



Conoco Inc.

MISC0019



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Crude Oil

MATERIAL IDENTIFICATION

Manufacturer/Distributor	Conoco Inc. P.O. Box 2197 Houston, TX 77252	
Phone Numbers	General Information	1-(713)293-5550
	Transport Emergency	1-(800)424-9300
	Medical Emergency	1-(800)441-3637
Chemical Family	Petroleum Hydrocarbons	
CAS Number	8002-05-9	
NFPA Ratings	Health:	1
	Flammability:	3
	Reactivity:	0
NPCA-HMIS Ratings	Health:	2
	Flammability:	3
	Reactivity:	0
	Personal Protection rating to be supplied by user depending on use conditions.	
WHMIS Classification	CLASS B Division 2 : Flammable Liquid CLASS D Division 1 Subdivision A : Very Toxic Material/Acute Lethality CLASS D Division 2 Subdivision A : Very Toxic Material. Chronic Toxic Effects. Carcinogen. CLASS D Division 2 Subdivision B : Toxic Material. Skin or Eye Irritant.	

OSHA HAZARD DETERMINATION

Hazardous Ingredients	CAS Number	Percent
Hydrocarbons (Aromatic, Naphthenic, & Paraffinic)	Mixture	>95
*Benzene	71-43-2	.01-2
Hydrogen Sulfide	7783-06-4	0-3

* Regulated as a Toxic Chemical under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Hydrogen sulfide may accumulate in container head space.

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PHYSICAL DATA

Boiling Point	50 to >1100°F
Vapor Pressure	100-800 mm Hg at 68°F (Variable)
Evaporation Rate	(Ether = 1.0) Variable
Odor	Aromatic or sulfide
Form	Liquid
Color	Usually greenish-black
Specific Gravity	0.7-1.1 (Water = 1)

HAZARDOUS REACTIVITY

Instability	Stable.
Incompatibility	Incompatible with oxidizing materials. Avoid heat and flame.
Decomposition	Normal combustion forms carbon dioxide; incomplete combustion may produce carbon monoxide.
Polymerization	Polymerization will not occur.

FIRE AND EXPLOSION DATA

Flammable Limits in Air, % by Volume	LEL <1 UEL 10
Flash Point: Less than Ambient (Variable)	
Fire and Explosion Hazards	Flash point is variable; handle and store in accordance with NFPA procedures. Could be as hazardous as Class 1A Flammable Liquid - NFPA 30-1987.
Extinguishing Media	Foam. Dry Chemical. CO2.
Special Fire Fighting Instructions	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.

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HEALTH HAZARD INFORMATION

Acute Toxicity Data: None Available.

Other Toxicity Data:

Primary Route(s) of Exposure/Entry: Inhalation, skin.

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

It is highly unlikely that human exposure at or below the recommended exposure level poses a significant health hazard. In this regard, good workplace practices and proper engineering designs will minimize exposure. Animal studies show that prolonged or repeated inhalation exposure to high concentrations of some petroleum distillates has caused liver tumors in mice and adverse kidney effects in male rats. However, kidney effects were not seen in similar studies involving female rats, guinea pigs, dogs, or monkeys. Also, human studies do not indicate this peculiar sensitivity for kidney damage. The significance of liver tumors in exposed mice is highly speculative and not a good indicator for predicting a potential human health hazard.

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 eyes, skin and lungs after prolonged or repeated exposure. Extreme exposure 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 (i.e., anemia, low blood cell count, and change in blood clotting).

Carcinogenicity

The following components are listed by IARC, NTP, OSHA, or ACGIH as carcinogens. A 'P' indicates a Proposed Carcinogen.

Material
Benzene

IARC	NTP	OSHA	ACGIH
X	X	X	X

Du Pont controls the following materials as potential carcinogens :
Benzene.

Exposure Limits

Crude Oil

AEL * (Du Pont)

None Established

TLV (ACGIH)

None Established

PEL (OSHA)

400 ppm, 1,600 mg/m³ - 8 Hr TWA

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HEALTH HAZARD INFORMATION (continued)

Other Applicable Exposure Limits

Benzene

AEL * (Du Pont)	1 ppm - 8 & 12 Hr. TWA 5 ppm - 15 Min. TWA
TLV (ACGIH)	10 ppm, A2; 32 mg/m ³ , A2 - 8 Hr TWA See Notice of Intended Changes (1991-92)
PEL (OSHA)	0.1 ppm, 0.3 mg/m ³ - 8 hr TWA, skin, A1 1 ppm - 8 Hr. TWA 5 ppm - (Short term exposure limit) 0.5 ppm - Action level

Hydrogen Sulfide

AEL * (Du Pont)	10 ppm - 8 & 12 Hr. TWA
TLV (ACGIH)	10 ppm, 14 mg/m ³ - 8 Hr TWA STEL 15 ppm, 21 mg/m ³
PEL (OSHA)	10 ppm, 14 mg/m ³ - 8 Hr TWA STEL 15 ppm, 21 mg/m ³

* AEL is Du Pont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

Safety Precautions

Do not breathe vapor or mist. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Wash clothing after use.

FIRST AID

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. If hydrogen sulfide could be present, review the Personal Protective Equipment Section.

Skin Contact

In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse. If irritation develops, consult a physician.

