

# Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)



## Section 1: Identification

**Product Identifier:** Bakken Crude Oil, Sweet

**Other means of identification:**

- Desalted Crude Oils
- Sweet Field Crude
- Petroleum Crude
- Petroleum Oil
- Separator Crude
- Sweet Crude
- Crude Oils

**SDS Number:** H1601.1

**Recommended Use:** Refinery Feedstock

**Restrictions on Use:** All others

**Manufacturer/Supplier/Responsible Party**

Texon Midstream, LLC  
11757 Katy Freeway, Suite 1400  
Houston, TX 77079  
281-531-8400  
[www.texonlp.com](http://www.texonlp.com)

**Emergency Phone Number**

Chemtrec: 800-424-9300 (24 Hours)

## Section 2: Hazard(s) Identification

**Classified Hazards:**

- Flammable Liquids – Category 1
- Aspiration Hazard – Category 1
- Reproductive Toxicity- Category 2
- Eye Irritation – Category 2A
- Mutagenicity- Category 1A
- Specific Target Organ Toxicity (Repeat Exposure)- Category 2
- Specific target organ toxicity (single exposure) – Category 3
- Carcinogenicity – Category 1A

**Other Hazards:** May contain or release poisonous hydrogen sulfide (H<sub>2</sub>S) gas

**Label Elements:**



**Hazard Pictograms:**

**Signal Word:** Danger

**Hazard Statements:** Extremely flammable liquid and vapor  
May be fatal if swallowed and enters airways.

Causes serious eye irritation.  
 May cause genetic defects.  
 May cause drowsiness or dizziness  
 May cause damage to organs through prolonged or repeated exposure.  
 Suspected of damaging fertility or the unborn child.  
 May cause cancer.  
 Toxic to aquatic life.  
 May cause long lasting effects to aquatic life.

**Precautionary Statement(s):  
 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, hot surfaces, NO SMOKING. Keep container tightly closed. Ground/bond container and receiving equipment.  
 Use explosion-proof electrical, lighting, ventilating equipment.  
 Use only non-sparking tools.  
 Take precautionary measures against static discharge.  
 Do not breathe mist, spray, vapors, dust, fumes, and gas.  
 Wash hands thoroughly after handling.  
 Use only outdoors in a well-ventilated area.  
 Avoid release to the environment.  
 Wear eye protection, protective clothing, and protective gloves.

**Response:**

In case of fire: use chemical media to extinguish.  
 IF exposed or concerned: Get medical advice or attention.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 Call a POISON CENTER or doctor if you feel unwell.  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
 IF IN EYES: Rinse cautiously with water for several minutes.  
 Remove contact lenses, if present and easy to do. Continue rinsing.  
 If eye irritation persists: Get medical advice or attention.  
 Get medical advice/attention if exposed or concerned about exposure.

**Storage:**

Store in well-ventilated place. Keep container tightly closed. Keep cool.  
 Store locked-up.

**Disposal:**

Dispose of contents/container to comply with applicable local, national, and international regulations.

**Section 3: Composition/Information on Ingredients**

Chemical Name	CASRN	Concentration <sup>1</sup>
Petroleum	8002-05-9	≤100%
N-Hexane	110-54-3	<5%
Ethylbenzene	100-41-4	<3%
Xylene	1330-20-7	<1%
Naphthalene	91-20-3	0.9%
Benzene	71-43-2	<1%
Hydrogen Sulfide	7783-06-4	<0.2%

Total / sulfur: <0.5 wt%

May contain: Nitrogen, Oxygen (Small Quantity)

May contain trace amounts of heavy metals like: Mercury, Arsenic, Nickel, and Vanadium.

**NOTE:** Composition will vary with geographic location, geologic formation, temperature, and pressure.

1 All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Crude oil, natural gas, and natural gas condensate may contain minor amounts of sulfur, nitrogen, oxygen containing organic compounds and trace amounts of metals such as mercury, nickel, and vanadium. Composition can vary depending on source of crude.

