed for the E&P industry and accepted by the United States Environmental Protection Agency (EPA). The generic report approach can

- (1) satisfy the reporting requirement under SARA Title III sections 311 and 312, and
- (2) benefit state and local authorities by providing comprehensive information for use in preparing for an emergency response situation.

Two generic reports were developed to assist an E&P operator in complying with the reporting requirements under sections 311 and 312. The Generic List of Hazardous Chemical Categories (Section 3) can be used in reporting under section 311. The Generic Tier Two Inventory of Hazardous Chemical Categories (Section 4) can be used in reporting under section 312. These reports will be referred to in this document as the Generic Reports.

5.2 OVERVIEW OF SECTION 311 AND 312 REPORTING

Purpose. The purpose of Sections 311 and 312 of SARA Title III is to provide the public with information on the hazardous chemicals in their community in order to (1) enhance community

awareness of chemical hazards and (2) facilitate the development of the state and local response plans.

Definitions. Provided below are key definitions from 40 Code of Federal Regulations Section 370.2, unless otherwise noted:

Extremely hazardous substances (EHSs) are defined as those substances listed in the Appendices of the regulations for Sections 302 and 304 of SARA Title III (see Title 40 of the Code of Federal Regulations, Part 355).

Facility is defined in the statute as "all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by, or under common control with such person) . . ." A July 26, 1990, amendment clarifies that facility includes "manmade structures as well as all natural structures in which chemicals are purposefully placed or removed through human means such that it functions as a containment structure for human use." (54 *Federal Register* 30644). See Appendix A for a letter clarifying the applicability of that definition to subsurface operations.

Hazardous chemical is defined as any element, chemical, compound, or mixture of elements and/or compounds that is a physical or health hazard (see Title 29 of the Code of Federal Regulations, Section 1910.1200(c)) — basically, any chemical or product for which a material safety data sheet (MSDS) is required under OSHA's HAZCOM.

The chemicals fall into five categories:

- (1) fire hazard,
- (2) sudden release of pressure hazard, including explosives and compressed gases,
- (3) reactivity hazard,
- (4) immediate (acute) health hazard, and
- (5) delayed (chronic) health hazard, including carcinogens.

There are several SARA Title III reporting exemptions for hazardous chemicals included in the rule, one of which involves "household products." With respect to E&P operations, this exemption would apply to a substance which is present at a facility in the same concentration and packaging form as the consumer product which is used by the general public.

Threshold planning quantity (TPQ) for each EHS is listed in the Appendices to the regulations for Sections 302 and 304 of SARA Title III (see Title 40 of the Code of Federal Regulations, Part 355).

¹In this document, E&P activities include general production, drilling, completion, and workover operations whether conducted by the operator or a service company.

Summary of Reporting Requirements. A facility is subject to sections 311 and 312 of SARA Title III if it is covered by OSHA's HAZCOM. Under section 311, a facility owner or operator must submit MSDSs for, or a list of, the hazardous chemicals present in threshold amounts. The list is sent to the state emergency response commission (SERC), the local emergency planning committee (LEPC), and the local fire departments. Threshold levels are 10,000 pounds for hazardous chemicals and 500 pounds for the TPQ, whichever is lower, for extremely hazardous substances (EHSs). If an EHS is present in more than one mixture, or in both pure form and in mixtures, at a facility, the quantities of the EHS must be added together to determine whether the threshold has been met. Under section 312, a facility owner or operator must submit hazardous chemical inventory data annually to the same state and local agencies.

Effective Dates. The initial submission of MSDSs or the alternative list, as required by section 311, is due ninety (90) days after the facility is covered by OSHA's HAZCOM. The initial submission of inventory forms, as required by section 312, is due on March 1 of the first year after the facility is covered by OSHA's HAZCOM.

5.3 DEVELOPMENT OF THE GENERIC REPORTS. The Generic Reports were developed by identifying and categorizing chemicals present, either used or produced, during the following E&P activities, listed below in their normal order of occurrence:

Drilling activities occur during the drilling of a development or exploratory well. The majority of the drilling activities occur at a specific site for less than thirty (30) days. Chemicals are used to aid and control the drilling process. Generally, the hazardous chemicals which are present in relatively large volumes represent a low health hazard (e.g., corn cob and nut shells which are used as lost circulation materials).

Completion activities occur after the drilling of what may appear to be a productive well. This activity is performed in approximately one (1) to two (2) days. Chemicals are used to prepare the well for controlled production.

Production activities (wellheads, tank batteries, gas processing equipment, compressor stations, etc.) occur throughout the year and can be spread throughout a field area. This activity occurs continuously until such time as all of the wells are abandoned. Produced hydrocarbons (that is, crude oil, condensate, and natural gas) represent the largest volume of hazardous chemicals present in production operations. Specialty chemicals used in pro-

duction activities to maintain production rates and protect equipment are present in relatively small quantities throughout the field area.

Workover activities usually occur when a well ceases to produce or when production declines to a relatively low rate. Chemicals are used to initiate production again or increase the production rate. Chemicals used in workover activities are similar to those used in completion activities. This activity takes approximately three (3) days to complete.

Because of the similarity of the equipment and chemicals used in completion and workover operations, they have been listed as one class of operations (workover/completion) on the Generic Tier Two Inventory.

The Generic Reports provide a comprehensive representation of E&P activities from well spudding (beginning of drilling) to plugging and abandonment. Input on chemical use was solicited from numerous drilling contractors, workover service companies, and chemical suppliers in the development of the Generic Reports. No specific consideration was given gas plant and warehouse operations; however, a large portion of the chemicals present at such operations are included on the Generic Reports. The owner or operator should verify the applicability of the Generic Reports to these operations.

