

1. IDENTIFICATION

Product Name:	Condensate, Sour (PG II, Initial Boiling Point > 35 °C)
Synonyms:	Sour Condensate; Field Condensate; Lease Condensate; Gas Drips; Casinghead Gasoline; Natural Gas Condensate, C2-C8.
SDS Number:	778886
Product Use:	Feedstock.
Restrictions on Use:	Not available.
Manufacturer/Supplier	CENOVUS ENERGY INC. 500 Centre Street SE, PO Box 766 Calgary, AB T2P 0M5
Prepared By	Cenovus Energy Inc. Health and Safety
Phone Number	1-403-766-2000
Emergency Telephone	Cenovus 1-877-458-8080 CANUTEC 1-613-996-6666 (Canada) CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

GHS INFORMATION

Section 2: HAZARD(S) IDENTIFICATION

Classification: Flammable Liquids, Category 2
 Acute Toxicity - Inhalation, Category 2
 Skin Irritation, Category 2
 Eye Irritation, Category 2A
 Germ Cell Mutagenicity, Category 1B
 Carcinogenicity, Category 1A
 Toxic to Reproduction, Category 2
 Specific Target Organ Toxicity (Single Exposure), Category 3 - Narcotic Effects
 Specific Target Organ Toxicity (Repeated Exposure), Category 1
 Aspiration Hazard, Category 1

LABEL ELEMENTS

Hazard Pictogram(s):



Signal Word: Danger

Hazard Statements:

- Highly flammable liquid and vapor. Fatal if inhaled.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause genetic defects.
- May cause cancer.
- Suspected of damaging fertility or the unborn child.
- May cause drowsiness or dizziness.
- Causes damage to organs through prolonged or repeated exposure.
- May be fatal if swallowed and enters airways.

Precautionary Statements

- Prevention:** Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical, ventilating, and lighting equipment. Use only non-sparking tools.
Take precautionary measures against static discharge. Do not breathe mist, vapours, or spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing and eye protection. Wear respiratory protection.
- Response:** IF SWALLOWED: Immediately call a poison center or doctor.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center or doctor. Do NOT induce vomiting.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention. Wash contaminated clothing before reuse.
In case of fire: Use dry chemical, CO₂, water spray or regular foam to extinguish.
- Storage:** Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.
- Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown None.

Toxicity:

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations, 2015.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name/ Synonyms	CAS No.	% wt./wt.
Natural gas condensates (petroleum)	Not available.	64741-47-5	100
Hydrogen sulfide (H ₂ S)	Hydrogen sulphide	7783-06-4	variable
Benzene	Not available.	71-43-2	variable
Benzene, methyl-	Toluene	108-88-3	variable
Benzene, ethyl-	Ethylbenzene	100-41-4	variable
Benzene, dimethyl-	Xylene	1330-20-7	variable
Pentane	Not available.	109-66-0	variable
Hexane	Not available.	110-54-3	variable
Heptane	Not available.	142-82-5	variable
Octane	Not available.	111-65-9	variable
Nonane	Not available.	111-84-2	variable

4. FIRST AID MEASURES

Inhalation:

If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.

Acute and delayed symptoms and effects: Fatal if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. This product contains Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within 1 to 4 hours of continuous exposure. At 500 ppm the respiratory system is paralyzed, the victim collapses almost instantaneously, and death can occur after exposure of only 30 to 60 minutes. Above 500 ppm Hydrogen sulphide may cause immediate loss of consciousness; death is rapid, and possibly immediate.

Eye Contact:

If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Acute and delayed symptoms and effects: Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hydrogen sulphide may cause eye irritation at 1-20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H₂S, eye irritation may include symptoms of redness, severe swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Acute and delayed symptoms and effects: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: If swallowed: Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.

Acute and delayed symptoms and effects: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately. For inhalation of Hydrogen Sulphide, consider oxygen.

5. FIRE FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Highly flammable liquid and vapor. Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. When heated, this material may evolve toxic and flammable Hydrogen sulphide.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Sensitivity to Mechanical This material is not sensitive to mechanical impact.

Sensitivity to Static Discharge: Take precautionary measures against static discharge. This material is sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Small Fire: Dry chemical, CO₂, water spray or regular foam.
Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

Unsuitable Extinguishing Media: Do not use straight streams. CAUTION: All these products have a very low flash point: Use of water spray when fighting

Products of Combustion:	fire may be inefficient. Oxides of carbon. Oxides of sulphur.
Protection of Firefighters:	Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control or dilution water may cause pollution. Hydrogen sulphide is heavier than air and may collect in low lying areas and confined spaces. Wear positive pressure self- contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded.
Personal Precautions:	Do not touch or walk through spilled material. Use personal protection recommended in Section 8. Don full-face, positive pressure, self-contained breathing apparatus.
Environmental Precautions:	Prevent entry into waterways, sewers, basements or confined areas.
Methods for Containment:	Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors.
Methods for Clean-Up:	Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.
Other Information:	See Section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:

Do not swallow. Do not breathe mist, vapours, or spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, and hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.

