



**MSDS
MATERIAL SAFETY DATA SHEET**

**NATURAL GAS
LIQUIDS
MSDS # 104**

Effective May 9, 2010

| | | | | | |
|--|--|---|---------------|--------------------|--------------------------------|
| Manufacturer/Supplier: Hunt Oil Company 1900 North Akard Street Dallas, Texas 75201-2300 214-978-8000 | Emergency Health Information: | (713) 420-2600 | | | |
| | CHEMTREC (for transport emergencies): | 800-424-9300 (USA) 202-483-7616 (Outside the USA) | | | |
| Important Components: | Component | % | C.A.S. Number | LD50 of Ingredient | LC50 of Ingredient |
| | Ethane | 9-21 | 74-84-0 | Not available | Not available |
| | Propane | 60-70 | 74-98-6 | Not available | Not available |
| | Isobutane | 5-9 | 75-28-5 | Not available | Not available |
| | n-Butane | 6-14 | 106-97-8 | Not available | 658 g/m ³ rat, 4 hr |
| | C5-C6 Hydrocarbons | 1-4 | Not available | Not available | Not available |
| Warning Statement: | Flammable; high vapour concentrations can cause headaches, dizziness, drowsiness and nausea. | | | | |
| | NFPA Codes: (Health;2) (Flammability;4) (Reactivity;0), Chronic Hazard | | | | |
| Appearance and odor: | Colourless, odourless liquid (or may have mercaptan odour) | | | | |

HEALTH HAZARD INFORMATION

Route(s) of Entry:

| | | | | |
|-------------------|---------------------|------------------------|------------------|--------------|
| Inhalation | Skin Contact | Skin Absorption | Ingestion | Eye |
| Yes | Liquid – Yes | No | No | Liquid - Yes |

Health Hazards (acute and chronic): Inhalation of high vapour concentrations may have results ranging from eye, nose, throat and lung irritation, to dizziness, drowsiness, headache, nausea and possibly unconsciousness, depending on concentrations and length of exposure. Limit an exposure of 10% LEL to prevent the above effects. Contact of the liquid with skin or eyes may cause freeze burns and possible eye damage.

Carcinogenicity:

| | | | |
|------------------|---------------------------------|------------------------|-----------------------|
| Substance | National Testing Program | IARC Monographs | OSHS Regulated |
| Not applicable | Not applicable | Not applicable | Not applicable |

Sign and Symptoms of Exposure: Irritation drowsiness, dizziness, disorientation, headache, nausea.

Medical Conditions Generally Aggravated by Exposure: Any condition causing impaired function of the respiratory, cardiovascular, or nervous systems.

| Ingredients | TLV – TWA (ppm) | TLV – STEL (ppm) | TLV – C (ppm) | 8 hr OEL (ppm) | 15 Min OEL (ppm) | Ceiling OEL (ppm) |
|--------------------|------------------------|-------------------------|----------------------|-----------------------|-------------------------|--------------------------|
| Ethane | - | - | - | - | - | - |
| Propane | 2500 | - | - | 1000 | - | - |
| Isobutane | - | - | - | - | - | - |
| N-Butane | 800 | - | - | 800 | 1000 | - |

EMERGENCY AND FIRST AID PROCEDURES

Inhalation:

In emergencies, assess situation. Ensuring own safety, use approved respiratory protection to immediately remove the affected victim from exposure. Administer artificial respiration or CPR as required. Keep at rest. Call for medical attention immediately.

Skin contact:

If freeze burn occurs, bathe affected area in warm water (38-42 degrees C.) as soon as possible. Do not rub. Get medical attention.

Eyes:

Flush with warm water for at least 20 minutes and continue until medical care is received.

Ingestion:

Do not induce vomiting. If conscious, give 1-2 glasses of milk or water to drink. (Note: Never give anything by mouth to a person who is unconscious or convulsing).

Note to Physician:

High aspiration risk. For large amounts use careful gastric lavage. Eructation and gastroenteritis may be a complication. Aspiration may cause chemical pneumonitis or lipid pneumonia.

