



MATERIAL SAFETY DATA SHEET

Natural Gas Condensate (sour)

MSDS No. 7838

EMERGENCY OVERVIEW

DANGER!

**FLAMMABLE - MAY EVOLVE TOXIC AND FLAMMABLE HYDROGEN SULFIDE GAS - EYE AND MUCOUS MEMBRANE IRRITANT - EFFECTS CENTRAL NERVOUS SYSTEM - HARMFUL OR FATAL IF SWALLOWED - ASPIRATION HAZARD**



NFPA 704 (Section 16)

High fire hazard. Keep away from heat, spark, open flame, and other ignition sources.

**HYDROGEN SULFIDE (H<sub>2</sub>S - toxic gas)** - high concentrations may cause immediate unconsciousness - death may result unless victim is promptly and successfully resuscitated. H<sub>2</sub>S may also cause eye and respiratory tract irritation.

Contact may cause eye, skin and mucous membrane irritation. Avoid prolonged breathing of vapors or mists. Inhalation may cause irritation, anesthetic effects (dizziness, nausea, headache, intoxication), and respiratory system effects. If ingested, do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs).

May contain benzene which can cause blood disease, including anemia and leukemia.

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Hess Corporation  
1 Hess Plaza  
Woodbridge, NJ 07095-0961

**EMERGENCY TELEPHONE NUMBER:** CHEMTREC (800) 424-9300  
**COMPANY CONTACT (business hours):** Corporate EHS 732-750-6000  
**MSDS Internet Website:** [www.hess.com](http://www.hess.com)

**SYNONYMS:** Drips; Condensate; Field Condensate; Gas Well Condensate; High Pressure Inlet Liquids; Lease Condensate; Natural Gas Liquids (NGL or NGLs); Pipeline Liquids

See Section 16 for abbreviations and acronyms.

2. COMPOSITION and CHEMICAL INFORMATION ON INGREDIENTS

INGREDIENT NAME (CAS No.)	CONCENTRATION PERCENT BY WEIGHT
Natural Gas, condensate (68919-39-1)	100
Benzene (71-43-2)	<0.1 to 2.0
Hydrogen Sulfide (H <sub>2</sub> S) (7783-06-4)	<Variable>

A complex combination of hydrocarbons separated and/or condensed from natural gas and containing carbon numbers predominantly in the range C2-C20. Can contain as much as 15-20 wt% methane (C1), ethane (C2), and propane (C3), 20 wt% butanes (C4) and up to 6 - 7 wt% carbon dioxide (CO<sub>2</sub>) depending on natural gas production process conditions and pressure.



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### 3. HAZARDS IDENTIFICATION

#### EYES

May cause moderate irritation.

#### SKIN

Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are exposed repeatedly.

#### 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.

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

#### INHALATION

Excessive exposure may cause irritation 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. Contains carbon dioxide, which can produce rapid breathing, fatigue, muscular incoordination, nausea, and asphyxiation depending on the concentration and duration of exposure.

**WARNING:** irritating and toxic hydrogen sulfide gas may be present. Greater than 15 - 20 ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50 - 500 ppm can cause headache, nausea, and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500 ppm can cause rapid unconsciousness due to respiratory paralysis and death by suffocation unless the victim is removed from exposure and successfully resuscitated. Greater than 1000 ppm can cause immediate unconsciousness and death if not promptly revived.

The "rotten egg" odor of hydrogen sulfide is not a reliable indicator for warning of exposure, since olfactory fatigue (loss of smell) readily occurs, especially at concentrations above 50 ppm. At high concentrations, the victim may not even recognize the odor before becoming unconscious.

#### CHRONIC EFFECTS and CARCINOGENICITY

Contains benzene, a regulated human carcinogen. Benzene has the potential to cause anemia and other blood diseases, including leukemia, after repeated and prolonged exposure.

#### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis (rash). Chronic respiratory disease, liver or kidney dysfunction, or pre-existing central nervous system disorders may be aggravated by exposure.

### 4. FIRST AID MEASURES

#### EYES

In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

#### SKIN

Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops.



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### **INGESTION**

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.

If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Seek medical attention. Monitor for breathing difficulty.

### **INHALATION**

Remove person to fresh air. If person is not breathing, ensure an open airway and provide artificial respiration. If breathing and heart beat have stopped, administer CPR. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

## **5. FIRE FIGHTING MEASURES**

### **FLAMMABLE PROPERTIES:**

FLASH POINT:	AP -40 °F (-40 °C) TCC
AUTOIGNITION TEMPERATURE:	AP 480 °F (250 °C)
OSHA/NFPA FLAMMABILITY CLASS:	1A (flammable liquid)
LOWER EXPLOSIVE LIMIT (%):	N/D [NFPA gasoline 1.4%]
UPPER EXPLOSIVE LIMIT (%):	N/D [NFPA gasoline 7.6%]

### **FIRE AND EXPLOSION HAZARDS**

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.

