

Material Safety Data Sheet



Emergency Medical Telephone (800) 441-3637

CRUDE OIL

I. MATERIAL IDENTIFICATION

Name
Crude Oil

CAS Registry Number
8002-05-9

Chemical Family
Petroleum Hydrocarbons

Transportation Emergency Phone
1-(800) 424-9300 (Chemtrec)

II. OSHA HAZARD DETERMINATION

The material is hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Refer to Section XI of this MSDS for federal and state regulatory information.

Hazardous Ingredients	CAS Registry Number	Concentration
Hydrocarbons (Aromatic, Naphthenic, and Paraffinic)	Mixture	> 95%
Benzene	71-43-2	0.1 - 2 wt %
Hydrogen Sulfide*	7783-06-4	< 0.01 - 10%

*Hydrogen sulfide may accumulate in container head space.

Hazardous Physical Properties

Flash point is variable. Could be as hazardous as Class IA Flammable Liquid - NFPA 30-1987.

III. PHYSICAL DATA

Appearance and Odor
Usually black or green liquid;
Aromatic or sulfide odor

Specific Gravity ($H_2O = 1$)
0.71 - 1.1

Boiling Point/Range
50° - >1100°F

Evaporation Rate (Ether = 1.0)
Variable

Vapor Pressure (mmHg) @ 68°F
100 - 800 (Variable)

IV. REACTIVITY DATA

Stable: X Unstable:

Hazardous Decomposition Materials: Normal combustion forms carbon dioxide; incomplete combustion may form carbon monoxide.

Conditions to Avoid: Oxidizing materials, heat, flame.

Hazardous Polymerization: Will not occur.

V. FIRE AND EXPLOSION HAZARD DATA

LEL: < 1 UEL: 10

Flash Point: Less Than Ambient (Variable)

Flash point is variable; handle and store in accordance with NFPA procedures. Could be hazardous as Class 1A Flammable Liquid - NFPA 30-1987.

Extinguishing Media: Use dry chemical, CO₂, foam.

Special Fire Fighting Procedures: Water may be ineffective to extinguish, but water should be used to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Water spray may be used to flush spills away from areas of potential ignition.

Unusual Fire and Explosion Hazards: Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection.

National Fire Protection Association (NFPA) Classification

Health 1 Fire 3 Reactivity 0

HAZARD RATING

Least-0 Slight-1 Moderate-2
High-3 Extreme-4

VI. TRANSPORTATION AND STORAGE

Storage Conditions: Store in accordance with National Fire Protection Association regulations.

Shipping Information:

DOT: Flash Point < 100°F
Proper Shipping Name: Crude Oil, Petroleum
Hazard Class: Flammable Liquid
UN/NA No.: UN 1267
DOT Label(s): Flammable Liquid
DOT Placard: Flammable

Flash Point ~100°F
Crude Oil, Petroleum
Combustible Liquid
UN 1267
None
Combustible

IATA/IMO:

Flash Point < 73°F
Proper Shipping Name: Petroleum Crude Oil
Hazard Class: 3 (3.2 IMO)
UN No.: UN 1267
IMO/ICAO Label: Flammable Liquid
Packaging Group: II

Flash Point ~73°F
Petroleum Crude Oil
3 (3.3 IMO)
UN 1267
Flammable Liquid
III

VII. HEALTH HAZARD INFORMATION

Exposure Limits for Crude Oil (Sour)

PEL: None Established

TLV: None Established

Exposure Limits for Petroleum Distillates

PEL: 400 ppm; 1600 mg/m³ TWA

Exposure Limits for Benzene

PEL: 1 ppm - 8 Hr. TWA
5 ppm - (Short-Term Exposure Limit)
0.5 ppm - Action Level

TLV: 10 ppm - 32 mg/m³
Da Post AEL: 1 ppm - 8 & 12 Hr. TWA
5 ppm - 15 Min. TWA

Exposure Limits for Hydrogen Sulfide

PEL: 10 ppm, 14 mg/m³
STEL 15 ppm, 21 mg/m³

TLV: 10 ppm, 14 mg/m³
STEL 15 ppm, 21 mg/m³
Da Post AEL: 10 ppm - 8 & 12 Hr. TWA

Primary Routes of Exposure/Entry: Inhalation, Skin.

