



SAFETY DATA SHEET

1. Identification

Product identifier Natural Gas Liquids
Other means of identification
SDS number 7
Recommended use Intermediate.
Recommended restrictions None known.
Manufacturer / Importer / Supplier / Distributor information
Company name DCP Midstream
Address 370 17 Street Suite 2500 Denver, CO 80202
Telephone (303) 595-3331
E-mail safety@dcpmidstream.com
Contact person Mark Prewitt
Emergency phone number CHEMTREC - 24 HOURS: 800-424-9300

2. Hazard(s) identification

Physical hazards Flammable liquids Category 1
Health hazards Skin corrosion/irritation Category 2
Germ cell mutagenicity Category 1B
Carcinogenicity Category 1B
Reproductive toxicity (fertility) Category 2
Specific target organ toxicity, single Category 3 narcotic effects
Specific target organ toxicity, repeated Category 2 liver, kidney
Aspiration hazard Category 1

OSHA hazard(s) Not Classified

Label elements

Hazard symbol



Signal word

Danger

Hazard statement

Extremely flammable liquid and vapor. May cause damage to organs (liver, kidneys) through prolonged exposure by ingestion. Suspected of damaging fertility or the unborn child. Causes skin irritation. Toxic to aquatic life with long lasting effects. May cause genetic defects. May be fatal if swallowed and enters airways. May cause cancer.

Precautionary statement

Prevention

Use only outdoors or in a well-ventilated area. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. 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/ventilating/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.

Response

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. If swallowed: Immediately call a poison center/doctor/. Do not induce vomiting. Call a poison center/doctor if you feel unwell.

Storage

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

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

Not classified.

Environmental HazardsHazardous to the aquatic environment,
long-term hazard

Category 2

3. Composition/information on ingredients**Mixture****Hazardous components**

Chemical name	Common name and synonyms	CAS number	%
Natural gas (petroleum), raw liq. mix		64741-48-6	100
Ethane		74-84-0	0-80
Propane		74-98-6	0-80
n-Hexane		110-54-3	0-60
Butane		106-97-8	0-40
Isobutane		75-28-5	0-40
Isohexane		73513-42-5	0-40
Methane		74-82-8	0-30
2-Methylbutane		78-78-4	0-25
Pentane		109-66-0	0-25
Hydrogen Sulfide		07783-06-4	0-5
Benzene		109-66-0	<1

Composition comments

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures**Inhalation**

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection.

Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Skin contact

Immediately remove contaminated clothing. Wash with soap and water. Continue to rinse for at least 15 minutes. In case of rashes, wounds or other skin disorders: Seek medical attention and bring along these instructions.

Eye contact

Immediately flush with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

Ingestion

Immediately rinse mouth and drink plenty of water or milk. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. Seek immediate medical attention or advice.

Most important symptoms/effects, acute and delayed

Not available.

Indication of immediate medical attention and special treatment needed

Treat symptomatically. Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure.

General information

Get medical attention if any discomfort develops. Refer to the Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS Guide) and the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG) as necessary.

5. Fire-fighting measures



NFPA 704 Hazard Class

Health: 1

Flammability: 4

Instability: 0

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

Suitable extinguishing media

Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Not applicable.

Special protective equipment and precautions for firefighters

Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions

Move containers from fire area if you can do it without risk. Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Stay upwind. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid inhalation of vapors and spray mist and contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Remove sources of ignition. Beware of the explosion danger. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Small Spills: Absorb spillage with non-combustible, absorbent material. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labeled container.

Large Spills: Remove with vacuum trucks or pump to storage/salvage vessels. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Wash area with soap and water.

Environmental precautions

Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not contaminate water. Contact local authorities in case of spillage to drain/aquatic environment.

7. Handling and storage

Precautions for safe handling

Provide adequate ventilation. Avoid inhalation of vapors/mist and contact with skin and eyes. The product is extremely flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. Ground container and transfer equipment to eliminate static electric sparks. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Use non-sparking hand tools and explosion-proof electrical equipment. Wear appropriate personal protective equipment. Immediately change contaminated clothes. Do not eat, drink or smoke when using the product. Observe good industrial hygiene practices. Use only bottom loading of tankers, in compliance with European legislation. Do not use compressed air for filling, discharging, or handling operations. Empty containers may contain flammable product residues.