## Section 4: First-Aid Measures

**Eye Contact:** For eye contact with product, remove contact lenses, if present. Hold eyelids apart and gently flush the affected eye(s) with lukewarm water. Seek immediate medical attention.

**Skin Contact:** May be harmful if absorbed through the skin. Remove contaminated shoes and clothing, and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops, seek medical attention. Wash contaminated clothing before reuse.

**Inhalation (Breathing):** May contain hydrogen sulfide gas which may be fatal if inhaled. Overexposure may lead to headache, nausea, drowsiness, dizziness, incoordination, light-headedness, blurred vision, pulmonary edema, labored breathing, central nervous depression leading to coma and respiratory arrest. If breathing is difficult, oxygen or artificial respiration should be administered by qualified personnel. Seek immediate medical attention.

**Ingestion (Swallowing):** Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

**Most important symptoms and effects:**

**Acute:** Headache, drowsiness, dizziness, loss of coordination, disorientation, and fatigue.

**Delayed:** Dry skin and possible irritation with repeated or prolonged exposure.

**Notes to Physician:** At high concentrations hydrogen sulfide may produce pulmonary edema, respiratory depression, and/or respiratory paralysis. The first priority in treatment should be the establishment of adequate ventilation and the administration of 100% oxygen. Animal studies suggest that nitrites are a useful antidote, however, documentation of the efficacy of nitrites in humans is lacking. If the diagnosis of hydrogen sulfide poisoning is confirmed and if the patient does not respond rapidly to supportive care, the use of nitrites may be an effective antidote if delivered within the first few minutes of exposure. For adults the dose is 10 mL of a 3% sodium nitrite (NaNO<sub>2</sub>) solution (0.5 gm NaNO<sub>2</sub> in 15 mL water) I.V. over 2-4 minutes. The dosage should be adjusted in children or in the presence of anemia, and methemoglobin levels, arterial blood gases, and electrolytes should be monitored closely.

Epinephrine and sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

Federal regulations (29 CFR 1910.1028) specify medical surveillance programs for certain exposures to benzene above the action level or PEL (specified in Section (i) (1) (i) of the Standard). In addition, employees exposed in an emergency situation shall, as described in Section (i) (4) (i), provide a urine sample at the end of the shift for measurement of urine phenol.

**Other Comments:** Before attempting rescue, first responders should be alert to the possible presence of hydrogen sulfide, a poisonous gas with the smell of rotten eggs, and should consider the need for respiratory protection (see Section 8). Remove person to fresh air as quickly as possible. Immediately begin artificial respiration if breathing has ceased. Consider whether oxygen administration is needed. Obtain medical advice for further treatment.

## Section 5: Fire-Fighting Measures

### NFPA 704 Hazard Class

Health: 2 Flammability: 3 Instability: 0



0 (Minimal)  
1 (Slight)  
2 (Moderate)  
3 (Serious)  
4 (Severe)

**Extinguishing Media:** Dry chemical, carbon dioxide, water spray (fog), or foam is recommended. Do NOT use water jet. Water spray is recommended to cool or protect exposed materials or structures. Use caution when applying carbon dioxide in confined spaces as it can displace oxygen. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

**Unsuitable Extinguishing Media:** Never use water to extinguish.

**Specific hazards arising from the material:** Extremely flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur.

To reduce potential for static discharge, use proper bonding and grounding procedures.

This liquid may accumulate static electricity when filling properly grounded containers.

Static accumulation may be significantly increased by the presence of small quantities of water or other contaminants. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back

**Unusual Fire & Explosion Hazards:** This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazards indoors, in confined spaces, outdoors, or in sewers. If container is not properly cooled, it can rupture in the heat of a fire. Hazardous combustion/decomposition products, including hydrogen sulfide may be released by this material when exposed to heat or fire.