General concepts used in the development of the Generic Reports are as follows:

- (1) An operator is required to file the necessary reports for any activity at the facility whether conducted by the operator, contractor, or a service company. The Generic Reports include all hazardous chemical categories used in drilling, completion, and workover activities.
- (2) The Generic Reports focus on chemical *categories*. Several specific hazardous chemicals which are representative of a category are provided on the Generic List of Hazardous Chemical Categories. For example, glutaraldehyde and isopropanol are hazardous chemicals and are representative of the hazardous chemical category "Biocides."
- (3) The Generic Reports are inclusive of all hazardous chemical categories used in E&P operations, regardless of the amount, since individual states might set lower reporting thresholds than the EPA or lower thresholds for certain kinds of chemicals.
- (4) Uses in production, drilling, and workover/completion are listed in column 4 of the Tier Two Inventory, immediately following the

related storage information in column 3 (container type, pressure, and temperature).

(5) Chemical categories are assumed to be present 365 days of the year since all categories of activity can take place at any time throughout the year.

(6) Quantities are set as follows:

(a) **Production Activities.** The Generic Tier Two Inventory of Hazardous Chemical Categories was developed for a production field (located on one lease or numerous contiguous/adjacent leases) with a total volume of crude oil (produced hydrocarbons) in the range of 2,000 to 20,000 barrels (reporting range code 06²). The production field may include wellheads, tank batteries, gathering lines, and associated process vessels (e.g., heater treater and separators). Produced hydrocarbons will be present in the field the entire year; the maximum amount and average daily amount should fall within the same reporting range.

Specialty chemicals located at a typical production field should generally fall within the range of 2 to 20 barrels (reporting range code 03). These specialty chemicals are generally located at wellheads and/or tank batteries. These chemicals are present year-round; the maximum amount and average daily amount should fall within the same reporting range.

(b) **Drilling and Workover/Completion Activities.** The range codes specified on the Tier Two report for the hazardous chemicals associated with these activities are based upon the drilling or workover/completion of a single well.

If a hazardous chemical category is associated with only one activity, the maximum daily amount provided on the report corresponds to the maximum daily amount expected during any single day for that activity. If, however, the hazardous chemical category is associated with two (or more) activities, the highest maximum daily amount that could be expected for either of the activities at a given facility has been used in the inventory report. For example, a certain hazardous chemical category is used in drilling and workover operations. The maximum daily amount is estimated to

be 12,000 pounds in drilling activities and 2,000 pounds in workover activities. The maximum daily amount for the hazardous chemical category has been specified (per the range code) as 12,000 pounds. The same methodology was used in determining the average daily amount of a hazardous chemical category.

5.4 EPA VIEW OF SECTION 311 AND 312 REPORTING FOR E&P INDUSTRY. The issues and assumptions outlined in the prior sections were discussed with the EPA when the generic reporting concept was proposed. In response to those discussions, Mr. Jim Makris sent a letter dated September 8, 1988, to Ms. Michele Malloy (see Appendix A). The letter addressed inquiries on two issues:

- the use of generic reports to comply with the requirements of Sections 311 and 312, and
- the relationship between the definition of "facility" and a production field.

Generic List and Inventory Reporting. EPA indicated that it would accept a generic report if the report was an accurate compilation of the hazardous chemicals present at the facility for which the report was being submitted under SARA Title III, Sections 311 and 312. Therefore, it is important that the E&P owner or operator tailor the Generic Reports to his/her operations. [Guidelines for tailoring generic reports follow in Section 5.5, "Detailed Recommendations for Using the Generic Reports."]

Submission of the Generic Reports does not relieve the owner or operator of the responsibility of updating the Section 311 list. Neither does the submission relieve the owner or operator of the responsibility for responding to requests for actual MSDSs or for information on hazardous chemicals present in quantities below the thresholds.

Facility Definition. EPA has stated that the statutory and regulatory definition of "facility" prevents EPA from "interpreting ['facility'] to apply to an entire oil or gas field in all instances." Operations in a production field area generally vary between the following two extremes:

- (1) one operator in a field area overseeing activities on one lease or numerous contiguous/adjacent leases, and
- (2) numerous operators in a field area, each operator overseeing the activities on several leases, none of which may be contiguous/adjacent.

The field area described in (1) above could be defined as one facility since all operations are by

²One barrel is assumed to weigh 500 pounds.

one company and are located on one lease or contiguous/adjacent leases. As such, one report could be filed for the entire field area.

In EPA's view, each lease or group of contiguous/adjacent leases in a field which an operator oversees, such as the extreme case described in (2) above, would be considered a separate facility. However, if the hazardous chemical categories at each of these facilities are present in relatively the same maximum and daily amounts, then the operator can submit an aggregated report which is representative of operations at *any* of the facilities.

Aggregate Reporting. Aggregate reporting is acceptable for multiple facilities as long as the maximum and daily amounts of each hazardous chemical category present at each of the multiple facilities is in the same range. As such, tailored Generic Reports may be submitted for a field area or even a LEPC reporting area if the hazardous chemical categories are present in relatively the same quantities at each of the multiple facilities.

Subsurface Activities. In a final rule issued July 26, 1990, the EPA revised the definition of "facility" to include "manmade structures as well as all natural structures in which chemicals are purposefully placed or removed such that [the structure] functions as a containment structure for human use." (54 *Federal Register* 30644). EPA has issued an interpretation (See Appendix A) specifying that subsurface natural structures should be reported only to the extent that they are used for purposeful storage. LPG storage in salt domes is covered; crude oil and natural gas reserves are not.

EPA Review of the Generic Reports. In December 1988, after reviewing the Generic Reports and the related explanatory material in the first edition of this publication, EPA accepted the Generic Reports and transmitted them to the regional EPA offices with instructions that they be sent to the SERCs. See Appendix A. This edition has also been reviewed by EPA before publication.

API encourages each operator to review EPA's September 8, 1988, letter to ensure that he/she concurs with this interpretation. An operator may want to seek advice from legal counsel or the company's law department.

5.5 DETAILED RECOMMENDATIONS FOR USING THE GENERIC REPORTS.

Section 311—Generic List of Hazardous Chemical Categories. Section 311 requires submission of MSDSs or a list of hazardous chemicals to all SERCs, LEPCs, and fire departments with jurisdiction over the reporting area for hazardous chemicals present in a quantity equal

to or greater than 10,000 pounds (for EHSs the threshold level is 500 pounds or the TPQ, whichever is less) within three (3) months of when the chemical is first present in threshold amounts. An updated list is due within three (3) months after a new hazardous chemical is present in the reporting area in an amount that exceeds the threshold in effect.