Eye Contact

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

Ingestion

If swallowed, do not induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

Notes to Physician

Activated charcoal slurry may be administered. To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400mL water and mix thoroughly. Administer 5mL/kg, or 350mL for an average adult.

PROTECTION INFORMATION

Generally Applicable Control Measures and Precautions

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.

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PROTECTION INFORMATION (continued)

Personal Protective Equipment

RESPIRATORY PROTECTION

In atmospheres where the concentrations of hydrogen sulfide may exceed any of the exposure levels shown in the Health Hazard Section:

Type C respiratory protection such as an airline respirator with full facepiece and an escape bottle, or a SCBA with full facepiece 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 the Health Hazard Section.

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

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 facepiece if respiratory protection is required for hydrogen sulfide.

OTHER PROTECTIVE EQUIPMENT

Coveralls if splashing is present. Launder contaminated clothing before reuse.

SPILL, LEAK AND DISPOSAL INFORMATION

Spill, Leak, or Release

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Dike spill. Prevent liquid from entering sewers, waterways or low areas. Soak up with sawdust, sand, oil dry or other absorbent material. Shovel or sweep up.

Remove source of heat, sparks, flame, impact, friction or electricity including internal combustion engines and power tools. If equipment is used for spill cleanup, it must be explosion proof and suitable for flammable liquid and vapor.

NOTE: Vapors released from the spill may create an explosive atmosphere.

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SPILL, LEAK AND DISPOSAL INFORMATION (continued)**Waste Disposal**

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

By itself, the liquid is expected to be a RCRA ignitable hazardous waste.

SHIPPING INFORMATION**DOT**

Proper Shipping Name

Not regulated if flash point is >200 F; if <200 F see below.

IATA/IMO

Proper Shipping Name

Not restricted if flash point is >141 F; if <141 F see below.

TDG

Proper Shipping Name

Not regulated if flash point is >141 F; if <141 F see below.

DOT:

Flashpoint - <100 F >100 F - <200 F

Proper

Shipping Name : Crude Oil, Petroleum Crude Oil, Petroleum

Hazard Class : Flammable Liquid Combustible Liquid

UN/NA No. : UN 1267 UN 1267

DOT Label : Flammable Liquid None

DOT Placard : Flammable Combustible

Note : See below

IATA/IMO:

Flashpoint - <73 F >73 F - <141 F

Proper

Shipping Name : Petroleum crude oil Petroleum crude oil

Hazard Class : 3 (3.2 IMO) 3 (3.3 IMO)

UN No. : UN 1267 UN 1267

IMO/ICAO Label : Flammable liquid Flammable liquid

Packaging Group: II III

Note : See below

NOTE : May contain potentially harmful concentrations of hydrogen sulfide, which can accumulate in the head space of storage vessel.

STORAGE CONDITIONS

Store in accordance with National Fire Protection Assn regulations.

TITLE III HAZARD CLASSIFICATIONS

Acute	Yes
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Chronic	Yes
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Fire	Yes
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Reactivity	No
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Pressure	No
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REGULATORY INFORMATION

OSHA HAZARD DETERMINATION

The material is hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

EPA DETERMINATIONS

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, & LIABILITY ACT (CERCLA/SUPREFUND), 40 CFR 302
Not applicable; this material is covered by the CERCLA petroleum exclusion. Releases are not reportable.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986, TITLE III (SARA) - 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

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). This material could also become a hazardous waste if it is mixed with or comes in contact with a listed hazardous waste. If it is a hazardous waste, regulations 40 CFR 262-266 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.

Ingredient	Reportable Quantity
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

STATE REGULATIONS

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REGULATORY INFORMATION (continued)

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 (> or = 0.01%)
H - Hazardous Substance (> or = 1.0%)
E - Environmental Hazard (> or = 1.0%)

Ingredient	CAS Registry Number	Category
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.

ADDITIONAL INFORMATION AND REFERENCES

CANADIAN TDG

Proper Shipping Name: Petroleum Crude Oil
TDG Classes : 3.1 (Flash < 0 deg F)
 : 3.2 (Flash 0 to < 73 deg F)
 : 3.3 (Flash 73 deg F to < 141 F)
PIN Number : UN 1267
TDG Label : Flammable liquid
TDG Placard : Flammable

NOTE : May contain potentially harmful concentrations of hydrogen sulfide, which can accumulate in the head space of storage vessels.

The above data are based on tests, experience, and other information which Conoco believes reliable and are supplied for informational purposes only. However, some ingredients may have been purchased or obtained from third-party manufacturers. In these instances, Conoco, in good faith, relies on information provided by those third parties. Since conditions of use are outside our control, CONOCO DISCLAIMS ANY LIABILITY FOR DAMAGE OR INJURY WHICH RESULTS FROM USE OF THE ABOVE DATA. NOTHING CONTAINED HEREIN SHALL CONSTITUTE A GUARANTEE, WARRANTY (INCLUDING WARRANTY OF MERCHANTABILITY) OR REPRESENTATION (INCLUDING FREEDOM FROM PATENT LIABILITY) BY CONOCO WITH RESPECT TO THE DATA, THE MATERIAL DESCRIBED, OR ITS USE FOR ANY SPECIFIC PURPOSE, EVEN IF THAT PURPOSE IS KNOWN TO CONOCO.

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End of MSDS

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