**Hazardous Combustion Products:** Combustion products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides, Aldehyde, and Hydrogen sulfide

**Special protective actions for firefighters:** For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. If this cannot be done, allow fire to burn. Move undamaged containers from immediate hazard area if it can be done safely. Stay away from ends of container. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water if it can be done safely. Avoid spreading of burning liquid with water used for cooling purposes.

**See Section 9 for flammable properties, including Flash Point and Upper and Lower Explosive Limits.**

## Section 6: Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** Extremely flammable. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition away from spill/release if safe to do so. Beware of accumulation of gas in low areas or contained areas, where explosive concentrations may occur. Prevent from entering drains or any place where accumulation may occur. Ventilate area

and allow to evaporate. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down-wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8).

**Environmental Precautions:** Stop spill/release if it can be done safely. Prevent spilled materials from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use foam on spills to minimize vapors. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water, notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number: 800-424-8802).

#### **Methods and material for Containment and Cleaning up:**

**Small Spill:** Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large Spill:** Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g., sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13).

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken. All contaminated media used for the purpose of clean-up should be disposed of properly in accordance with all Federal, State, and Local regulations.

## **Section 7: Handling and Storage**

**Precautions for Safe Handling:** Put on appropriate personal protective equipment (see Section 8). Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.

Store and use away from heat, sparks, open flame, or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Restrict flow velocity according to API 2003 (2008), NFPA 77 (2007), and Laurence Britton, "Avoiding Static Ignition Hazards in Chemical Operations". To reduce potential for static discharge, ensure that all equipment is properly grounded and bonded and meets appropriate electrical classification requirements.

**Static Accumulation Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding of tanks, transfer piping, and storage tank level floats are necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. Special care should be given to ensure that special slow load procedures for "switch loading" are followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such as gasoline or naphtha). For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA) 77, 'Recommended Practice on Static Electricity', and the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

**Conditions for safe storage:** Store in accordance with local regulations. Store in a segregated and approved area.

Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

"Empty" containers retain residue and may be dangerous. They may explode and cause injury or death. Avoid exposing any part of compressed-gas cylinder to temperatures above 125°F(51.6°C). Gas cylinders should be stored outdoors or in well ventilated storerooms at no lower than ground level and should be quickly removable in an emergency.

## Section 8: Exposure Controls/Personal Protection

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
<b>Petroleum</b>	Absorbed	TWA: 500 ppm 8 hours. TWA: 2000 mg/m <sup>3</sup> 8 hours	TWA: 350 mg/m <sup>3</sup> 10 hours. CEIL: 1800 mg/m <sup>3</sup> 15 minutes.
<b>n-Hexane</b>	TWA: 50 ppm 8 hours skin	TWA: 500 ppm 8 hours. TWA: 1800 mg/m <sup>3</sup> 8 hours.	TWA: 50 ppm 10 hours. TWA: 180 mg/m <sup>3</sup> 10 hours
<b>Ethylbenzene</b>	TWA: 20 ppm 8 hours.	TWA: 20 ppm 8 hours	TWA: 100 ppm 10 hours. TWA: 435 mg/m <sup>3</sup> 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m <sup>3</sup> 15 minutes.
<b>xylene</b>	TWA: 100 ppm 8 hours. TWA: 434 mg/m <sup>3</sup> 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m <sup>3</sup> 15 minutes	TWA: 100 ppm 8 hours. TWA: 435 mg/m <sup>3</sup> 8 hours	TWA: 100 ppm 10 hours TWA: 435 mg/m <sup>3</sup> 10 hours. STEL: 150 ppm 15 minutes STEL: 655 mg/m <sup>3</sup> 15 minutes
<b>Naphthalene</b>	TWA: 10 ppm 8 hours. TWA: 52 mg/m <sup>3</sup> 8 hours.	TWA: 10 ppm 10 hours. TWA: 50 mg/m <sup>3</sup> 10 hours. STEL: 15 ppm 15 minutes. STEL: 75 mg/m <sup>3</sup> 15 minutes.	TWA: 10 ppm 8 hours. TWA: 50 mg/m <sup>3</sup> 8 hours.
<b>Benzene</b>	TWA: 0.5 ppm 8 hours. TWA: 1.6 mg/m <sup>3</sup> 8 hours. STEL: 2.5 ppm 15 minutes. STEL: 8 mg/m <sup>3</sup> 15 minutes	<b>OSHA PEL Z2:</b> TWA: 10 ppm 8 hours. CEIL: 25 ppm AMP: 50 ppm 10 minutes. <b>OSHA PEL:</b> TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes.	TWA: 0.1 ppm 10 hours. STEL: 1 ppm 15 minutes
<b>Hydrogen sulfide</b>	TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes	CEIL: 20 ppm AMP: 50 ppm 10 minutes	CEIL: 10 ppm 10 minutes. CEIL: 15 mg/m <sup>3</sup> 10 minutes