EPA has stated, however, that *advance reporting* is acceptable for section 311. The Generic List of Hazardous Chemical Categories was developed to accommodate this option in that the list includes categories of hazardous chemicals which could be present in any amount over the life of a facility.

For each submittal, the Generic List of Hazardous Chemical Categories should be reviewed and tailored as necessary to represent the types of hazardous chemicals present in the reporting area. To tailor the report:

- delete (by crossing through) those hazardous chemical categories listed that are not present and are not expected to be present, and
- add any additional hazardous chemical categories that may be warranted.

NOTE: The Generic Inventory, Section 4, identifies the types of operations — production, drilling, and workover/completion — during which the categories of hazardous chemicals may be present. Appendix C is an alphabetized list of the representative hazardous chemicals cross-referenced to the categories. Section 2 includes a list of EHSs which can be present.

The number of updates could be reduced or eliminated by retaining on the list those hazardous chemical categories which are expected to be present. Three examples of tailoring the report are provided below:

An operator having production activities in a field where hydrogen sulfide is not present should delete (by crossing through) hydrogen sulfide from the list.

If hydrogen sulfide is present in certain areas of a field, but not at an operator's production site in that field area, then the operator may want to retain hydrogen sulfide on the list.

If workover operations are not presently occurring in a field area, but are expected to occur in the future, an operator may want to retain on the list those hazardous chemical categories that are expected to be present at the field as a result of the workover(s).

The LEPC can request an MSDS for *any* hazardous chemical present at a facility (i.e., regardless of the threshold limit). The facility owner or operator must comply with this request within thirty (30) days.

Appendix B includes an example letter which may be used to transmit the list.

Section 312 — Generic Tier Two Inventory of Hazardous Chemical Categories. An E&P owner or operator should submit the Generic Tier Two Inventory of Hazardous Chemical Categories to all SERCs, LEPCs, and fire departments with jurisdiction over the reporting area. The reports should be submitted on or before March 1 for the previous calendar year. The reporting threshold set by EPA is 10,000 pounds for hazardous chemicals. For EHSs, the threshold level is 500 pounds or the TPQ, whichever is less.

A hazardous chemical category should be reported if an individual chemical within the category exceeds the threshold. If an extremely hazardous substance is present in a threshold amount and has not been identified in Section 2 and listed on the Generic Tier Two Inventory in Section 4, it must be individually identified on a tailored report, as discussed below.

For each submittal, the Generic Tier Two Inventory of Hazardous Chemical Categories should be reviewed and tailored as necessary to represent the types, quantities, locations, etc., of the hazardous chemicals present during the preceding calendar year. To tailor the report:

- delete (by crossing through) those hazardous chemical categories that were not present in quantities that exceeded the reporting threshold,
- add any additional hazardous chemical categories that may be warranted, listing any additional EHSs as separate categories like those already noted in Section 2 (e.g., Biocides, Formaldehyde),
- review the range codes and modify where necessary to ensure that the volumes represent operations during the preceding year, and
- review the location descriptions and storage codes and modify where necessary to ensure that the data represent the storage and use conditions.

[NOTE: The discussion section "Development of the Generic Reports" provides the assumptions used in developing the information on the generic

inventory. The code translations are summarized on the first page of Section 4.]

If the information reported for a facility or a reporting area is identical to that reported for the previous reporting period, the operator can so indicate by checking the box on the first page immediately under the emergency contact listing. If information on individual chemical categories has not changed, the operator can so indicate by checking the optional box to the far right of each individual category listing.

[NOTE: The Tier Two report must still be a complete report. The optional check boxes are supplemental information.]

Significant new information (e.g., emergency phone numbers) should be filed as soon as possible with the state and local agencies.

Any fire department having jurisdiction over the reporting area may request an on-site inspection of any facility.

Appendix B includes an example letter which may be used to transmit the report. Of primary importance in the letter is the reference to duplicate reporting. Duplicate reporting will occur because service companies will be reporting for hazardous chemicals stored at their base facilities and E&P operators will be reporting these same hazardous chemicals since they are used by the service companies at E&P facilities.

EPA encourages the submittal of a location plat of the facility (or the aggregated facilities) with the Generic Tier Two Inventory of Hazardous Chemical Categories.

General Reporting Guidance. State and local authorities have the authority to modify reporting requirements under Sections 311 and 312 of SARA Title III as long as they still meet the minimal federal guidelines. Furthermore, some state and local authorities have their own "Right-to-Know" laws. An E&P operator should ensure that the reporting procedure he/she plans to use satisfies state reporting requirements.

On a final note, API strongly encourages E&P operators to work with their LEPCs. Some LEPCs may need minimal support from the E&P industry while other LEPCs may need technical guidance in developing their emergency response plans.

APPENDIX A

American Petroleum Institute Correspondence
with the Environmental Protection Agency

September 8, 1988, Letter from Jim Makris,
Director, Preparedness Staff of the EPA to
Michele Malloy, Chairman of the API SARA
Title III Task Force

Ms. Michele Malloy
Senior Corporate Attorney
Tenneco Inc.
Tenneco Building
P.O. Box 2511
Houston, Texas 77252-2511

Dear Ms. Malloy

This letter is in response to your July 29, 1988 correspondence concerning reporting requirements of the oil and gas production and exploration industry under Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Specifically, two issues of concern were presented for EPA clarification:

- The relationship between the SARA Title III definition of "facility" and a production field
- Generic list and inventory reporting for Sections 311 and 312 regulatory requirements

Facility Definition

The SARA Title III and EPA regulatory definition of "facility" prevents the Agency from interpreting that term to apply to an entire oil or gas field in all instances. The statutory and regulatory definition treats "all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person" as a single facility. However, because oil and gas exploration and production sites located on an oil field are usually not adjacent or contiguous to each other, an oil field may be the location of several different Title III facilities. Nevertheless, the reporting obligations resulting from this definition may be reduced through limited aggregate reporting.

