



Crude Oil

Safety Data Sheet

Version: 1

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Crude Oil

1.2. Intended Use of the Product

Use of the substance/mixture: Refining into Fuels

1.3. Name, Address, and Telephone of the Responsible Party

Company Shakespeare Oil Company Inc.

202 West Main St.

Salem, Illinois 62881

Phone: (618) 548-1585

www.shakespeare-oil.com

1.4. Emergency Telephone Number

Emergency Number Shakespeare Oil Company Inc. (866) 548-7626 (CHEMTREC) (800) 424-9300

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Flam. Liq. 1 H224

Skin Irrit. 2 H315

Eye Irrit. 2A H319

Muta. 1B H340

Carc. 1A H350

Repr. 2 H361

STOT SE 3 H336

STOT RE 1 H372

Asp. Tox. 1 H304

Aquatic Acute 2 H401

Aquatic Chronic 2 H411

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

Hazard Statements (GHS-US)

: Danger

: H224 - Extremely flammable liquid and vapor.

H304 - May be fatal if swallowed and enters airways.

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H336 - May cause drowsiness or dizziness.

H340 - May cause genetic defects.

H350 - May cause cancer.

H361 - Suspected of damaging fertility or the unborn child.

H372 - Causes damage to organs through prolonged or repeated exposure.

H401 - Toxic to aquatic life.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary Statements (GHS-US)

: P202 - Do not handle until all safety precautions have been read and understood.

P210 - Keep away from heat, sparks, open flames, hot surfaces. No smoking.

P233 - Keep container tightly closed.

P240 - Ground/bond container and receiving equipment.

P241 - Use explosion-proof electrical, lighting, ventilating equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

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P260 - Do not breathe mist, spray, vapors, fume.
P264 - Wash hands, forearms, and exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear eye protection, face protection, protective clothing, protective gloves.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER, a doctor.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see Section 4).
P331 - Do NOT induce vomiting.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO₂), dry extinguishing powder to extinguish.
P391 - Collect spillage.
P403+P233+P235 - Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Exposure may aggravate individuals with pre-existing kidney, liver, and pulmonary disorders. Flammable vapors can accumulate in head space of closed systems. All crudes contain varying amounts of sulfur, this product has low sulfur content. Contains a small amount of Hydrogen Sulfide, symptoms of overexposure are headaches, dizziness, nausea, coughing, respiratory irritation, eye irritation, skin irritation, pain in the nose, and loss of consciousness. Heating of the product may release higher amounts of Hydrogen Sulfide (H₂S).

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	Classification (GHS-US)
Petroleum	(CAS No) 8002-05-9	95 - 99	Flam. Liq. 1, H224 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 1B, H350 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

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Toluene	(CAS No) 108-88-3	0 - 1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Xylenes (o-, m-, p- isomers)	(CAS No) 1330-20-7	0 - 1	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Asp. Tox. 1, H304 Aquatic Acute 2, H401
Benzene	(CAS No) 71-43-2	0 - 1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
Ethylbenzene	(CAS No) 100-41-4	0 - 1	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapour), H332 Eye Irrit. 2B, H320 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Cyclohexane	(CAS No) 110-82-7	0 - 1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 1, H410
Hydrogen sulfide	(CAS No) 7783-06-4	0 - 0.001	Flam. Gas 1, H220 Liquefied gas, H280 Acute Tox. 2 (Inhalation:gas), H330 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid Measures After Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

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First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation develops or persists.

First-aid Measures After Ingestion: Rinse mouth. DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: May cause damage to organs through prolonged or repeated exposure. May cause genetic defects.

Suspected of damaging fertility or the unborn child. May cause cancer. Causes serious eye irritation. Causes skin irritation. May cause drowsiness or dizziness. Aspiration hazard.

Symptoms/Injuries After Inhalation: Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Symptoms/Injuries After Skin Contact: Causes skin irritation. Redness, pain, swelling, itching, burning, dryness, and dermatitis. May be absorbed through the skin in toxic amounts if large areas of skin are exposed.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation. Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Symptoms/Injuries After Ingestion: The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure. May cause genetic defects. Suspected of damaging fertility or the unborn child. May cause cancer. Contains benzene, a regulated human carcinogen. Benzene has the potential to cause anemia and other blood diseases, including leukemia, after repeated and prolonged exposure. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with systemic toxicity. See also Section 11 – Toxicological Information.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media:

FOR SMALL FIRES: Use fire extinguisher with class B rating, dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂). Water may be ineffective but water should be used to keep fire-exposed containers cool.

