



Safety Data Sheet

1. Identification

Product Name: Natural Gas Condensate (Sour)
Synonyms: Condensate, Lease Condensate, Natural Gasoline
Chemical Family: Petroleum Hydrocarbon Mixture; Mainly Alkanes, some aromatics and other families
Manufacturers Name: Whiting Oil and Gas Corporation
Address: 1700 Broadway, Suite 2300
Denver, Colorado 80290
Product Use: Bi-product of natural gas production
Phone Number for Information: (303) 837-1661
Emergency Phone Number: (800) 424-9300 (Chemtrec)

Natural gas condensate (sour) is composed of natural hydrocarbons just like crude oil except it has a greater proportion of the smaller, lighter, more volatile constituents. Therefore, it typically is less viscous, less dense, and gives off more flammable vapors. Natural gas condensate (sour) contains hydrogen sulfide (H₂S).

2. Hazard Identification

Natural gas condensate (sour) is extremely flammable and can cause eye, skin, gastrointestinal, and respiratory irritation as well as dizziness and loss of balance. More serious health effects can occur if condensate is inhaled or swallowed.

Natural gas condensate (sour) may contain variable amounts of benzene, and n-hexane. Long-term exposure to these materials has been shown to lead to systemic toxicity such as leukemia and peripheral neurotoxicity.

DANGER!
FLAMMABLE LIQUID

ASPIRATION OF LIQUID INTO THE LUNGS CAN PRODUCE CHEMICAL PNEUMONIA OR EVEN DEATH. MAY CONTAIN BENZENE WHICH CAN CAUSE CANCER OR BE TOXIC TO BLOOD-FORMING ORGANS. MAY VENT HARMFUL CONCENTRATIONS OF HYDROGEN SULFIDE (H₂S) GAS WHICH CAN CAUSE RESPIRATORY IRRITATION AND ASPHYXIATION.

NO SMOKING!
KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. DO NOT BREATHE GAS. WEAR RESPIRATORY PROTECTION, PROTECTIVE GLOVES, CLOTHING AND EYE WEAR WHEN HANDLING. AVOID RELEASE INTO THE ENVIRONMENT.

Globally Harmonized System (GHS) Information

Physical Hazards Classification

Flammable Liquids, Category 1

Health Hazards Classification

Skin Corrosion/irritation, Category 2

Serious eye damage/eye irritation, Category 2b

Carcinogenicity, Category 1B

Specific Target organ toxicity – single exposure (Acute), Category 1 (lung), 3 (drowsiness and dizziness)


Specific Target organ toxicity – repeated exposure (Chronic), Category 2 (bone marrow, liver, thymus, nervous system)

Aspiration hazard, Category 1

Environmental Hazards Classification

Acute Toxicity to the aquatic environment, Category 2

Chronic Toxicity to the aquatic environment, Category 2

GHS Label Information	
	
Symbols:	
Signal Word: Danger	
Hazard Statements:	Precautionary Statements:
<p>Physical Hazards Highly flammable liquid and vapor</p> <p>Health Hazards May cause cancer May be fatal if swallowed and enters airways Causes eye irritation May cause drowsiness or dizziness May cause damage to organs through prolonged or repeated exposure Causes skin irritation</p>	<p>Prevention 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/ventilation/lighting equipment Use only non-sparking tools Take precautionary measures against static discharge Wear protective gloves/protective clothing/eye protection/face protection Obtain special instructions before use Do not handle until all safety precautions have been read and understood Wash hands thoroughly after handling Do not breathe mists/vapors/spray Do not eat, drink or smoke when using this product Use only outdoors or in a well-ventilated area Avoid release to the environment</p>

<p>Environmental Hazards Harmful to aquatic life Harmful to aquatic life with long lasting effects</p>	<p>Response IF ON SKIN (or hair): Remove all contaminated clothing. Rinse skin with water/shower In case of fire: use appropriate media for extinction If exposed or concerned: Get medical attention or advice IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If irritation persists get medical advice/attention IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Collect spillage IF SWALLOWED: Rinse Mouth. Immediately call a poison control center or doctor/physician Do not induce vomiting</p> <p>Storage Store locked up Store in a well-ventilated place. Keep container tightly closed.</p> <p>Disposal Dispose of contents/container in accordance with local/regional/national/international regulations</p>
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3. Composition/Information on Ingredients

<u>COMPOSITION</u>	<u>CAS NUMBER</u>	<u>PERCENT</u>
Natural Gas Condensate	64741-47-5	100
May contain variable amounts of:		
Hydrogen Sulfide	7783-06-4	>10 ppm
Natural Gas	8005-14-2	---
Benzene	71-43-2	---
Toluene	108-88-3	---
Xylene	1330-20-7	---
Hexane	110-54-3	---

4. First Aid Measures

Eye Contact

Immediately flush eyes, while holding eyelids open, with large amounts of clean, low-pressure tepid water for at least 15 minutes. If symptoms, irritation or injury persists, worsen or develop, seek medical attention.