Aggregate reporting, within the confines of certain limitations dictated by SARA Title III and EPA's implementing regulations, is permissible when complying with the reporting obligations of Sections 302, 311, and 312. These aggregate reports, however, must satisfy the informational requirements of the statute for each facility.

When aggregate reporting, an owner or operator of multiple facilities (as may be found in one oil field) must assure that the state emergency response commission (SERC) as well as each local emergency planning committee (LEPC) and fire department with jurisdiction over each facility is provided with the Section 302 emergency planning notification and the appropriate material safety data sheets (or list) and inventory forms under Sections 311 and 312. Furthermore, the statute and regulations require that owners and operators must provide the SERC, LEPC and appropriate fire department with information on the maximum and average daily amounts of hazardous chemicals within certain ranges within each hazard category present at that particular facility during the preceding year. Unless the maximum and daily amounts of these chemicals are within the same ranges at each of the multiple facilities, the owner or operator who submits duplicate Tier I forms to the appropriate state and local officials will not be in compliance with Title III or EPA's implementing regulations.

As a result of the above provisions requiring owners and operators to provide state and local authorities with facility-specific information, EPA believes that aggregate reporting may be useful only to those owners and operators of multiple facilities that use the same hazardous chemicals in approximately the same ranges.

Generic List and Inventory Reporting

SARA Title III and EPA's implementing regulations require that owners and operators list and inventory the hazardous chemicals actually present at a given facility. Thus, if the list and inventory of hazardous chemicals found on the generic list and inventory forms are an accurate compilation of the hazardous chemicals actually present at the facility, EPA will regard submission of the generic list and inventory as compliance with SARA Sections 311 and 312. Because the owner or operator must certify that the information submitted on the Tier II inventory form is true, accurate and complete, however, the owner or operator will wish to verify that the generic information reflects the hazardous chemicals present at the particular facility for which the form is being submitted.

The generic list does not relieve the owner or operator of the responsibility of updating provisions of Section 311 or of responding to requests for actual MSDSs or for information below the specified thresholds. Similarly, the owner or operator must respond to requests for Tier II information below the specified threshold, when such information is requested.

If you have any further questions or concerns related to oil and gas exploration and production reporting under SARA Title III, please contact Kathy Brody at 202-475-8353.

Sincerely,

Jim Makris
Director
Preparedness Staff

December 8, 1988, Letter from Jean L. Cole,
Chairman of the API SARA Title III Production
Issues Group to Kathleen Brody, Program
Analyst, Preparedness Staff of the EPA.

Ms. Kathleen Brody
Preparedness Staff
Office of Solid Waste &
Emergency Response
Environmental Protection Agency
401 M Street, Southwest
Room M-3609
Washington, D.C. 20460

Dear Kathy:

Enclosed is the final Generic Hazardous Chemical Category List and Inventory document which is to be used in reporting under Sections 311 and 312 of SARA. Incorporated in this final version are the suggestions I received from Ms. Kirsten Engel (EPA Office of General Counsel). The document has been transmitted to the members of the American Petroleum Institute (API) and the Independent Petroleum Association of America (IPAA).

During our discussion on Monday, you mentioned that you were planning to distribute the document to EPA's regional offices. As a suggestion, you may want to encourage the regional offices to distribute the document to the State Emergency Response Commissions (SERCs). If so desired, a member of the SARA Title III Issue Group would be available to meet with state officials to familiarize them with the document. If possible, please forward me a copy of your transmittal letter.

API and IPAA believe the generic report document will greatly facilitate reporting under SARA, especially Section 312. Once again, I appreciate your and Kirsten's review of, and input on, the document.

Sincerely,

Jean L. Cole
Chairman, SARA Title III
Production Issue Group

December 15, 1988, Letter from Kathleen Brody,
Program Analyst, Preparedness Staff of the EPA,
to EPA Regional Preparedness Coordinators.

MEMORANDUM

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

FROM: Kathy Brody
Program Analyst
Preparedness Staff

TO: Regional Preparedness Coordinators

As indicated in the attached letter from Jean Cole, please share the subject document with State Emergency Response Commissions as soon as possible. If SERCs wish to meet with a member of the American Petroleum Institute's Title III Issue Group, they should contact Jean Cole at (713) 656-3563.

This document was finalized following the September 8, 1988 letter from Jim Makris to Michelle Malloy (copy attached) which was provided to you in an earlier mailing.

If you have any questions, please contact me at 475-8353.

October 25, 1990, Letter from Jim Makris,
EPA, clarifying the Applicability of the Definition
of *Facility* to Subsurface Operations



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 25 1990

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

C. T. Sawyer
Vice President
American Petroleum Institute
1220 L Street, N.W.
Washington, D.C. 20005

Dear Mr. Sawyer:

This letter responds to questions you and other individuals associated with the American Petroleum Institute have raised concerning whether, in the Agency's view, the emergency planning, release notification, material safety data sheet, and annual inventory provisions of the Emergency Planning and Community Right to Know Act of 1986 (commonly referred to as "EPCRA," "SARA Title III" or "Title III") apply to subsurface naturally-occurring deposits of crude oil and substances contained in such deposits ("oil deposits"). These questions arise from your reading of the recent clarifying amendments to the regulatory definition of "facility" contained in 55 Fed. Reg. 30632 (July 26, 1990).

The Agency understands that you believe that oil deposits are not "structures" as the term is used in Title III and therefore cannot be a facility. In your letter of September 26, 1990, you point out that ordinary use of the terms "facility" and "structure" would not seem to describe uncontained naturally-occurring oil deposits. You note that an oil deposit from which an operator may draw oil may extend beyond the limits of the surface tract of land on which the operator conducts his or her activities. You explain that an oil deposit does not have readily definable physical limits and that mapping such limits is dependent upon data that may vary in quality and other technical limitations. In addition, you inform us that data on the types and quantities of hazardous chemicals located in each stratum through which one drills is not customarily available for a number of years. Furthermore, you question the value of oil deposit quantity data to emergency responders because most oil wells in this country are not free-flowing and because such data would obscure data on surface storage of chemicals when aggregated. Other concerns not germane to the statutory framework (e.g., confidentiality of reserves, other regulatory schemes, certain assumptions about burden, etc.) are expressed

but are not material to the questions you have raised.