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

**Engineering controls:** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

**Eye/Face Protection:** The use of eye protection (such as splash goggles) that meets or exceeds ANSI Z87.1 is recommended when there is potential liquid contact to the eye. Depending on conditions of use, a face shield may be necessary.

**Skin/Hand Protection:** The use of gloves impervious to the specific material handled, such as nitrile gloves, is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on exposure and use conditions, additional protection may be necessary to prevent skin contact including use of items such as chemical resistant boots, aprons, arm covers, hoods, coveralls, or encapsulated suits.

**Respiratory Protection:** A NIOSH approved, self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode should be used in situations of oxygen deficiency (oxygen content less than 19.5 percent), unknown exposure concentrations, or situations that are immediately dangerous to life or health (IDLH).

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use.

If benzene concentrations equal or exceed applicable exposure limits, OSHA requirements for personal protective equipment, exposure monitoring, and training may apply (29 CFR 1910.1028 - Benzene).

Workplace monitoring plans should consider the possibility that heavy metals such as mercury may concentrate in processing vessels and equipment presenting the possibility of exposure during various sampling and maintenance operations. Implement appropriate respiratory protection and the use of other protective equipment as dictated by monitoring results (See Sections 2 and 7).

**Other Protective Equipment:** Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse.

**Suggestion provided this Section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.**

## Section 9: Physical and Chemical Properties

Data represent typical values and are not intended to be specifications. N/A = Not Applicable; N/D = Not Determined

<b>Appearance:</b> Amber/Black	<b>Flash Point: Closed cup:</b> <-29°C (<-20.2°F) [ASTM D53]
<b>Physical Form:</b> Liquid	
<b>Odor:</b> Petroleum/Rotten egg/Sulfurous	<b>Boiling Point/Range:</b> 21 to 43°C (69.8 to 109.4°F)
<b>Odor Threshold:</b> N/A	<b>Vapor Pressure:</b> 49.6 to 111.7 kPa (372.35 to 837.78 mm Hg) [room temperature]
<b>pH:</b> N/A	<b>Partition Coefficient (n-octanol/water) (Kow):</b> N/A
<b>Vapor Density (air=1):</b> >1	<b>Melting/Freezing Point:</b> N/D
<b>Upper Explosive Limits (vol % in air):</b> N/A	<b>Auto Ignition Temperature:</b> N/A
<b>Lower Explosive Limits (vol % in air):</b> N/A	<b>Decomposition Temperature:</b> N/D
<b>Evaporation Rate (nBuAc=1):</b> >1	<b>Specific Gravity (water=1):</b> 0.6-0.8 @ 60°F (15.6°C)
<b>Particle Size:</b> N/A	<b>Density:</b> 0.698 to 1.022 g/cm <sup>3</sup>
<b>Percent Volatile:</b> N/D	<b>Viscosity:</b> N/D
<b>Flammability (solid, gas):</b> N/A	<b>Solubility in Water:</b> Negligible

## Section 10: Stability and Reactivity

**Stability:** Stable under normal ambient and anticipated conditions of use.



**Conditions to Avoid:** Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind. Do not allow vapor to accumulate in low or confined areas.