**Conditions for safe storage,
including any incompatibilities**

Store in a well-ventilated place. Follow rules for flammable liquids. Keep away from heat, spark, open flames and other sources of ignition. Store in a cool, dry place. Store in tightly closed original container. Keep away from food, drink and animal feeding stuffs. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

U.S. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Benzene (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm

U.S. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m ³
		500 ppm
Pentane (CAS 109-66-0)	PEL	2950 mg/m ³
		1000 ppm
Propane (CAS 74-98-6)	PEL	1800 mg/m ³
		1000 ppm

U.S. OSHA Table Z-2 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Benzene (CAS 71-43-2)	Ceiling	25 ppm
	TWA	10 ppm
Hydrogen Sulfide (CAS 07783-06-4)	Ceiling	20 ppm

U.S. ACGIH Threshold Limit Values

Components	Type	Value
Hydrogen sulfide (CAS 07883-06-4)	STEL	5 ppm
	TWA	1 ppm
2 Methylbutane (CAS 78-78-4)	TWA	600 ppm
Benzene (CAS 109-66-0)	STEL	2.5 ppm
	TWA	0.5 ppm
Butane (CAS 106-97-8)	TWA	1000 ppm
Ethane (CAS 74-84-0)	TWA	1000 ppm
Isobutane (CAS 75-28-5)	TWA	1000 ppm
Isohexane (CAS 73513-42-5)	STEL	1000 ppm
	TWA	500 ppm
Methane (CAS 74-82-8)	TWA	1000 ppm
n-Hexane (CAS 110-54-6)	TWA	50 ppm

Pentane (CAS 109-66-0)	TWA	600 ppm
Propane (CAS 74-98-6)	TWA	1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Benzene (CAS 109-66-0)	REL	0.1 ppm
	STEL	1 ppm
Butane (CAS 106-97-8)	REL	1900 mg/m3 800 ppm
	Hydrogen Sulfide (CAS 07783-06-4)	Ceiling
Isobutane (CAS 75-28-5)		REL
	Isohexane (CAS 73513-42-5)	Ceiling
n-Hexane (CAS 110-54-6)		REL
	Pentane (CAS 109-66-0)	Ceiling
		REL
Propane (CAS 74-98-6)	REL	1800 mg/m3 1000 ppm

Biological Limit Values

US. ACGIH. BEIs. Biological Exposure Indices

Components	Value	Determinant
Benzene (CAS 71-43-2)	25 µg/g	S-Phenylmercapturic acid
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, Without hydrolysis

* - For sampling details, please see the source document.

Exposure guidelines

US. ACGIH Threshold Limit Values

Benzene (CAS 71-43-2) Can be absorbed through the skin.
n-Hexane (CAS 110-54-3) Can be absorbed through the skin.

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

BENZENE (CAS 71-43-2) Can be absorbed through the skin.
N-HEXANE (CAS 110-54-3) Can be absorbed through the skin.

US. Rhode Island Hazardous Substances Right-to-Know Act (R.I. Gen. Laws Section 28-21-1 et. seq.)

Benzene (CAS 71-43-2) Can be absorbed through the skin.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear goggles/face shield.

Skin protection Hand protection	Wear protective gloves. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
Other	Protection suit must be worn.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using, do not eat, drink or smoke. Wash hands after handling. Launder contaminated clothing before reuse. Private clothes and working clothes should be kept separately. Observe any medical surveillance requirements. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Colorless liquid.
Physical state	Liquid.
Form	Liquid
Color	Colorless.
Odor	Odorless
Odor threshold	Not available.
pH	Neutral.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	-196.6 (-127 °C)
Flash point	-99.4 to -146 °F (-73 to -99 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%)	1.4 %
Flammability limit – upper (%)	13 %
Vapor pressure	100-200 psia (38°C / 100°F)
Vapor density	Greater than 1 (Air =1)
Relative density	0.5 to 0.7 (Water=1)
Relative density temperature	68 °F (20 °C)
Solubility(ies)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	800.6 °F (427 °C)
Decomposition temperature	Not available.

Viscosity Not available.

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Stable under normal temperature conditions.

Possibility of hazardous Reactions Hazardous polymerization does not occur.

Conditions to avoid Heat, flames and sparks. Elevated temperatures and incompatible materials.

Incompatible materials Strong acids. Strong oxidizing agents.

Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion May be fatal if swallowed and enters airways.

Inhalation May cause drowsiness or dizziness.

Skin contact Causes skin irritation.

Eye contact May cause eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Headaches, dizziness, fatigue, nausea and vomiting. Prolonged skin contact may cause redness, irritation and dry skin.

Information on toxicological effects

Acute toxicity Breathing of high concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness.