In determining the applicability of Title III's reporting provisions to any situation, the Agency takes as a starting point the statutory definition of a facility, which is set forth in Section 329(4) of the Act. 42 U.S.C. 11049(4). The definition contains three elements: a stationary item element ("all buildings, equipment, structures, and other stationary items"), a location element ("which are located on a single site or on contiguous or adjacent sites"), and a control element ("and which are owned or operated by the same person...."). For purposes of this letter, it is assumed that each oil lease constitutes a site and the company conducting exploration or extraction is the relevant operator.

The modifications to 40 C.F.R. Secs. 355.20 and 370.2 in the July 26 Federal Register were intended to clarify the Agency's interpretation that the term "structures" in the statutory definition of facility is not limited to surface structures or man-made structures. In the preamble to the regulations finalized on July 26, the Agency noted that the purpose of the revisions was

to include only those subsurface structures that are man-made or natural structures into which hazardous chemicals are purposefully placed or removed through human means such that the structures function as a containment structure. If an activity or facility is exempt from certain title III requirements, today's regulatory definition of "facility" does not alter that exemption.

55 Fed. Reg. 30639 (July 26, 1990). The July 26 revisions indicate that the Agency does not believe that Title III distinguishes hazardous chemicals stored in tanks and buildings from hazardous chemicals stored in salt domes and caves.

The Agency's discussion of oil deposits in the preamble to the proposed rule (54 Fed. Reg. 12992 (March 29, 1989)), the preamble to the final rule, and the Response to Comment document generally suggests that Title III would apply to oil deposits to the extent that such deposits function as containment structures. For example, in the preamble to the proposed rule, the Agency listed a "geological strat[um]" as an example of a structure if such stratum functions as a containment structure. 54 Fed. Reg. 12999. Similarly, the Response to Comment document notes that there is no exemption for petroleum substances from Title III and that there is no statutory basis for distinguishing "product" stored at a facility and other hazardous chemicals. However, nowhere in the three documents referenced in this paragraph does the Agency express a view that oil deposits function as containment structures. Therefore, while these documents generally talk about Title III applying to oil deposits or "reserves," these documents do not express an Agency conclusion on whether oil deposits are structures under Title III.

Based on the Agency's understanding of the nature of oil deposits and the terms of Title III and the regulations thereunder, the Agency takes the position that oil deposits are not structures under Title III.¹ The indefinite boundaries of strata with oil deposits contrast with the more definite boundaries of other items that are called natural structures, such as a cave or a salt dome. The difficulty in estimating the quantities of hazardous chemicals present in each strata through which an operator drills would make such a broad interpretation of the term "structure" difficult to implement in a way that promotes the goals of Title III.² The Agency in the past has interpreted the location element to set the geographic boundaries of a facility; to the extent that oil deposit boundaries are indefinite and may extend beyond an oil lease or contiguous or adjacent leases, such a "structure" may extend beyond the geographic limits of the facility. Such an arrangement would be inconsistent with the Agency's statutory implementation scheme.

The preamble to the July 26 rule emphasized that the Agency was interested in obtaining reports on natural structures that function as containment structures. While human intervention may increase the risk associated with an oil deposit, see 54 Fed. Reg. 12999, it is difficult to conclude that the simple act of drilling through a stratum is enough use to convert a stratum to something that is used for containment purposes. This may be especially true in the oil industry, where a suspected deposit

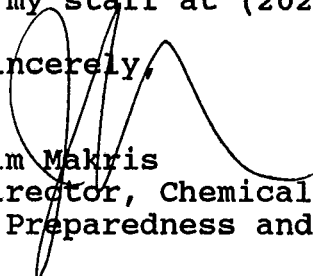
¹ In your letter of September 26, 1990, you also ask us to address the applicability of Title III to deposits of gas. This letter discusses oil deposits in particular. However, in your letter and in our discussions with Mark Rubin of your staff and with Rosemary Stein of Exxon, API has represented to us that the geological characteristics of gas deposits are identical to those characteristics of oil deposits we have referred to in this letter. Thus, the geological, programmatic and legal factors that have led the Agency to conclude that oil deposits are not structures also are true for gas deposits. Therefore, based on your representations, the conclusions expressed in this letter also would apply to gas deposits.

² For example, the current reporting scheme accomplishes right-to-know purposes by alerting a community of the existence of oil operations and the presence of quantities of hazardous chemicals that pass through or are used in its area. The Agency is not aware of new oil operations that would, for the first time, have to inform communities of their existence as a result of classifying oil deposits as structures. While the quantities of hazardous chemicals that would be reported would increase if oil deposits were interpreted to be structures, such information would be inaccurate and tend to obscure the data on surface chemicals. In general, the Agency believes chemicals that pass through or are used in a community are of greater concern to a community than those contained in oil deposits.

may be left undrilled until it appears economic to drill it. Such a deposit would be used for containment before drilling but would not be a "structure" under the preamble to the proposed rule. Human intervention in the form of drilling would not convert the deposit to a containment structure. Interpreting oil deposits to be "structures" under Title III upon human intervention but not prior to such intervention would appear to be inconsistent with the purposes of modifying the regulatory definition of facility.

The previously expressed interpretation that oil deposits are not structures under Title III also requires the conclusion that oil deposits are not facilities under Title III. If you wish to discuss any of the issues mentioned in this letter, please contact Kathy Jones of my staff at (202) 475-8353.

Sincerely,


Jim Makris
Director, Chemical Emergency
Preparedness and Prevention Office

APPENDIX B

Sample Transmittal Letters for Section 311 and 312 Filings

SARA Title III
Section 311 Reporting

State Emergency Response Commission
Local Emergency Planning Committee
Local Fire Department

SERC Commissioner
LEPC Coordinator
Chief of the Fire Department

Per Section 311 of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and Title 40 of the Code of Federal Regulations, Part 370, attached please find a Generic List of Hazardous Chemical Categories for ----- (name of facility/reporting area) ----- which is operated by ----- (company name) -----.