**Material to Avoid (Incompatible Materials):** Oxidizing and reducing materials.

**Hazardous Decomposition Products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Hazardous Polymerization:** Not known to occur under normal conditions of use.

## Section 11: Toxicological Information

Information on Toxicological Effects of Substance/Mixture: Toxicological data does not exist for condensate mixtures as components vary widely. Toxicological Data is based on the components that may be present.

Component	Route to Exposure	Target Organs	Single Exposure	Repeated Exposure
Petroleum	Oral	Eyes, skin	Category 3	Category 2
n-hexane	Inhalation gas/vapor	Eyes	Category 3	Category 2
Ethylbenzene	Dermal, oral	Eyes, skin	Category 3	Category 2
Xylene	Inhalation gas, Oral	Eyes, skin	Category 3	Category 2
Naphthalene	Dermal, oral	Skin	Category 3	Category 2
benzene	Inhalation vapor, oral	Eyes, skin	Category 3	Category 1
Hydrogen sulfide	Inhalation gas	Eyes, skin	Category 3	Category 2

**Aspiration Hazard:** May be fatal if swallowed and enters airways.

**Skin Corrosion/Irritation:** May cause skin irritation.

**Serious Eye Damage/Irritation:** Causes eye irritation.

**Symptoms of Overexposure:** Effects of overexposure can include slight irritation of the respiratory tract, nausea, vomiting, and signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue). Continued exposure to high concentrations can result in vomiting, cardiac irregularities and sudden loss of consciousness.

**Inhalation:** This material contains hydrogen sulfide, a poisonous gas with the smell of rotten eggs. The smell disappears rapidly because of olfactory fatigue so odor may not be a reliable indicator of exposure. Effects of overexposure include irritation of the eyes, nose, throat and respiratory tract, blurred vision, photophobia (sensitivity to light), and pulmonary edema (fluid accumulation in the lungs). Severe exposures can result in nausea, vomiting, muscle weakness or cramps, headache, disorientation and other signs of nervous system depression, irregular heartbeats, convulsions, respiratory failure, and death.

**Skin Sensitization:** Not expected to be a skin sensitizer.

**Respiratory Sensitization:** Not expected to be a respiratory sensitizer.

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

**Specific Target Organ Toxicity (Repeated Exposure):** May cause damage to organs including eyes, skin, respiratory system, blood, central nervous system, liver, kidneys, and bone marrow through prolonged or repeated exposure

**Carcinogenicity:** May cause cancer based on component information.

**Germ Cell Mutagenicity:** Not expected to cause inheritable genetic effects.

**Reproductive Toxicity:** Certain components are known reproductive toxicants.

## Toxicological Effects of Components



### **n-Hexane**

**Target Organs:** Excessive exposure to n-hexane can result in peripheral neuropathies (nerve damage). The initial symptoms are symmetrical sensory numbness or paresthesia of distal portions of the extremities. Motor weakness is typically observed in muscles of the toes and fingers but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. The neurotoxic properties of n-hexane are potentiated by exposure to methyl ethyl ketone and methyl isobutyl ketone.

**Reproductive Toxicity:** Prolonged exposure to high concentrations of n-hexane (>1,000 ppm) resulted in decreased sperm count and degenerative changes in the testes of rats but not those of mice.

### **Benzene**

**Carcinogenicity:** Benzene is a known human carcinogen for all routes of exposure and is known to produce acute myelogenous leukemia (a form of cancer) in humans. Benzene has been identified as a human carcinogen by IARC, the US National Toxicology Program, and the US Occupational Safety and Health Administration.

**Target Organs:** Prolonged or repeated exposures to benzene vapors can cause damage to the blood and blood forming organs, including disorders like leucopenia, thrombocytopenia, and aplastic anemia.

**Reproductive Toxicity:** Some studies in occupationally exposed women have suggested benzene exposure increased risk of miscarriage and stillbirth and decreased birth weight and gestational age. The size of the effects detected in these studies was small, and ascertainment of exposure and outcome in some cases relied on self-reports, which may limit the reliability of these results.