Signs and Symptoms of Exposure/Medical Conditions Aggravated by Exposure:

Studies with mice or rats have shown that some petroleum distillates have caused either damage or tumors of the kidneys or tumors of the liver. However, kidney effects were not seen in similar studies involving guinea pigs, dogs or monkeys. Also, the significance of the liver tumors in rodents is highly speculative.

Mouse skin painting studies have shown that some crude oils caused a low incidence of tumors. However, these studies involved repeated exposure of shaved skin which was never washed free of test material. The product contains petroleum hydrocarbons which may cause irritation to the eyes, skin and lungs after prolonged or repeated exposure. Extreme overexposure may cause weakness, headache, nausea, confusion, blurred vision, drowsiness and other nervous system effects; greater exposure may cause dizziness, slurred speech, flushed face, unconsciousness or convulsions.

This product may contain hydrogen sulfide which is irritating at low concentrations to the eyes, skin and lungs. At higher concentrations, loss of ability to smell hydrogen sulfide, respiratory paralysis and death may occur.

A few studies have indicated that workers exposed many years to high concentrations of benzene have a slightly higher incidence of leukemia. Benzene can also be toxic to the blood and blood-forming tissues.

Carcinogenicity:

The following components are listed by NTP, IARC, or OSHA as carcinogens:

	<u>NTP</u>	<u>IARC</u>	<u>OSHA</u>
Benzene	Yes	Category 1	Yes

VIII. EMERGENCY AND FIRST AID INFORMATION

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

Skin: In case of contact, immediately wash skin with soap and plenty of water. If irritation develops, consult a physician.

Inhalation: Remove victim to fresh air immediately. If breathing stops, begin artificial resuscitation. Keep victim warm and at rest. Seek medical attention.

Because hydrogen sulfide can cause death, if it is present, rescuers must review Respiratory Protection in Section X of this MSDS before attempting rescue.

Ingestion: If swallowed, do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician.

Notes to Physicians: Gastric lavage by qualified medical personnel may be considered, depending on quantity of material ingested. The use of charcoal slurries may be considered in some clinical cases.

IX. SPILL, LEAK AND DISPOSAL INFORMATION

In Case of Spill or Leak: Contain spill immediately in smallest possible area. Recover as much of the product as possible by mechanical means, followed by recovering residual fluids by using absorbent materials. Nonrecoverable product, contaminated soil, debris and other materials should be placed in proper containers for ultimate disposal. Avoid washing, draining or directing material to storm or sanitary sewers.

NOTE: Review FIRE AND EXPLOSION HAZARDS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.

Waste Disposal Method: Recycle as much of the recoverable product as possible. Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

X. PRECAUTIONARY MEASURES

Respiratory Protection: In atmospheres where the concentrations of hydrogen sulfide may exceed any of the exposure levels shown in Section VII:

Type C respiratory protection such as an airline respirator with full face piece and an escape bottle or an SCBA with full face piece should be used. Such respiratory protection must be operated in pressure-demand, positive-pressure, or continuous-flow mode. Use of negative pressure respirators should be avoided because of the possibility of olfactory fatigue which can be caused by hydrogen sulfide.

In all other situations:

Select appropriate NIOSH-approved organic vapor respiratory protection where necessary to maintain exposures to petroleum distillates and benzene below the acceptable levels shown in Section VII.

Proper respirator selection should be determined by adequately trained personnel and based on the contaminant(s), the degree of potential exposure, and published respiratory protection factors.

Ventilation: Wherever necessary, engineering controls should be utilized to minimize possible exposure to hydrogen sulfide. Properly designed local exhaust ventilation may be useful to remove hydrogen sulfide from a specific work area.

Protective Gloves: Neoprene or NBR gloves should be worn to protect against chronic skin contact.

Eye Protection: Safety glasses with side shields and/or face shield where splashing is present. Full face piece if respiratory protection is required for hydrogen sulfide.

Other Protective Equipment: Coveralls if splashing is present.