Storage:

Limit quantity of material in storage. Restrict access to storage area. Post appropriate warning signs. Keep storage area separate from populated work areas. Consider leak detection and alarm systems, as required. Store in a well-ventilated place. Keep container tightly closed. Keep store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children. Head spaces in storage containers may contain toxic hydrogen sulphide gas. Structural materials and lighting and ventilation systems should be corrosion resistant.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component

Natural gas condensates (petroleum) [CAS No. 64741-47-5]

ACGIH: No TLV established.

OSHA: No PEL established.

Hydrogen sulphide [CAS No. 7783-06-4]

ACGIH: 1 ppm (TWA); 5 ppm (STEL); (2009)

OSHA: 20 ppm (C); 50 ppm (Peak) (Maximum duration: 10 mins. once only if no other meas. exp. occurs.)

10 ppm (TWA); 15 ppm (STEL) [Vacated]

Benzene [CAS No. 71-43-2]

ACGIH: 0.5 ppm (TWA); 2.5 ppm (STEL); Skin; A1; BEI (1996)

OSHA: 1 ppm (TWA); 5 ppm

(STEL); Toluene [CAS No. 108-88-3]

ACGIH: 20 ppm (TWA); A4; BEI (2006)

OSHA: 200 ppm (TWA); 300 ppm (C); 500 ppm (Peak) (Maximum duration: 10 minutes.)
100 ppm (TWA); 150 ppm (STEL) [Vacated];

Ethylbenzene [CAS No. 100-41-4]

ACGIH: 20 ppm (TWA); A3; BEI (2010)

OSHA: 100 ppm (TWA), 435 mg/m³ (TWA);

125 ppm (STEL) [Vacated];

Xylene [CAS No. 1330-20-7]

ACGIH: 100 ppm (TWA); 150 ppm (STEL); A4; BEI (1992)

OSHA: 100 ppm (TWA), 435 mg/m³ (TWA);

150 ppm (STEL) [Vacated]

Pentane [CAS No. 109-66-0]

ACGIH: 1000 ppm (TWA); (2013)

OSHA: 1000 ppm (TWA), 2950 mg/m³ (TWA);

600 ppm (TWA); 750 ppm (STEL) [Vacated];

Hexane [CAS No. 110-54-3]

ACGIH: 50 ppm (TWA); Skin, BEI (1996)

OSHA: 500 ppm (TWA), 1800 mg/m³ (TWA); Skin.

50 ppm (TWA) [Vacated]; Heptane [CAS No. 142-82-5]

ACGIH: 400 ppm (TWA); 500 ppm (STEL); (1979)

OSHA: 500 ppm (TWA), 2000 mg/m³ (TWA);

400 ppm (TWA); 500 ppm (STEL) [Vacated];

Octane [CAS No. 111-65-9]

ACGIH: 300 ppm (TWA); (1979)

OSHA: 500 ppm (TWA), 2350 mg/m³ (TWA);

300 ppm (TWA); 375 ppm (STEL) [Vacated];

Nonane [CAS No. 111-84-2]

ACGIH: 200 ppm (TWA); (2011)

OSHA: 200 ppm (TWA) [Vacated];

PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
TWA: Time-Weighted Average
STEL: Short-Term Exposure Limit
C: Ceiling

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits. Use explosion-proof electrical, ventilating, and lighting equipment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)



Eye/Face Protection: Wear safety glasses. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection: Wear protective gloves. Consult manufacturer specifications for further information.

Skin and Body Protection: Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20 standards is recommended in areas where material is stored or handled.

Respiratory Protection: Wear respiratory protection. If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with organic vapor cartridge, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

General Hygiene Considerations: Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid.
Colour:	Colourless to amber.
Odour:	Rotten eggs. Hydrocarbon.
Odour Threshold:	0.0047 ppm, (Hydrogen sulphide)
Physical State:	Liquid.
pH:	Not available.
Melting Point / Freezing Point:	Not available.

Initial Boiling Point:	> 35 °C (95 °F)
Boiling Range:	Not available.
Flash Point:	< -5 °C (23 °F)
Evaporation Rate:	Not available.
Flammability (solid, gas):	Not applicable.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	525 to 800 mmHg at 20 °C (68 °F)
Vapor Density:	> 1 (Air = 1)
Relative Density:	0.70 to 0.75 (Water = 1) at 15.6 °C (60.1 °F)
Solubilities:	Insoluble in water.
Partition Coefficient: n- Octanol/Water:	Not available.
Auto-ignition Temperature:	260 °C (500 °F) (Hydrogen sulphide)
Decomposition Temperature:	Not available.
Viscosity:	Not available.
Percent Volatile, wt. %:	100
VOC content, wt. %:	Not available.
Density:	Not available.
Coefficient of Water/Oil Distribution:	Not available.