**Germ Cell Mutagenicity:** Benzene exposure has resulted in chromosomal aberrations in human lymphocytes and animal bone marrow cells. Exposure has also been associated with chromosomal aberrations in sperm cells in human and animal studies.

### **Hydrogen Sulfide**

**Target Organs:** May be fatal if inhaled.

## **Section 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. Classification: H411; Chronic Cat 2.

**Persistence and 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.

**Persistence per IOPC Fund definition:** Non-Persistent

**Bioaccumulative Potential:** 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 Soil:** 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:** None anticipated.

## **Section 13: Disposal Considerations**

**Disposal Instructions:** The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Waste from Residues:** Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Hazardous Waste Code:** This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

Container contents should be completely used, and containers should be emptied prior to discard. Container residues could be considered hazardous wastes.

**EPA Waste Number(s):**

- **D001** (Ignitability characteristic)
- **D018** (Toxicity characteristic (Benzene))

**Contaminated Packaging:** Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out.

## Section 14: Transport Information

### U.S. Department of Transportation (DOT)

**Shipping Description:**

**If vapor pressure is > 300 kPa (43.5 psia) at 50°C (122°F) and H2S is > 8.8 molar %, shipping description is: UN3160**, Liquefied gas, toxic, flammable, n.o.s., (Hydrogen sulfide, Butane), 2.3; 2.1, Inhalation Hazard Zone X (see Note below)

**If vapor pressure is > 300 kPa (43.5 psia) at 50°C (122°F) and H2S is < 8.8 molar %, shipping description is: UN1965**, Hydrocarbon gas mixture, liquefied, n.o.s., 2.1

**If vapor pressure is <= 300 kPa (43.5 psia) at 50°C (122°F) and H2S is < 8.8 molar %, shipping description is: UN3295**, Hydrocarbons, liquid, n.o.s., 3, I or II [I if BP < 35°C (95°F); II if BP > 35°C]

**If vapor pressure is <= 300 kPa (43.5 psia) at 50°C (122°F) and H2S is <8.8 molar %, shipping description is: UN1267**, Petroleum crude oil, 3, I or II [I if BP <35°C (95°F); II if BP >35°C]

**Non-Bulk Package Marking:**

**Must be consistent with shipping description, either:**

Liquefied gas, toxic, flammable, n.o.s., (Hydrogen sulfide, Butane), **UN3160**;

or

Hydrocarbon gas mixture, liquefied, n.o.s., **UN1965**;

or

Hydrocarbons, liquid, n.o.s., **UN3295**;

or

Petroleum Crude Oil, **UN1267**

**Non-Bulk Package Labeling:**

**For UN3160:** Poison gas and Flammable gas

**For UN1965:** Flammable gas

**For UN3295:** Flammable liquid

**For UN1267:** Flammable liquid

**Bulk Package/Placard Marking:**

**For UN3160:** Poison gas/3160 and Flammable gas

**For UN1965:** Flammable gas/1965

**For UN3295:** Flammable/3295

**For UN1267:** Flammable/1267

**Packaging - References:**

For **UN3160**: None; 49 CFR 173.304; 173.314 & .315  
For **UN1965**: 49 CFR: 173.306; 173.304; 173.314 & .315  
For **UN3295**: 49 CFR 173.150; 173.201; 173.243 [ PG I ]  
For **UN1267**: 49 CFR 173.150; 173.201; 173.243 [PG I]  
-or- 49 CFR 173.150; 173.202; 173.242 [ PG II ] (Exceptions; Non-bulk; Bulk)

**Hazardous Substance:** See Section 15 for Regulatory Information  
**Emergency Response Guide:** **UN3160** - 119; **UN1965** - 115; **UN3295** - 128; **UN1267** - 128

**Note: Replace X in shipping description with:**

D if Molar % H<sub>2</sub>S is from 8.8% to 14.8%  
C if Molar % H<sub>2</sub>S is from 14.9% to 44.4%  
B if Molar % H<sub>2</sub>S is from 44.5% to 100.0%