FOR LARGE FIRES: Water spray, fog, alcohol resistant foam. Water may be ineffective but water should be used to keep fire-exposed containers cool.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Extremely flammable liquid and vapor. Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Explosion Hazard: May form flammable/explosive vapor-air mixture. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Runoff to sewer may cause fire or explosion hazard.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Small fires in the incipient stage may typically be extinguished using handheld portable fire extinguishers and other firefighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke, or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full face piece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish fire, often including the need for properly applied firefighting foam. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

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Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Use water spray to disperse vapors. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Remove ignition sources. Use special care to avoid static electric charges. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid breathing (vapor, mist, spray). Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Do not allow product to spread to environment.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel, isolate, and ventilate area. Eliminate ignition sources. Stop leak if safe to do so.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Eliminate all ignition sources. Absorb and/or contain spill with inert material. Do not take up in combustible material such as: saw dust or cellulosic material. Use only non-sparking tools. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see section 8). Notify authorities if product enters sewers or public waters. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Do not pressurize, cut, or weld containers. Flammable vapors may accumulate in the head space of closed systems. Container may remain hazardous when empty. Contains a small amount of hydrogen sulfide. Hydrogen sulfide is a fatal and highly flammable gas with a rotten egg odor that quickly causes odor fatigue. Heating of this product and storage under elevated temperatures or over long periods of time may release higher amounts of hydrogen sulfide. Hydrogen sulfide is also an asphyxiant.

Precautions for Safe Handling: Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Use only non-sparking tools. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Use only outdoors or in a well-ventilated area. Do not breathe mist, spray, vapors. Wear a self-contained breathing apparatus and appropriate personal protective equipment (PPE).

Naturally Occurring Radioactive Material (NORM): Industry experience indicates this material may contain small amounts of naturally-occurring uranium, thorium, and their decay products (NORM) which can accumulate in oil production and process equipment, particularly the equipment handling the water associated with crude oil production.

Production equipment should be assessed for external gamma radiation and access may need to be restricted in accordance with OSHA 29 CFR 1910.1096 during operation.

Production equipment should also be assumed to be internally contaminated with long half-life decay products that emit alpha radiation, which is a hazard if inhaled or ingested. Unless measurements indicate otherwise, steps should be taken to minimize skin and inhalation risk exposure to NORM dusts/mists by wearing personal protective clothing, utilizing respiratory protection, and practicing good personal hygiene. Please refer to API Bulletin E2, "Bulletin on Management of Naturally Occurring Radioactive Materials in Oil and Gas Production" for additional information on managing NORM. Scales, sludge and other deposits from this equipment may have an accumulation of NORM.

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Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Wash hands and forearms thoroughly after handling. Do not eat, drink or smoke when using this product. Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Ground/bond container and receiving equipment. Use explosion-proof electrical, lighting, ventilating equipment. Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors, Do not pressurize, cut, heat, weld or expose such containers to sources of ignition. Keep in fireproof place. Store locked up.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers.

7.3. Specific End Use(s) Refining into Fuels

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

Petroleum (8002-05-9)		
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	350 mg/m ³
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	1800 mg/m ³ (15 min)
USA IDLH	US IDLH (ppm)	1100 ppm (10% LEL)
Toluene (108-88-3)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	375 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	100 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	560 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	150 ppm
USA IDLH	US IDLH (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm
Xylenes (o-, m-, p- isomers) (1330-20-7)		
USA ACGIH	ACGIH TWA (ppm)	100 ppm
USA ACGIH	ACGIH STEL (ppm)	150 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm
Benzene (71-43-2)		
USA ACGIH	ACGIH TWA (ppm)	0.5 ppm
USA ACGIH	ACGIH STEL (ppm)	2.5 ppm
USA NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (STEL) (ppm)	1 ppm
USA IDLH	US IDLH (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	10 ppm 1 ppm
USA OSHA	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1028)
USA OSHA	OSHA PEL (Ceiling) (ppm)	25 ppm
Ethylbenzene (100-41-4)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	435 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	100 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	545 mg/m ³

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USA NIOSH	NIOSH REL (STEL) (ppm)	125 ppm
USA IDLH	US IDLH (ppm)	800 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm
Cyclohexane (110-82-7)		
USA ACGIH	ACGIH TWA (ppm)	100 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1050 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	300 ppm
USA IDLH	US IDLH (ppm)	1300 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1050 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	300 ppm
Hydrogen sulfide (7783-06-4)		
USA ACGIH	ACGIH TWA (ppm)	1 ppm
USA ACGIH	ACGIH STEL (ppm)	5 ppm
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	15 mg/m ³
USA NIOSH	NIOSH REL (ceiling) (ppm)	10 ppm
USA IDLH	US IDLH (ppm)	100 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	20 ppm

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when flammable gases/vapors may be released. Use explosion-proof equipment. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Chemically resistant materials and fabrics. Wear fire/flammable resistant/retardant clothing.