If you need additional information, please call ----- (company representative) ----- at ----- (phone number) -----.

Very truly yours,

SARA Title III
Section 312 Reporting

State Emergency Response Commission
Local Emergency Planning Committee
Local Fire Department

SERC Commissioner
LEPC Coordinator
Chief of the Fire Department

Per Section 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and Title 40 of the Code of Federal Regulations, Part 370, attached please find a Generic Inventory of Hazardous Chemical Categories for ----- (name of facility/reporting area) ----- which is operated by ----- (company name) -----.

A large percentage of the hazardous chemicals present at this facility are brought onto the site by service companies. These hazardous chemicals are usually present for a short period of time (a few days to a month). Duplicate reporting will likely occur for these hazardous chemicals since it is expected that the service companies will include these chemicals on their Section 312 inventory report for their storage base facilities and we have included these chemicals on the attached report.

If you need additional information, please call ----- (company representative) ----- at ----- (phone number) -----.

Very truly yours,

APPENDIX C

Alphabetized List of Representative Hazardous Chemicals and Cross Reference of Hazardous Chemical Categories For the Oil and Gas Exploration and Production Industry

<u>Hazardous Chemical</u>	<u>Hazardous Chemical Category</u>
1,1,1 - Trichloroethane (CAS#71-55-6)	Solvents
2-Butoxyethanol	Corrosion Inhibitors
4-4' Methylene dianiline (CAS#101-77-9)	Corrosion Inhibitors
Acetic acid (CAS#64-19-7)	Acids, Organic
Acetic anhydride (CAS#108-24-7)	Acids, Organic
Acetone (CAS#67-64-1)	Solvents
Acetylene gas (CAS#74-86-2)	Fuels
Acetylenic alcohols	Corrosion Inhibitors
Acrolein (CAS#107-02-8)	Biocide
Acrylamide AMPS copolymer	Filtration Control Agents/Flocculants
Acrylamide methacrylate copolymers	Friction Reducers
Acrylamide monomer (CAS#79-06-1)	Acrylamide monomer
Acrylic polymer	Deflocculants
Alcohol ether sulfates	Surfactants - Corrosive
Aliphatic hydrocarbons	Solvents
Aluminum chloride (CAS#7446-70-0)	Salt Solutions
Aluminum stearate	Defoaming Agents
Amid polymer formulations	Oil Based Mud Additives
Amines	Biocides
Amines	Surfactants - Corrosive
Amines	Surfactants - Flammable
Amine formulations	Corrosion Inhibitors
Amine salts	Surfactants - Miscellaneous
Amine treated lignite	Oil Based Mud Additives
Ammonium bifluoride (CAS#1341-49-7)	Fluoride Generating Compounds
Ammonium bisulfite (CAS#10192-30-0)	Corrosion Inhibitors
Ammonium chloride (CAS#12125-02-9)	Salt Solutions
Ammonium fluoride (CAS#12125-01-8)	Fluoride Generating Compounds
Ammonium nitrate	Tracers
Ammonium persulfate (CAS#7727-54-0)	Breakers, Emulsion/Gel
Ammonium salts	Surfactants - Flammable
Anhydrous Ammonia (CAS#7664-41-7)	Biocide
Amphoteric surfactant formulation	Detergents/Foamers
Aniline formaldehyde copolymer hydrochlorite	Filtration Control Agents/Flocculants
Anionic polyacrylamide	Filtration Control Agents/Flocculants
Asphalt	Oil Based Mud Additives
Attapulgit	Viscosifiers
Barite (CAS#7727-43-7)	Weight Materials
Barite (CAS#7727-43-7)	Cement and Associated Additives
Bauxite (CAS#1318-16-7)	Proppants
Bentonite	Cement and Associated Additives
Bentonite	Viscosifiers
Benzoic acid (CAS#65-85-0)	Temporary Blocking Agents
Benzoic acid (CAS#65-85-0)	Breakers, Emulsion/Gel
Benzoic acid (CAS#65-85-0)	Acids, Organic
Boron compounds	Crosslinkers (Polymer Linking)
t-Butyl alcohol (CAS#75-65-0)	Solvents
Calcium bromide (CAS#71626-99-8)	Calcium Compounds
Calcium bromide (CAS#71626-99-8)	Salt Solutions
Calcium carbonate (CAS#1317-65-3)	Weight Materials

Alphabetized List of Representative Hazardous Chemicals and Cross Reference of Hazardous Chemical Categories For the Oil and Gas Exploration and Production Industry

<u>Hazardous Chemical</u>	<u>Hazardous Chemical Category</u>
Calcium chloride (CAS#10035-04-8)	Salt Solutions
Calcium chloride (CAS#10035-04-8)	Cement and Associated Additives
Calcium hydroxide (CAS#1305-62-0)	Alkalinity and pH Control Materials
Calcium hypochlorite (CAS#7778-54-3)	Calcium Compounds
Calcium lignosulfonate	Deflocculants
Calcium oxide (CAS#1305-78-8)	Calcium Compounds
Calcium sulfate (CAS#778-18-9)	Salt Solutions
Cane fibers	Lost Circulation Materials
Carbon dioxide (CAS#124-38-9)	Inert Gases
Carbon tetrachloride (CAS#56-23-5)	Solvents
Causticized leonardite	Filtration Control Agents/Flocculants
Cedar fibers	Lost Circulation Materials
Cellophane fibers	Lost Circulation Materials
Cellulose and guar derivatives	Gelling Agents
Cellulose flakes (CAS#9004-34-6)	Cement and Associated Additives
Cellulose polymer	Cement and Associated Additives
Cement (CAS#65997-15-1)	Cement and Associated Additives
Citric acid (CAS#5949-29-1)	Acids, Organic
Charged well jet perforating gun, Class C explosives	Explosives
Chlorine gas (CAS#7782-50-5)	Chlorine Gas
Chloroform (CAS#67-6-3)	Solvents
Chrome-free lignosulfonate	Deflocculants
Chromium lignosulfonate	Deflocculants
Coated aluminum	Cement and Associated Additives
Condensate	Produced Hydrocarbons
Corn cob	Lost Circulation Materials
Cottonseed hulls	Lost Circulation Materials
Crude oil (CAS#8002-05-9)	Produced Hydrocarbons
Detergents	Detergents/Foamers
Detonators, Class A explosives	Explosives
Diacetone alcohol (CAS#123-42-2)	Solvents
Diatomaceous earth (CAS#68855-54-9)	Cement and Associated Additives
Diatomaceous earth (CAS#68855-54-9)	Miscellaneous Drilling Additives
Diesel (CAS#68476-34-6)	Fuels
Diesel (CAS#68476-34-6)	Oil Based Mud Additives
Dithiocarbamates	Preservatives
Enzyme	Breakers, Emulsion/Gel
Ethoxylated phenol	Detergents/Foamers
Ethylenediamine (CAS#107-15-3)	Surfactant
Ethylenediaminetetraacetic acid (EDTA) (CAS#60-00-4)	Scale Inhibitors
Ethylene glycol (CAS#107-21-1)	Heat Transfer Fluid
Ethylene glycol monobutyl ether (CAS#111-76-2)	Solvents
Explosive power device, Class B	Explosives
Fatty acid salt formation	Defoaming Agents
Fatty alcohols	Surfactants - Flammable
Fly ash	Cement and Associated Additives
Ferrous sulfate (CAS#7782-63-0)	Salt Solutions
Formaldehyde (CAS#50-00-0)	Biocide
Formic acid (CAS#64-18-6)	Acids, Organic
Freon	Heat Transfer Fluid