**Container(s) greater than 5 liters (liquids) or 5 kilograms (solids), shipped by water mode and ALL bulk shipments may require the shipping description to contain the "Marine Pollutant" notation (49 CFR 172.203(I)) and the container(s) to display the "Marine Pollutant Mark" (49 CFR 172.322).**

**The following alternate shipping description order may be used until January 1, 2013:** Proper Shipping name, Hazard Class or Division, (Subsidiary Hazard if any), UN or NA number, Packing Group

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable

**Other shipping description elements may be required for DOT compliance.**

**International Maritime Dangerous Goods (IMDG)**

**Shipping Description:**

**If vapor pressure is > 300 kPa (43.5 psia) at 50°C (122°F) and H<sub>2</sub>S is > 8.8 molar %, shipping description is:** UN3160, Liquefied gas, toxic, flammable, n.o.s (Hydrogen Sulfide, Butane ), 2.3; 2.1

**If vapor pressure is > 300 kPa (43.5 psia) at 50°C (122°F) and H<sub>2</sub>S is < 8.8 molar %, shipping description is:** UN1965, Hydrocarbon gas mixture, liquefied, n.o.s., (Hydrogen Sulfide, Butane), 2.1;

**If vapor pressure is <= 300 kPa (43.5 psia) at 50°C (122°F) and H<sub>2</sub>S is < 8.8 molar %, shipping description is:** UN3295, Hydrocarbons, liquid, n.o.s., 3, I or II (46°C cc), Marine Pollutant [I if BP < 35°C (95°F); II if BP > 35°C]

**If vapor pressure is <= 300 kPa (43.5 psia) at 50°C (122°F) and H<sub>2</sub>S is <8.8 molar %, shipping description is:** **UN1267**, Petroleum crude oil, 3, I or II [I if BP <35°C (95°F); II if IBP >35°C] (-46°C)

**Labels:**

For **UN3160**: Toxic gas and Flammable gas  
For **UN1965**: Flammable gas  
For **UN3295**: Flammable liquid  
For **UN1267**: Flammable liquid

**Placards/Marking (Bulk):**

For **UN3160**: Toxic gas/3160 and Flammable gas  
For **UN1965**: Flammable gas/1965  
For **UN3295**: Flammable/3295 and Marine Pollutant Mark  
For **UN1267**: Flammable/1267

**Packaging - Non-Bulk:**

For **UN3160 & UN1965**: P200  
For **UN3295**: P001  
For **UN1267**: P001

**EMS:**

For **UN3160 & UN1965**: F-D, S-U  
For **UN3295**: F-E, S-D

For UN1267: F-E, S-E

**Note:**

U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25. If transported in bulk by marine vessel in international waters, product is being carried under the scope of MARPOL Annex I.

**International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)**

**UN/ID #:**

UN3160 - Forbidden

UN1965 or UN3295 or UN 1267

**Proper Shipping Name:**

For UN1965: Hydrocarbon gas mixture, liquefied, n.o.s. (Butane, Hydrogen Sulfide)

For UN3295: Hydrocarbons, liquid, n.o.s.

For UN1267: Petroleum Crude Oil

**Hazard Class/Division:**

For UN1965: 2.1

For UN3295: 3

For UN1267: 3

**Subsidiary risk:** None

**Packing Group:**

For UN1965: None

For UN3295: I or II [Determined by IATA 3.3.2]

For UN1267: I or II [Determined by IATA 3.3.2]

**Non-Bulk Package Marking:**

For UN1965: Hydrocarbon gas mixture, liquefied, n.o.s. (Butane, Hydrogen Sulfide), UN1965