Hand Protection

: Wear chemically resistant protective gloves.

Eye Protection

: Chemical safety goggles.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Dark brown, black, greenish-brown, greenish-flourescent
Odor	: Heavy petroleum odor. May have rotten egg odor due to H ₂ S content.
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: < 0 – > 404 °C (< 32 – > 760 °F)
Flash Point	: < 27 °C (< 80 °F)
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available

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Flammability (solid, gas)	: No data available
Vapor Pressure (mm Hg) @ 60 °F	: < 500
Relative Vapor Density at 20 °C	: No data available
Specific Gravity @ 60 °F	: 0.80 – 0.90 (water=1)
Solubility	: Insoluble
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: < 50 SUS (at 100 °F)
Percent Volatile by Volume (%)	: Varies with different crudes

9.2. Other Information

VOC Content : Varies with different crudes

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity: Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability: Extremely flammable liquid and vapor. May form flammable/explosive vapor-air mixture.
- 10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Sparks, heat, open flame and other sources of ignition.
- 10.5. Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.
- 10.6. Hazardous Decomposition Products: May release flammable gases. Carbon oxides (CO, CO₂). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently. Upon thermal decomposition: Hydrocarbons. Black smoke.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Petroleum (8002-05-9)	
LD50 Dermal Rabbit	> 2000 mg/kg
Toluene (108-88-3)	
LD50 Oral Rat	5580 mg/kg
LD50 Dermal Rabbit	12000 mg/kg
ATE (Vapors)	25.70 mg/l/4h
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LD50 Oral Rat	> 5000 mg/kg
LC50 Inhalation Rat	6247 ppm/4h (species: Sprague-Dawley)
ATE (Dermal)	1,100.00 mg/kg body weight
ATE (Vapors)	11.00 mg/l/4h
Benzene (71-43-2)	
LD50 Oral Rat	3306 mg/kg
LD50 Dermal Rabbit	> 8200 mg/kg
LC50 Inhalation Rat	44.66 mg/l/4h
Ethylbenzene (100-41-4)	
LD50 Oral Rat	3500 mg/kg
LD50 Dermal Rabbit	15400 mg/kg
LC50 Inhalation Rat	17.2 mg/l/4h (Exposure time: 4 h)
Cyclohexane (110-82-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	13.9 mg/l/4h
Hydrogen sulfide (7783-06-4)	
LC50 Inhalation Rat	0.99 mg/l (Exposure time: 1 h)
LC50 Inhalation Rat	444 ppm/4h

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: May cause genetic defects.

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Carcinogenicity: May cause cancer.

Petroleum (8002-05-9)	
IARC group	3
Toluene (108-88-3)	
IARC group	3
Xylenes (o-, m-, p- isomers) (1330-20-7)	
IARC group	3
Benzene (71-43-2)	
IARC group	1
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity, Known Human Carcinogens.
Ethylbenzene (100-41-4)	
IARC group	2B
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity.

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): May cause drowsiness or dizziness.

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs through prolonged or repeated exposure.

Symptoms/Injuries After Inhalation: Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Symptoms/Injuries After Skin Contact: Causes skin irritation. Redness, pain, swelling, itching, burning, dryness, and dermatitis. May be absorbed through the skin in toxic amounts if large areas of skin are exposed.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation. Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Symptoms/Injuries After Ingestion: The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure. May cause genetic defects. Suspected of damaging fertility or the unborn child. May cause cancer. Contains benzene, a regulated human carcinogen. Benzene has the potential to cause anemia and other blood diseases, including leukemia, after repeated and prolonged exposure. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with systemic toxicity. See also Section 11 – Toxicological Information.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Petroleum (8002-05-9)	
LC50 Fish 1	< 7.1 mg/l (Species: Pimephales promelas, Exposure time 96 h)
LC50 other aquatic organisms 1	2.7 mg/l LL50 96 hr (Kelp forest mysid shrimp)
EC50 Daphnia 1	6.9 mg/l (Exposure time: 48 h)
Toluene (108-88-3)	
LC50 Fish 1	15.22 (15.22 - 19.05) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	5.46 (5.46 - 9.83) mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC 50 Fish 2	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
NOEC chronic crustacea	0.74 mg/l (Ceriodaphnia dubia)
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LC50 Fish 1	3.3 mg/l
EC50 Daphnia 1	3.82 mg/l (Exposure time: 48 h - Species: water flea)
LC 50 Fish 2	2.661 (2.661 - 4.093) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