Skin Contact

Remove contaminated clothing/shoes, wipe excess from skin. Immediately flush skin with water for 15 minutes then wash with soap and water. If illness or adverse symptoms develop or irritation persists, seek medical attention. Discard contaminated leather goods.

Inhalation

Remove victim to fresh air and provide oxygen if breathing labored, shallow, or difficult. Rescuer must wear appropriate supplied air respirator to remove worker from contaminated area to fresh air. Give artificial respiration if victim is not breathing. Seek medical attention immediately.

Ingestion

If swallowed, do NOT induce vomiting, since aspiration into the lungs may cause chemical pneumonia. Seek immediate medical attention.

5. Fire-Fighting Measures

Extinguishing Media

For small fires, class B fire extinguishing media can be used. Use water fog, foam, dry chemical, halon, foam or CO₂. Do not use a direct stream of water. Product will float and can be reignited on surface of water.

Special Fire Fighting Procedures and Precautions

Warning: Flammable. Clear fire area of unprotected personnel. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots) including a positive pressure NIOSH approved self-contained breathing apparatus (SCBA). Cool fire exposed containers with water.

Unusual Fire Explosion Hazards

Container exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture (bleve). Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Sulfur oxides (SO₂) and hydrogen sulfide (H₂S), both of which are toxic, may be released upon combustion.

NFPA Ratings

Health – 3

Flammability – 3

Reactivity – 0

Other – 0

Key: Least-0; Slight-1; Moderate-2; High-3; Extreme-4

6. Accidental Release Measures

Keep the public away. Isolate and evacuate the area. Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking.

***** Large Spills ***** Evacuate the hazard area of unprotected personnel. Wear appropriate respirator and protective clothing. If safe to do so, shut off source of leak. Dike and contain with sand or soil. If vapor cloud forms, water fog may be used to suppress. Contain run-off. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal. Flush area with water to remove trace residue and dispose of flush solutions as above.

***** Small Spills ***** Take up with an absorbent material and place in non-leaking containers; seal tightly for proper disposal.

7. Handling and Storage

Comply with all regulatory requirements. Store in suitable tanks or closed, labeled containers in a cool, well-ventilated area.

Keep liquid and vapor away from heat, sparks and flame. Surfaces that are sufficiently hot may even ignite liquid product in the absence of sparks or flame. Extinguish pilot lights, cigarettes and turn off other sources of ignition prior to use and until all vapors are gone. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers. Static electricity may accumulate and create a fire hazard. Ground fixed equipment. Bond and ground transfer containers and equipment. Containers should be able to withstand pressures expected from warming or cooling in storage.

Wash hands with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse. Dispose of leather articles including shoes which cannot be decontaminated.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits

<u>COMPONENT</u>	<u>OSHA PEL</u>	<u>ACGIH TLV TWA</u>
Natural Gas Condensate (Sour)	Not available	Not available
Natural Gas	Not available	Not available
Hexane	500 ppm	500 ppm/STEL 1000 ppm
Benzene	1 ppm**/STEL 5 ppm	0.5 ppm
Hydrogen Sulfide	20 ppm ceiling	1 ppm/STEL 5 ppm

**OSHA's action level is 0.5 ppm (29 CFR 1910.1028)

Engineering Controls

Maintain air concentrations below flammable limits and occupational exposure standards for chemical components using ventilation and other engineering controls.

Personal Protective Equipment

Eye/ Face Protection

Eye protection (e.g. goggles or a face shield) should be worn whenever there is a likelihood of splashing or spraying liquid. Contact lenses should not be worn. Suitable eye wash water should be available.

Skin Protection

Avoid skin contact. Wear protective clothing and gloves. Neoprene or nitrile gloves generally offer good protection. Wash thoroughly after handling.

Respiratory Protection

If ventilation is inadequate, use NIOSH approved respirator which will protect against organic vapor/mist. Do not enter storage compartments or hydrogen sulfide areas (> 10 PPM) without a NIOSH approved supplied air respirator.