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

Alphabetized List of Representative Hazardous Chemicals and Cross Reference of Hazardous Chemical Categories For the Oil and Gas Exploration and Production Industry

<u>Hazardous Chemical</u>	<u>Hazardous Chemical Category</u>
Fuel oil	Fuels
Galena	Weight Materials
Gasoline (CAS#8006-61-9)	Fuels
Gelatin	Corrosion Inhibitors
Gilsonite (CAS#12002-43-6)	Cement and Associated Additives
Gilsonite (CAS#12002-43-6)	Oil Based Mud Additives
Glass beads	Cement and Associated Additives
Glutaraldehyde (CAS#111-30-8)	Biocides
Glycols	Surfactants - Miscellaneous
Graphite (CAS#7782-42-5)	Lubricants, Drilling Mud Additives
Grease	Lubricants, Engine
Guar gum (CAS#9000-30-0)	Viscosifiers
Gypsum (CAS#10101-41-4)	Calcium Compounds
Gypsum (CAS#10101-41-4)	Cement and Associated Additives
Hematite (CAS#1317-60-8)	Cement and Associated Additives
Hematite (CAS#1317-60-8)	Weight Materials
Herbicides	Herbicides
Hydraulic Fluids	Hydraulic Fluids
Hydrochloric acid (<30%) (CAS#7647-01-0)	Acids, Inorganic
Hydrofluoric acid (<12%) (CAS#7664-39-3)	Acids, Inorganic
Hydrogen sulfide (CAS#7783-06-4)	Hydrogen Sulfide
Hydrolyzed polyacrylamide polymer	Shale Control Additives
Ilmenite	Cement and Associated Additives
Inorganic phosphates	Scale Inhibitors
Iron carbonate	Weight Materials
Iron lignosulfonate	Deflocculants
Ironite sponge (CAS#1309-37-1)	Corrosion Inhibitors
Isopropanol (CAS#67-63-0)	Biocides
Isopropanol (CAS#67-63-0)	Solvents
Isopropanol (CAS#67-63-0)	Surfactants - Flammable
Isothiazions	Preservatives
Kerosene (CAS#8008-20-6)	Fuels
Kerosene (CAS#8008-20-6)	Solvents
Latex	Cement and Associated Additives
Leonardite	Filtration Control Agents/Flocculants
Lignosulfonates	Cement and Associated Additives
Lime (CAS#1305-78-8)	Calcium Compounds
Lime (CAS#1305-78-8)	Cement and Associated Additives
Long chain alcohols	Cement and Associated Additives
Melamine resins	Resin and Resin Solutions
Mercaptans, aliphatic	Odorants
Methyl ethyl ketone (MEK) (CAS#78-93-3)	Solvents
Methyl isobutyl ketone (MIBK) (CAS#108-10-1)	Solvents
Methylene chloride (CAS#75-09-2)	Solvents
Methanol (CAS#67-56-1)	Solvents
Methanol (CAS#67-56-1)	Surfactants - Flammable
Mica (CAS#12001-26-2)	Lost Circulation Materials
Mineral oil	Oil Based Mud Additives
Mineral oil formulations	Lubricants, Drilling Mud Additives
Mixed alcohols	Defoaming Agents

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Alphabetized List of Representative Hazardous Chemicals and Cross Reference of Hazardous Chemical Categories For the Oil and Gas Exploration and Production Industry