### **EXTINGUISHING MEDIA**

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO<sub>2</sub>, water spray, fire fighting foam, or Halon.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

### **FIRE FIGHTING INSTRUCTIONS**

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting 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 facepiece 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 the fire, often including the need for properly applied fire fighting foam.

See Section 16 for the NFPA 704 Hazard Rating.



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### **6. ACCIDENTAL RELEASE MEASURES**

ACTIVATE FACILITY SPILL CONTINGENCY or EMERGENCY PLAN.

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Product may release substantial amounts of flammable vapors and gases (e.g., methane, ethane, and propane), at or below ambient temperature depending on source and process conditions and pressure.

Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection - do not discharge solid water stream patterns into the liquid resulting in splashing.

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

### **7. HANDLING and STORAGE**

#### **HANDLING and STORAGE PRECAUTIONS**

Handle as a flammable liquid. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

#### **STORAGE PRECAUTIONS**

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.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

#### **Naturally Occurring Radioactive Materials (NORM):**

Industry experience indicates that natural gas contains small amounts of radon, a naturally-occurring radioactive gas. The solid decay products of radon, called radon daughters, can accumulate inside production and process equipment handling natural gas liquids. Scales, deposits, and sludges from this equipment may have a significant accumulation of this NORM.

Gamma radiation may be detected above background external to equipment contaminated with this type of NORM. Such equipment should be assessed for external gamma radiation; access around the equipment may need to be restricted in accordance with OSHA 29 CFR 1910.96 during operation. Regardless of external gamma radiation levels, this equipment should also be assumed to be internally contaminated with long half-life decay products that emit alpha radiation, which is a radiation hazard if inhaled or ingested. Unless measurements indicate otherwise, steps should be taken to minimize skin and inhalation exposure to NORM dusts/mists by wearing personal protective clothing [such as disposable Tyvek ® (DuPont)], utilizing respiratory protection (minimum of HEPA filter), and practicing good personal hygiene. Please refer to API Bulletin E2, "Bulletin on Management of Naturally Occurring



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Radioactive Materials in Oil and Gas Production," April 1, 1992, for additional information on managing NORM.

### **WORK/HYGIENIC PRACTICES**

Emergency eye wash capability should be available in 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.

## **8. EXPOSURE CONTROLS and PERSONAL PROTECTION**

### **EXPOSURE LIMITS**

<b>Components (CAS No.)</b>	<b>Source</b>	<b>Exposure Limits TWA/STEL</b>	<b>Note</b>
Natural Gas Condensate (68919-39-1)	OSHA ACGIH	500 ppm as petroleum distillate (naphtha)	
Benzene (71-43-2)	OSHA ACGIH	PEL = 1ppm; STEL = 5 ppm TLV = 0.5 ppm; STEL = 2.5 ppm	A1; skin; BEI
Hydrogen Sulfide (7783-06-4)	OSHA ACGIH	PEL-Ceiling = 20 ppm; Peak = 50 ppm TLV = 10 ppm; STEL = 15 ppm	2006 NOIC 1/5ppm

### **ENGINEERING CONTROLS**

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

### **EYE/FACE PROTECTION**

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

### **SKIN PROTECTION**

Gloves constructed of nitrile or neoprene are recommended. Chemical protective clothing such as of E.I. DuPont Tyvek-Saranex 23®, Tychem®, Barricade® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

### **RESPIRATORY PROTECTION**

A NIOSH -approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

## **9. PHYSICAL and CHEMICAL PROPERTIES**

### **APPEARANCE**

A colorless to straw-yellow, water-like liquid

### **ODOR**



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Characteristic petroleum odor.

Hydrogen sulfide (H<sub>2</sub>S) has a characteristic rotten egg "sulfurous" odor with an odor threshold of less than 10 parts per billion. However, this odor should not be used as a warning property of toxic levels because H<sub>2</sub>S can overwhelm and deaden the sense of smell. Therefore, the smell of H<sub>2</sub>S should not be used as an indicator of a hazardous condition - a H<sub>2</sub>S meter or colorimetric indicating tubes are typically used to determine the concentration of H<sub>2</sub>S.

**BASIC PHYSICAL PROPERTIES** (does not include carbon dioxide CO<sub>2</sub>)

BOILING RANGE: 85 to 437 °F (39 to 200 °C)  
VAPOR PRESSURE: ~110 psia @ 100 °F  
VAPOR DENSITY (air = 1): > 1  
SPECIFIC GRAVITY (H<sub>2</sub>O = 1): AP 0.62 - 0.76  
PERCENT VOLATILES: essentially 100 %  
EVAPORATION RATE: high  
SOLUBILITY (H<sub>2</sub>O): negligible

**10. STABILITY and REACTIVITY**

**STABILITY:** Stable. Hazardous polymerization will not occur.

**CONDITIONS TO AVOID and INCOMPATIBLE MATERIALS**

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Keep away from strong oxidizers.