XI. REGULATORY INFORMATION

FEDERAL REGULATIONS

CERCLA, 40 CFR 302

Not Applicable

**SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986, TITLE III
SECTIONS 302, 304, 311, 312, 313**

SECTION 302/304 - Extremely Hazardous Substances (40 CFR 355)

The material contains extremely hazardous substances at greater than 1.0% concentration as listed below; it is possible that this material may contain other extremely hazardous substances at a lower concentration.

Extremely Hazardous Substances: Hydrogen Sulfide

Threshold Planning Quantity: 500 lbs of H₂S

Reportable Quantity: 100 lbs of H₂S

Concentration: 10%

SECTION 311/312 - MSDS and Chemical Inventory Reporting Requirements (40 CFR 370)

The material should be reported under the following EPA hazard categories:

☒ Immediate (Acute) Health Hazard

☒ Delayed (Chronic) Health Hazard

☒ Fire

☐ Sudden Release of Pressure

☐ Reactive

☐ Not Applicable

NOTE: See Section II for the concentration of any ingredients classified as hazardous by OSHA.

SECTION 313 - List of Toxic Chemicals (40 CFR 372)

The material contains the following chemical(s) at a level of 1.0% or greater (0.1% for carcinogens) on the list of Toxic Chemicals and is subject to toxic chemical release reporting requirements.

<u>Toxic Chemical</u>	<u>CAS Registry Number</u>	<u>Approx. Concentration (Upper Bound)</u>
Benzene	71-43-2	2.0%

TOXIC SUBSTANCES CONTROL ACT (TSCA), 40 CFR 710

The material is in the TSCA Inventory of Chemical Substances (40 CFR 710) and/or is otherwise in compliance with TSCA.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261, SUBPART C AND D

The material, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however, it could be considered hazardous if it meets criteria for being toxic, corrosive, ignitable or reactive according to U.S. EPA definitions (40 CFR 261). Additionally, it could be designated as hazardous according to state regulations. This material could also become a hazardous waste if it is mixed with or comes in contact with a listed hazardous waste. If such contact or mixing occurs, check 40 CFR 261 to determine whether it is a hazardous waste. If it is a hazardous waste, Regulations 40 CFR 262, 263, 264 and 268 may apply.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 116.4A,

SECTION 311

The material contains the following ingredient(s) which is considered hazardous if spilled in navigable waters.

<u>Ingredient</u>	<u>Reportable Quantity</u>
Petroleum Hydrocarbon	Film or sheen upon or discoloration of the water surface or adjoining shoreline.

HAZARDOUS MATERIALS TRANSPORTATION REGULATIONS, 49 CFR 171-178

Not Applicable

FOREIGN REGULATION

CANADIAN HAZARDOUS PRODUCTS ACT (WHMIS)

The material is a WHMIS Controlled Product and a Canadian MSDS is available.

STATE REGULATIONS

**CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986
(PROPOSITION 65)**

The material contains ingredient(s) known to the State of California to cause cancer, birth defects or other reproductive harm. Read and follow label directions and use care when handling or using all petroleum products.

Ingredient
Benzene

PENNSYLVANIA WORKER AND COMMUNITY RIGHT TO KNOW ACT

The material contains the following hazardous substances:

Categories: S = Special Hazardous Substance ($\geq 0.01\%$)

H = Hazardous Substance ($\geq 1.0\%$)

E = Environmental Hazard ($\geq 1.0\%$)

<u>Ingredient</u>	<u>CAS Registry Number</u>	<u>Category</u>
Benzene	71-43-2	E,S
Hydrogen Sulfide	7783-06-4	E
Petroleum Distillates	Mixture	H

Nonhazardous ingredient(s) information is withheld as trade secret in accordance with Section 11 of the Act.

MSDS Code: MISC0019

DATE OF LATEST REVISION/REVIEW:

DEPARTMENT RESPONSIBLE FOR MSDS:

PRODUCT INFORMATION CONTACT:

1/90

Safety, Occupational Health & Environmental Affairs

Hazard Communication Analyst

Conoco Inc.

(713) 293-5550

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