FIRE AND EXPLOSION INFORMATION

Auto Ignition Temperature: 400 – 450°C

Extinguishing Media: Dry Chemical, foam, CO₂ using manufacturer's recommended technique.

Flammable under all normal conditions.

Special Fire Fighting Procedures: Water may be ineffective at extinguishing fire, but should be used to keep fire exposed containers cool. If leak or spill has not ignited, use water spray to disperse the vapours and to protect personnel attempting to stop leak. Water spray may be used to flush spills from exposure. Use self-contained breathing apparatus (SCBA).

Sensitivity to Mechanical Impact: Not sensitive

Sensitivity to Static Discharge: Material may build up a static charge, and vapours/gas may ignite. Bond/ground all transfers.

Unusual fire and Explosion Hazards: Highly flammable. Products of combustion: CO, CO₂. Flammable liquid/vapour may ignite explosively. Do not enter enclosed or confined spaces without proper protective equipment including SCBA.

REACTIVITY INFORMATION

Stability: Stable

Incompatibility: Strong oxidizers

Hazardous Polymerization: Will Not Occur

Hazardous Decomposition: Burning may give off carbon monoxide and carbon dioxide.

CHEMICAL AND PHYSICAL PROPERTIES

| | | | |
|----------------------|------------------------|---|----------------------|
| Flashpoint: | -69°C | Freezing Point | -170 to 180 °C |
| UEL: | 13% | Specific Gravity (H ₂ O = 1) | 0.45 to 0.6 |
| LEL: | 1.8% | Vapour Pressure (mm Hg) | 1100 kpa at 20 °C |
| Physical State: | Liquid | Vapour Density (Air = 1) | 1.5 – 1.7 at 20 °C |
| Boiling Point: | -30 to -40 °C | Volatile, % by Volume: | 100% |
| Solubility in Water: | Appreciable, above 10% | Evaporation Rate: | Varies with product. |

PRECAUTIONS FOR SAFE HANDLING AND USE

Respiratory Protection (specify type): Use SCBA or supplied-air breathing apparatus (SABA) where exposures may exceed 10% LEL.

Local Exhaust Ventilation: Provide where possible to capture vapours at source, minimize worker exposure and avoid accumulation of explosive vapours. Otherwise, provide effective general ventilation. Use explosion proof motors and non-sparking fans in areas where explosive vapours may form.

Special: No smoking, open lights or other ignition sources. Use explosion proof equipment and non-sparking tools in areas where explosive vapours may form.

Protective Gloves: Use thermally insulated gloves where contact with liquid or liquid-cooled equipment can occur.

Eye Protection: Goggles and face shield if liquid contact can occur.

Other Protective Clothing/Equipment: Apron/suit if handling liquid. Otherwise determined by fire safety policy.

Work/Hygienic Practices: Avoid inhalation and direct contact with liquid.

Steps to be Taken in Case Material is Released or Spilled: Wear suitable personal and respiratory protection. Eliminate and prevent sources of ignition. If safe to do so, stop leak. Keep people away. Recover free liquid. Provide explosion proof ventilation. Minimize breathing vapours. Keep petroleum products out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Federal regulations must be followed.

Waste Disposal Method: Recycle as much of the recoverable product as possible. Conduct waste gas (not liquid) to a furnace for incineration in accordance with applicable government regulations.

Precautions to be taken in Handling and Storing: Do not inhale vapour and avoid contact with skin. Observe precautions for volatile, flammable vapours from absorbed materials.

ECOLOGICAL INFORMATION

Ecological testing has not been conducted on this product.

TRANSPORTATION INFORMATION

| | |
|-----------------------|----------------------------------|
| Proper Shipping Name: | Natural Gas Liquids |
| UN Number: | UN1075 |
| Subsidiary Class: | 2.1 |
| Hazard Rating: | Health-0 / Fire-4 / Reactivity-0 |

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.

NOTICE

This material safety data sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in this data sheet which we received from sources outside our Company. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is made, either express or implied.