For UN3295: Hydrocarbons, liquid, n.o.s., UN3295

For UN1267: Petroleum crude oil, UN1267

**Labels:**

For UN1965: Flammable gas, Cargo Aircraft Only

For UN3295: Flammable liquid

For UN1267: Flammable liquid

**ERG Code:**

For UN1965: 10L

For UN3295: 3H

For UN 1267: 3L

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	UN1965 – Forbidden UN3295 – Forbidden – [PG I] Y341 – [PG II] UN1267 – Forbidden – [PG I]	UN1965 – Forbidden UN3295 – 351 – [PG I] 353 – [PG II] UN1267 – 351 – [PG I]	UN1965 – 200 UN3295 – 361 – [PG I] 364 – [PG II] UN1267 – 361 – [PG I]
Max. Net. Qty. Per Package:	UN3295 – Forbidden – [PG I] 1L – [PG II] UN1267 – None (PG I)	UN3295 – 1L – [PG I] 5L – [PG II] UN1267 – 1L – [PG I]	UN1965 – 150 kg UN1267 – 30 L – [PG I] 60 L – [PG II] 0 UN3295 – 60L – [PG II]

**Section 15: Regulatory Information**

**OSHA HAZARD COMMUNICATION STANDARD**

This material has been evaluated and determined to be a “Hazardous Chemical” as defined in OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**CERCLA – Section 302 Extremely Hazardous Substances and TPQs (in pounds)**

This material contains the following chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

Components	TPQ	EPCRA RQ
Hydrogen Sulfide	500 lb.	100 lb.

**CERCLA/SARA – Section 311/312 (Title III Hazard Categories)**

Acute Health:	Yes
Chronic Health:	Yes
Fire Hazard:	Yes
Pressure Hazard:	No
Reactive Hazard:	No

**CERCLA/SARA – Section 313 and 40 CFR 372**

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372.

Components	Concentration	de minimis
Benzene	<5	0.1%
Ethyl Benzene	1-3	0.1%
Toluene	1-7	1.0%
Xylenes	1-8	1.0%
Toluene	1-7	1.0%
n-Hexane	2-4	1.0%

**EPA (CERCLA) Reportable Quantity (in pounds)**

EPA's Petroleum Exclusion applies to this material – (CERCLA 101(14)).

**California Proposition 65**

Warning: This material may contain detectable quantities of the following chemicals, known to the State of California to cause cancer, birth defects, or other reproductive harm, and which may be subject to the requirements of California Proposition 65 (CA Health and Safety Code Section 25249.5):

Components	Type of Toxicity
Toluene	Developmental Toxicant Female Reproductive Toxicant
Benzene	Cancer Developmental Toxicant Male Reproductive Toxicant
Ethyl Benzene	Cancer

**Right to Know Information**

The recipient of this Safety Data Sheet should review applicable state and local regulations in order to determine whether additional "Right to Know" information is required (see <https://www.osha.gov/dcsp/osp/statestandards.html>). If applicable, the recipient may contact Texon (see Section 1) to obtain any such additional information.

**National Chemical Inventories**

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA

All components are either on the DSL, or are exempt from DSL listing requirements

**U.S. Export Control Classification Number:** EAR99

**Section 16: Other Information**

Date of Issue:	Previous Issue Date:	SDS Number:	Status:
07/25/2024	n/a	H1601.1	Final Draft

**Revised Sections or Basis for Revision: GHS Updates**

Identification (Section 1)  
Hazards Identification (Section 2)  
Composition/ Information on Ingredients (Section 3)  
First Aid Measures (Section 4)  
Fire-Fighting Measures (Section 5)  
Accidental Release Measures (Section 6)  
Handling and Storage (Section 7)  
Exposure Controls/Personal Protection (Section 8)  
Physical and Chemical Properties (Section 9)  
Stability and Reactivity (Section 10)  
Toxicological Information (Section 11)  
Ecological Information (Section 12)  
Disposal Considerations (Section 13)  
Transport Information (Section 14)  
Regulatory Information (Section 15)  
Other Information (Section 16)

**Guide to Abbreviations:**

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIAH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

**Disclaimer of Expressed and Implied Warranties:**

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