<u>Hazardous Chemical</u>	<u>Hazardous Chemical Category</u>
Motor oil	Lubricants, Engine
Naphtha (CAS#8032-32-4)	Solvents
Naphthalene (CAS#91-20-3)	Temporary Blocking Agents
Natural gas	Produced Hydrocarbons
Nitrilotriacetic acid (NTA) (CAS#139-13-9)	Scale Inhibitors
Nitrogen (CAS#7727-37-9)	Inert Gases
Nonoil base spotting fluid	Spotting Fluids
Nut shells	Lost Circulation Materials
Oil base spotting fluid (diesel oil base)	Spotting Fluids
Oil base spotting fluid (mineral oil base)	Spotting Fluids
Organic phosphates	Scale Inhibitors
Organo-aluminum complex	Shale Control Additives
Organo-fatty acid salt	Lubricants, Drilling Mud Additives
Organo-metallic complexes	Crosslinkers (Polymer Linking)
Organophilic clay	Oil Based Mud Additives
Organophilic hectorite	Oil Based Mud Additives
Oxalic acid (CAS#144-62-7)	Miscellaneous Drilling Additives
Oxyalkylated phenols	Surfactants - Flammable
Paint and paint thinner	Paint and Paint Thinner
Paper	Lost Circulation Materials
Paraformaldehyde (CAS#30525-89-4)	Preservatives
Partially hydrolyzed polyacrylamide	Filtration Control Agents/Flocculants
Petroleum distillate (CAS#8030-30-6)	Oil Based Mud Additives
Petroleum naphtha (CAS#8030-30-6)	Surfactants - Flammable
Petroleum wax polymers	Temporary Blocking Agents
Phenolic resins	Resin and Resin Solutions
Phosphonates	Scale Inhibitors
Pipe joint compound	Pipe Joint Compound
Polyacrylate	Scale Inhibitors
Polyacrylate polymer	Shale Control Additives
Polyalkanolamine ester	Filtration Control Agents/Flocculants
Polyamine acrylate	Filtration Control Agents/Flocculants
Polyanionic cellulose	Filtration Control Agents/Flocculants
Polyethylene powder	Oil Based Mud Additives
Polyglycol resins	Resin and Resin Solutions
Polymerized organic acids	Oil Based Mud Additives
Polyphosphates	Scale Inhibitors
Potassium acetate (CAS#127-08-2)	Miscellaneous Drilling Additives
Potassium chloride (CAS#7447-40-7)	Cement and Associated Additives
Potassium chloride (CAS#7447-40-7)	Salt Solutions
Potassium hydroxide (CAS#1310-58-3)	Alkalinity and pH Control Materials
Potassium lignite	Filtration Control Agents/Flocculants
Potassium nitrate	Tracers
Pozzolans	Cement and Associated Additives
Preserved starch	Filtration Control Agents/Flocculants
Propane (CAS#74-98-6)	Fuels
Quarternary polyamine	Surfactants - Corrosive
Quebracho	Deflocculants
Resin coated sand	Proppants
Rock wool	Lost Circulation Materials

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Alphabetized List of Representative Hazardous Chemicals and Cross Reference of Hazardous Chemical Categories For the Oil and Gas Exploration and Production Industry

<u>Hazardous Chemical</u>	<u>Hazardous Chemical Category</u>
Sawdust	Lost Circulation Materials
Sepiolite	Viscosifiers
Siderite	Weight Materials
Silicones	Defoaming Agents
Silica	Silica
Soda ash (CAS#497-19-8)	Alkalinity and pH Control Materials
Sodium acetate (CAS#127-09-3)	Breakers, Emulsion/Gel
Sodium acetate (CAS#127-09-3)	Buffers, pH
Sodium acid pyrophosphate (SAPP)	Deflocculants
Sodium bicarbonate (CAS#144-55-8)	Alkalinity and pH Control Materials
Sodium bicarbonate (CAS#144-55-8)	Buffers, pH
Sodium carbonate (CAS#497-19-8)	Buffers, pH
Sodium carbonate (CAS#497-19-8)	Alkalinity and pH Control Materials
Sodium carboxymethyl cellulose (CAS#9004-32-4)	Filtration Control Agents/Flocculants
Sodium chloride (CAS#7647-14-5)	Cement and Associated Additives
Sodium chloride (CAS#7647-14-5)	Salt Solutions
Sodium chloride (CAS#7647-14-5)	Temporary Blocking Agents
Sodium chromate (CAS#7775-11-3)	Corrosion Inhibitors
Sodium dichromate (CAS#10588-01-9)	Corrosion Inhibitors
Sodium diacetate	Buffers, pH
Sodium hexametaphosphate (CAS#10124-56-8)	Deflocculants
Sodium hydroxide (CAS#1310-73-2)	Alkalinity and pH Control Materials
Sodium metasilicate	Cement and Associated Additives
Sodium persulfate (CAS#7772-27-1)	Breakers, Emulsion/Gel
Sodium phosphate (oilfos)	Deflocculants
Sodium polyacrylate	Corrosion Inhibitors
Sodium sulfate (CAS#7757-82-6)	Salt Solutions
Sodium tetraphosphate	Deflocculants
Sodium tripolyphosphate (STP)	Deflocculants
Solder	Welding materials
Starch (CAS#9005-25-8)	Filtration Control Agents/Flocculants
Styrene, maleic anhydride co-polymer salt	Deflocculants
Sulfites	Gel Stabilizers
Sulfo-methylated tannin	Deflocculants
Sulfomethylated phenol formaldehyde	Filtration Control Agents/Flocculants
Sulfonates	Friction Reducers
Sulfonates	Surfactants - Flammable
Sulfonic acids	Surfactants - Corrosive
Sulfonated asphaltic residuum	Shale Control Additives
Sulfonated vegetable ester	Spotting Fluids
Sulfonate surfactant	Oil Based Mud Additives
Sulfur Dioxide (CAS#7446-09-5)	Sulfur Dioxide
Sulfuric acid (CAS#7664-93-9)	Acids, Inorganic
Tributylphosphate (CAS#126-73-8)	Defoaming Agents
Thiosulfates	Gel Stabilizers
Thiozolin	Biocides
Toluene (CAS#108-88-3)	Solvents
Turpentine (CAS#8006-64-2)	Solvents
Vegetable oil formulations	Lubricants, Drilling Mud Additives
Vinylsulfonate copolymer	Filtration Control Agents/Flocculants

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**Alphabetized List of Representative Hazardous Chemicals
and Cross Reference of Hazardous Chemical Categories
For the Oil and Gas Exploration and Production Industry**

<u>Hazardous Chemical</u>	<u>Hazardous Chemical Category</u>
Walnut shells	Lubricants, Drilling Mud Additives
Welding rods	Welding Materials
Xanthan gum	Viscosifiers
Xylene (CAS#1330-20-7)	Solvents
Zinc bromide (CAS#7699-45-8)	Miscellaneous Drilling Additives
Zinc bromide (CAS#7699-45-8)	Salt Solutions
Zinc carbonate (CAS#3486-35-9)	Corrosion Inhibitors
Zinc chloride (CAS#7646-85-7)	Salt Solutions
Zinc lignosulfonate	Corrosion Inhibitors
Zinc oxide (CAS#1314-13-2)	Corrosion Inhibitors
Zinc sulfate	Salt Solutions
Zirconium proppant	Proppants

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