9. Physical and Chemical Properties

Appearance and Odor: Colorless to light yellow-colored liquid; strong hydrocarbon and possible sulfur (rotten egg like) odor. Odor threshold varies. Note: H₂S gas causes olfactory fatigue or loss of smell at high concentrations.

pH:	Neutral
Melting Point/freezing point:	Not available
Boiling Point:	85-1000°F
Flash Point and Method:	-40°F / tag closed cup method
Evaporation Rate:	>1 (Water=1)
Flammable Limits:	(approximate % volume in air) Lower: 0.9 Upper: 7.0
Vapor Pressure:	Variable
Specific Gravity:	0.56-0.99 (H ₂ O=1.0)
Vapor Density	Varies; usually>1 (Air=1)
Solubility:	Slight (in water)
Partition coefficient (n-octanol/water):	Not available
Auto ignition temperature	480°F
Decomposition temperature	Not available
Viscosity	Similar to water

10. Stability and Reactivity

Stability: Stable

Hazardous polymerization: Will not occur

Conditions and Materials to Avoid: Avoid heat, sparks, flame and contact with strong oxidizing agents, acids and bases.

Hazardous Decomposition Products: Thermal decomposition products are highly dependent on the combustion conditions. A complex mixture of airborne, solid, liquid, particulates and gases will evolve when this material undergoes pyrolysis or combustion. Carbon monoxide and other unidentified organic compounds may be formed upon combustion.

11. Toxicological Information

Acute toxicity - Ingestion may cause irritation of the mouth, throat & gastrointestinal tract leading to nausea, vomiting, diarrhea and restlessness. Vapors can be harmful or fatal if inhaled. Exposure may result in central nervous system depression.

Hydrogen sulfide (H₂S) gas may accumulate in storage tanks and bulk transport compartments containing petroleum crudes or condensates. Prolonged breathing (greater than one hour) of concentrations of H₂S around 50 ppm can produce eye and respiratory tract irritation; concentrations of 250 to 600 ppm will result in fluid in the lungs, and concentrations around 1,000 ppm will cause unconsciousness and death in a short period of time. The sense of smell rapidly become insensitive to this toxic, colorless gas and the odor of condensate may mask the odor of H₂S. Therefore, odor cannot be relied upon as an indicator of concentration of the gas.

Skin corrosion/irritation - Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. Liquid can penetrate skin to cause central nervous system depression. Vapor penetration can also cause systemic effects.

Eye damage/irritation - Mild eye irritation may result from contact with liquid, mist, and/or vapors.

Sensitization - Not known to cause respiratory or skin sensitization

Germ cell mutagenicity – Information not available

Carcinogenicity – May contain benzene which is a confirmed human carcinogen (leukemia).

Reproductive toxicity – Not a known reproductive toxin

Specific Target Organs/Systemic Toxicity – Blood/bone marrow, central nervous system, eyes, skin, and respiratory system

Aspiration hazard – Aspiration of this product into the lungs can cause chemical pneumonia and can be fatal. Aspiration can occur while vomiting after ingestion of this product.

12. Ecological Information

Coating action of oil can kill birds, plankton, algae and fish. Keep out of all bodies of water and sewage drainage systems.

13. Disposal Considerations

This product, as produced, is not specifically listed as an EPA RCRA hazardous waste according to 40 CFR 261. However, when disposed of, it may meet the criteria of a “characteristic” hazardous waste (e.g. D001 – ignitable). This product could also contain benzene and could be considered hazardous because it exhibits the characteristic of “toxicity.” It is the responsibility of the user to determine if the material is considered hazardous for disposal under federal, state and local regulations.

14. Transportation Information

Department of Transportation Classification: Flammable liquid if flash point <200°F.

D.O.T. proper shipping name: Crude Oil Petroleum, Petroleum Condensate

Other Requirements: UN 1267

Hazard Class: 3

Packing Group II

15. Regulatory Information

TSCA This product is listed on the TSCA chemical inventory.

SARA Section 302 This product contains hydrogen sulfide which has been listed on the EPA’s extremely hazardous substance list.

SARA Section 304 This product may contain the following component(s) which in the event of a spill may be subject to SARA reporting requirements: hydrogen sulfide, toluene, xylene, hexane, benzene.

SARA Section 311/312 The following hazard categories apply to this product:

Acute health hazard
Chronic health hazard
Fire hazard

SARA Section 313 This product contains the following component(s) which may be subject to reporting on a toxic release inventory: crude oil, toluene, xylene, hexane, benzene.

EPA-CWA Spills into or leading to surface waters that cause a sheen must be reported to the National Response Center, 800-424-8802.

16. Other Information

Date Prepared:	August 29, 2008
Revised:	October 30, 2013
Last Reviewed:	October 30, 2013

Disclaimer:

The information and recommendations contained in this SDS are believed to be accurate at the date of its preparation. Whiting Oil and Gas Corporation makes no representations or warranties, express or implied, with respect to the accuracy or completeness of the information contained herein. Whiting Oil and Gas Corporation assumes no responsibility for incorrect handling or use of the product or the inherent hazards in the product itself.