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Benzene (71-43-2)	
LC50 Fish 1	10.7 - 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	8.76 - 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC 50 Fish 2	5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 2	10 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Ethylbenzene (100-41-4)	
LC50 Fish 1	11.0 - 18.0 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	1.8 - 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
Cyclohexane (110-82-7)	
LC50 Fish 1	3.96 - 5.18 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC 50 Fish 2	23.03 - 42.07 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Hydrogen sulfide (7783-06-4)	
LC50 Fish 1	0.0448 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
LC 50 Fish 2	0.016 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

12.2. Persistence and Degradability

Crude Oil	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Crude Oil	
Bioaccumulative Potential	Not established.
Toluene (108-88-3)	
Log Pow	2.65
Xylenes (o-, m-, p- isomers) (1330-20-7)	
BCF fish 1	0.6 (0.6 - 15)
Log Pow	2.77 - 3.15
Benzene (71-43-2)	
BCF fish 1	3.5 - 4.4
Log Pow	1.83
Ethylbenzene (100-41-4)	
BCF fish 1	15
Log Pow	3.118
Cyclohexane (110-82-7)	
Log Pow	3.44
Hydrogen sulfide (7783-06-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	0.45 (at 25 °C)

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Additional Information: Handle empty containers with care because residual vapors are flammable.

Ecology – Waste Materials: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : PETROLEUM CRUDE OIL
Hazard Class : 3
Identification Number : UN1267
Label Codes : 3
Packing Group : I



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Marine Pollutant : Marine pollutant
ERG Number : 128
14.2. In Accordance with IMDG
Proper Shipping Name : PETROLEUM CRUDE OIL
Hazard Class : 3
Identification Number : UN1267
Packing Group : I
Label Codes : 3
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-E
Marine Pollutant : Marine pollutant



14.3. In Accordance with IATA
Proper Shipping Name : PETROLEUM CRUDE OIL
Packing Group : I
Identification Number : UN1267
Hazard Class : 3
Label Codes : 3
ERG Code (IATA) : 3L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

Crude Oil	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard
Petroleum (8002-05-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Toluene (108-88-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 313 - Emission Reporting	1.0 %
Xylenes (o-, m-, p- isomers) (1330-20-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	1.0 %
Benzene (71-43-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	10 lb
SARA Section 313 - Emission Reporting	0.1 %
Ethylbenzene (100-41-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 313 - Emission Reporting	0.1 %

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Cyclohexane (110-82-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 313 - Emission Reporting	1.0 %
Hydrogen sulfide (7783-06-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on the United States SARA Section 302	
Listed on United States SARA Section 313	
SARA Section 302 Threshold Planning Quantity (TPQ)	500
SARA Section 313 - Emission Reporting	1.0 %
15.2 US State Regulations	
Toluene (108-88-3)	
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	WARNING: This product contains chemicals known to the State of California to cause (Female) reproductive harm.
Benzene (71-43-2)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm.
Ethylbenzene (100-41-4)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
Petroleum (8002-05-9)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) List	
Toluene (108-88-3)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List	
U.S. - Pennsylvania - RTK (Right to Know) List	
Xylenes (o-, m-, p- isomers) (1330-20-7)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List	
U.S. - Pennsylvania - RTK (Right to Know) List	
Benzene (71-43-2)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List	
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances	
U.S. - Pennsylvania - RTK (Right to Know) List	
Ethylbenzene (100-41-4)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List	
U.S. - Pennsylvania - RTK (Right to Know) List	
Cyclohexane (110-82-7)	
U.S. - Massachusetts - Right To Know List	

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U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Hydrogen sulfide (7783-06-4)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 06/08/2015
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 2 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 2
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Flam. Gas 1	Flammable gases Category 1
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Liquefied gas	Gases under pressure Liquefied gas
Muta. 1B	Germ cell mutagenicity Category 1B
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H220	Extremely flammable gas
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H320	Causes eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled

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H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H350	May cause cancer
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA Health Hazard

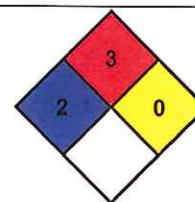
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA Fire Hazard

: 3 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA Reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 3 Serious Hazard

Physical

: 0 Minimal Hazard

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)