10. STABILITY AND REACTIVITY

Reactivity:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Chemical Stability:	Stable under normal storage conditions.
Possibility of Hazardous Reactions:	None known.
Conditions to Avoid:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Incompatible Materials:	Bases. Strong oxidizers. Metals.
Hazardous Decomposition Products:	Hazardous sulphur dioxide, and related oxides of sulphur may be generated upon combustion.

11. TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD50 oral	LD50 dermal	LC50
Natural gas condensates (petroleum)	64741-47-5	Not available.	Not available.	600 mg/m ³ (rat); 4H
Hydrogen sulphide	7783-06-4	Not available.	Not available.	444 ppm (rat); 4H
Benzene	71-43-2	930 mg/kg (rat)	> 9400 µL/kg (rabbit)	10000 ppm (rat); 7H
Toluene	108-88-3	2600 mg/kg (rat)	14.1 mL/kg (rabbit)	49000 mg/m ³ (rat); 4H
Ethylbenzene	100-41-4	3500 mg/kg (rat)	17800 µL/kg (rabbit)	Not available.
Xylene	1330-20-7	4300 mg/kg (rat)	> 1700 mg/kg (rabbit)	5000 ppm (rat); 4H
Pentane	109-66-0	400 mg/kg (rat)	Not available.	364000 mg/m ³ (rat); 4H
Hexane	110-54-3	25000 mg/kg (rat)	Not available.	48000 ppm (rat); 4H
Heptane	142-82-5	Not available.	Not available.	103000 mg/m ³ (rat); 4H
Octane	111-65-9	Not available.	Not available.	118000 mg/m ³ (rat); 4H
Nonane	111-84-2	Not available.	Not available.	3200 ppm (rat); 4H

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Central nervous system. Peripheral nervous system.

Symptoms (including delayed and immediate effects)

Inhalation: Fatal if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. This product contains Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within 1 to 4 hours of continuous exposure. At 500 ppm the respiratory system is paralyzed, the victim collapses almost instantaneously, and death can occur after exposure of only 30 to 60 minutes. Above 500 ppm Hydrogen sulphide may cause immediate loss of consciousness; death is rapid, and possibly immediate.

Eye: Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hydrogen sulphide may cause eye irritation at 1-20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H₂S, eye irritation may include symptoms of redness, severe swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

Skin: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions

Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Central nervous system. Cardiovascular system. Lungs. Blood. Cardiovascular system. Bone marrow. Spleen. Liver. Kidneys. Reproductive system. Central nervous system. Peripheral nervous system.

Chronic Effects: Hazardous by OSHA/WHMIS criteria. May cause chronic effects. Prolonged or repeated contact may dry skin and cause irritation. High vapour concentrations, generally greater than 10% by volume, may sensitize the heart and lead to lethal cardiac arrhythmias. At relatively low concentrations, Natural gas condensate may result in chronic hypoxia including effects such as decreased night vision, increased respiration, decreased alertness, fatigue, tunnel vision and headache. Other potential chronic effects include peripheric neuropathy and blurred vision, aplastic anemia, acute myoblastic leukemia, bone marrow depression, corneal vacuolization erythroleukemia and even death. Reports of chronic poisoning with Benzene, Toluene, Ethylbenzene or Xylene describe anemia, decreased blood cell count and bone marrow hypoplasia. Liver and kidney damage may occur. Repeated exposure of the eyes to high concentrations of Xylenes vapour may cause reversible eye damage. Chronic inhalation exposure to xylene causes mid-frequency hearing loss in laboratory animals. Xylene reacts synergistically with n-hexane to enhance hearing loss. Immunodepressive effects have also been reported for Benzene. This material contains Butane, which is linked with cardiac

sensitization. Hydrogen sulphide may reduce lung function; cause neurological effects such as headaches, nausea, depression and personality changes; eye and mucous membrane irritation; and damage to cardiovascular system. Chronic inhalation of n-Hexane may cause peripheral nerve disorders and central nervous system effects. Prolonged or repeated skin contact with Nonane may cause liver and kidney damage and cause blood effects.

Carcinogenicity: May cause cancer. Chronic exposure to benzene has been associated with an increased incidence of leukemia and multiple myeloma (tumour composed of cells of the type normally found in the bone marrow).