**HAZARDOUS DECOMPOSITION PRODUCTS**

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

**11. TOXICOLOGICAL PROPERTIES**

**ACUTE TOXICITY**

Carcinogenic: IARC: No      NTP: No      OSHA: No      ACGIH: No

Exposure to light hydrocarbons in the same boiling range as this product have been associated in animal studies with effects to the central nervous system, peripheral nervous system, liver, and kidneys. The significance of these animal models to predict similar human response is uncertain. Observing good work practices and personal hygiene procedures (Sections 7 and 8) can minimize potential risks to humans.

Product may contain benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood forming system (particularly bone marrow), and serious blood disorders, such as aplastic anemia and leukemia. Benzene is listed by the NTP, IARC, OSHA and ACGIH as carcinogenic in humans.

**12. ECOLOGICAL INFORMATION**

Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

**13. DISPOSAL CONSIDERATIONS**

Consult federal, state and local waste regulations to determine appropriate disposal options.

**14. TRANSPORTATION INFORMATION**

PROPER SHIPPING NAME:	Petroleum distillates, n.o.s. or petroleum products, n.o.s. (condensate)	Alternative classification: Hydrocarbons, Liquid n.o.s. (condensate)
HAZARD CLASS:	3	3
DOT IDENTIFICATION NUMBER:	UN 1268	UN 3295
DOT SHIPPING LABEL:	Flammable Liquid	Flammable Liquid



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Placard:



Dependent on the product's properties, the shipper may also elect to classify as Gasoline UN1203 or Petroleum Crude Oil UN1267 - reference 49 CFR 172.101 for further description (e.g., packing group determination).

15. REGULATORY INFORMATION

U.S. FEDERAL, STATE, and LOCAL REGULATORY INFORMATION

Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other regulations at the state and/or local level. Consult those regulations applicable to your facility/operation.

CLEAN WATER ACT (OIL SPILLS)

Any spill or release of this product to "navigable waters" (essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIRONMENT)

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil, refined, and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g., SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

SARA SECTION 311/312 - HAZARD CLASSES

ACUTE HEALTH	CHRONIC HEALTH	FIRE	SUDDEN RELEASE OF PRESSURE	REACTIVE
X	X	X	--	--

SARA SECTION 313 - SUPPLIER NOTIFICATION

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372:

INGREDIENT NAME	CONCENTRATION PERCENT BY WEIGHT
Benzene CAS NUMBER: 71-43-2	< 0.1 to 2

CANADIAN REGULATORY INFORMATION (WHMIS)

- Class B Division 2 (Flammable Liquid)
- Class D Division 2 Subdivision A (Very toxic by other means)
- Class D Division 1 Subdivision A (Very toxic acute)
- Class D Division 2 Subdivision B (Toxic by other means)

CALIFORNIA PROPOSITON 65 LIST OF CHEMICALS

This product contains the following chemicals that are included on the Proposition 65 "List of Chemicals" required by the California Safe Drinking Water and Toxic Enforcement Act of 1986:



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INGREDIENT NAME (CAS NUMBER) Date Listed
Benzene 2/27/1987

NFPA® HAZARD RATING HEALTH: 2
FIRE: 4
REACTIVITY: 0

Refer to NJPA 704 "Identification of the Fire Hazards of Materials" for further information

HMIS® HAZARD RATING HEALTH: 3 \* Severe
FIRE: 4 Extreme
PHYSICAL: 0 Negligible
\* Chronic

SPECIAL HAZARDS: Contains hydrogen sulfide (H2S) - a toxic and flammable gas

SUPERSEDES MSDS DATED: 06/08/2001

ABBREVIATIONS:

AP = Approximately < = Less than > = Greater than
N/A = Not Applicable N/D = Not Determined ppm = parts per million

ACRONYMS:

- ACGIH American Conference of Governmental Industrial Hygienists
AIHA American Industrial Hygiene Association
ANSI American National Standards Institute (212) 642-4900
API American Petroleum Institute (202) 682-8000
CERCLA Comprehensive Emergency Response, Compensation, and Liability Act
DOT U.S. Department of Transportation [General info: (800) 467-4922]
EPA U.S. Environmental Protection Agency
HMIS Hazardous Materials Information System
IARC International Agency For Research On Cancer
MSHA Mine Safety and Health Administration
NFPA National Fire Protection Association (617)770-3000
NIOSH National Institute of Occupational Safety and Health
NOIC Notice of Intended Change (proposed change to ACGIH TLV)
NTP National Toxicology Program
OPA Oil Pollution Act of 1990
OSHA U.S. Occupational Safety & Health Administration
PEL Permissible Exposure Limit (OSHA)
RCRA Resource Conservation and Recovery Act
REL Recommended Exposure Limit (NIOSH)
SARA Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA Self-Contained Breathing Apparatus
SPCC Spill Prevention, Control, and Countermeasures
STEL Short-Term Exposure Limit (generally 15 minutes)
TLV Threshold Limit Value (ACGIH)
TSCA Toxic Substances Control Act
TWA Time Weighted Average (8 hr.)
WEEL Workplace Environmental Exposure Level (AIHA)
WHMIS Canadian Workplace Hazardous Materials Information System

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES



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