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Benzene	A1	Group 1	List 1	OSHA Carcinogen.	Listed.
Toluene	A4	Group 3	Not listed.	Not listed.	Not listed.
Ethylbenzene	A3	Group 2B	Not listed.	OSHA Carcinogen.	Listed.
Xylene	A4	Group 3	Not listed.	Not listed.	Not listed.

Mutagenicity: May cause genetic defects.

Reproductive Effects: Suspected of damaging fertility or the unborn child. Spontaneous abortion is possible for women exposed to Pentane during pregnancy. Benzene exposure has been linked to menstrual changes, spontaneous abortion and still birth.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Possible risk of harm to the unborn child. Benzene and Xylene have caused adverse fetal effects in laboratory animals. Exposure to Toluene may affect the developing fetus.

Toxicologically Synergistic Materials: Xylene reacts synergistically with n-hexane to enhance hearing loss.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Acute aquatic toxicity studies on samples of gasoline and naphtha streams show acute toxicity values greater than 1 mg/L and mostly in the range 1-100 mg/L. These tests were carried out on water accommodated fractions, in closed systems to prevent evaporative loss. Results are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon composition. These substances should be regarded as toxic to aquatic organisms, with the potential to cause long term adverse effects in the aquatic environment.

Persistence / Degradability: The hydrocarbons in this material are not readily biodegradable but are regarded as inherently biodegradable since their hydrocarbon components can be degraded by microorganisms. Non-Persistent per IOPC Fund definition.

Bioaccumulation / Accumulation: Log Kow values measured for the hydrocarbon components of this material range from 3 to greater than 6 and therefore are regarded as having the potential to bioaccumulate. In practice, metabolic processes or physical properties may prevent this effect or limit bioavailability.

Mobility in Environment: On release to water, hydrocarbons will float on the surface and since they are sparingly soluble, the only significant loss is volatilization to air. In air, these hydrocarbons are photodegraded by reaction with hydroxyl radicals with half lives varying from 6.5 days for benzene to 0.5 days for n- dodecane.

Other Adverse Effects: Not available.

13. DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

14. TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: UN1267, PETROLEUM CRUDE OIL, 3, PG II
Class: 3
UN Number: UN1267
Packing Group: II



Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: UN1267, PETROLEUM CRUDE OIL, 3, PG II (Toxic by inhalation)
Class: 3
UN Number: UN1267
Packing Group: II



15. REGULATORY INFORMATION

Chemical Inventories

US (TSCA)

The components of this product are in compliance with the chemical notification requirements of TSCA.

Canada (DSL)

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

Federal Regulations

United States

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III Component	Section 302 (EHS)	Section 304 EHS RQ	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Hydrogen sulphide	500	100	100	313	U135	10000
Benzene	Not listed.	Not listed.	10	313	U019	Not listed.
Toluene	Not listed.	Not listed.	1000	313	U220	Not listed.
Ethylbenzene	Not listed.	Not listed.	1000	313	Not listed.	Not listed.
Xylene	Not listed.	Not listed.	100	313	U239	Not listed.
Pentane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000
Hexane	Not listed.	Not listed.	5000	313	Not listed.	Not listed.

**State Regulations
Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Hydrogen sulphide	7783-06-4	E
Benzene	71-43-2	E
Toluene	108-88-3	Listed.
Ethylbenzene	100-41-4	Listed.
Xylene	1330-20-7	Listed.
Pentane	109-66-0	Listed.
Hexane	110-54-3	Listed.
Heptane	142-82-5	Listed.
Octane	111-65-9	Listed.
Nonane	111-84-2	Listed.

Note: E = Extraordinarily Hazardous Substance

New Jersey

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Hydrogen sulphide	7783-06-4	SHHS
Benzene	71-43-2	SHHS
Toluene	108-88-3	SHHS
Ethylbenzene	100-41-4	SHHS
Xylene	1330-20-7	SHHS
Pentane	109-66-0	SHHS
Hexane	110-54-3	SHHS
Heptane	142-82-5	SHHS
Octane	111-65-9	SHHS
Nonane	111-84-2	SHHS

Note: SHHS = Special Health Hazard Substance

Pennsylvania

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Hydrogen sulphide	7783-06-4	E
Benzene	71-43-2	ES
Toluene	108-88-3	E
Ethylbenzene	100-41-4	E
Xylene	1330-20-7	E
Pentane	109-66-0	Listed.
Hexane	110-54-3	Listed.
Heptane	142-82-5	Listed.
Octane	111-65-9	Listed.
Nonane	111-84-2	Listed.

Note: E = Environmental Hazard; S = Special Hazardous Substance

California

California Prop 65: WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Component	Type of Toxicity
Benzene	cancer; developmental, male
Toluene	developmental
Ethylbenzene	cancer

16. OTHER INFORMATION

Date of Preparation of SDS: May 15, 2017
Previous Issue Date: August 24, 2015
Version: 2.0