Components	Species	Test Results
2- Methylbutane (CAS 78-78-4)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	450 mg/l, 2 Hours
Butane (CAS 106-97-8)		
Acute		
<i>Inhalation</i>		
LC50	Rat	658 mg/l, 4 Hours
Hydrogen Sulfide (CAS 07783-06-4)		
Acute		
<i>Inhalation</i>		
LC50	Rat	>0.38 mg/l, 16 Hours
Methane (CAS 74-82-8)		
Acute		
<i>Inhalation</i>		

LC50	Mouse	326 mg/m ³ , 2 Hours
Pentane (CAS 109-66-0)		
Acute		
<i>Inhalation</i>		
LC50	Rat	364 mg/l, 4 Hours
Propane (CAS 74-98-6)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 1442.847 mg/l, 15 Minutes

Skin corrosion/irritation Causes skin irritation. Pre-existing skin conditions including dermatitis might be aggravated by exposure to this product.

Serious eye damage/eye Irritation May cause eye irritation on direct contact.

Respiratory sensitization Not classified.

Skin sensitization Not a skin sensitizer.

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity No data available.

IARC Monographs. Overall Evaluation of Carcinogenicity
Benzene (CAS 71-43-2) 1 Carcinogenic to humans.

NTP Report on Carcinogens
Benzene (CAS 71-43-2) Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Benzene (CAS 71-43-2) Cancer hazard.

Reproductive toxicity May cause adverse reproductive effects - such as birth defects, miscarriages, or infertility.

Specific target organ toxicity - single exposure May cause drowsiness.

Specific target organ toxicity - repeated exposure Causes damage to the following organs through prolonged or repeated exposure: Liver Kidneys.

Aspiration hazard Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Chronic effects Prolonged or repeated contact with skin may cause redness, itching, irritation, eczema/chapping and oil acne. May cause central nervous system depression. May cause damage to the liver and kidneys.

12. Ecological information

Ecotoxicity Toxic to aquatic organisms, may cause long term adverse effects to the environment.

Product	Species	Test Results
Natural Gas Liquid (Mixture)		
Aquatic		

Fish	LC50	Fish	5.8389 mg/l, 96 hours, estimated
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Components			Species	Test Results
Hydrogen sulfide (CAS 7783-06-4)				
Aquatic				
Fish	LC50	Lake Whitefish (<i>Coregonus clupeaformis</i>)	0.002 mg/l, 96 hours	
Pentane (CAS 109-66-0)				
Aquatic				
Crustacea	LC50	Daphnia	2.3 mg/l, 48 Hours	
Fish	LC50	Fish	3.1 mg/l, 96 Hours	

Persistence and degradability The degradability of the product has not been stated. The product meets the definition of the International Oil Pollution Compensation (IPOC) Fund as being a "non-persistent" oil. Bioaccumulative potential.

Partition coefficient n-octanol / water (log Kow)

Methane	1.09
Ethane	1.81
Benzene	2.13
2-Methylbutane	2.3
Propane	2.36
Isobutane	2.76
Butane	2.89
Pentane	3.39
n-Hexane	3.9

Mobility in soil Not available.

Other adverse effects Not established.

13. Disposal considerations

Disposal instructions Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration.

Local disposal regulations Dispose of in accordance with local regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 °F

Waste from residues / unused

Products Dispose of in accordance with local regulations

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1075
UN proper shipping name	Liquefied Petroleum Gas
Transport hazard class	2.1
Packing group	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Labels required	2.1
Special provisions	T50
Packaging exceptions	306
Packaging non bulk	304
Packaging bulk	314, 315

IATA

UN number	UN1075
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UN proper shipping name Liquefied Petroleum Gas
Transport hazard class 2.1
Packaging group Not available.
Labels required 2.1
ERG Code Not available.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1075
UN proper shipping name Liquefied Petroleum Gas
Transport hazard class 2.1
Packaging group Not available.
Labels required 2.1
EmS Not available.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Benzene (CAS 71-43-2) 29 CFR 1910.1028

CERCLA Hazardous Substance List (40 CFR 302.4)

2-Methylbutane (CAS 78-78-4)	LISTED
Benzene (CAS 71-43-2)	LISTED
Butane (CAS 106-97-8)	LISTED
Ethane (CAS 74-84-0)	LISTED
Hydrogen sulfide (CAS 7783-06-4)	LISTED
Isobutane (CAS 75-28-5)	LISTED
Isohexane (CAS 73513-42-5)	LISTED
Methane (CAS 74-82-8)	LISTED
n-Hexane (CAS 110-54-3)	LISTED
Pentane (CAS 109-66-0)	LISTED
Propane (CAS 74-98-6)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - Yes
 Pressure Hazard - Yes
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous Chemical Yes

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Benzene (CAS 71-43-2)
 n-Hexane (CAS 110-54-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

2-Methylbutane (CAS 78-78-4)
 Butane (CAS 106-97-8)
 Ethane (CAS 74-84-0)
 Hydrogen sulfide (CAS 7783-06-4)
 Isobutane (CAS 75-28-5)
 Methane (CAS 74-82-8)

Pentane (CAS 109-66-0)
Propane (CAS 74-98-6)

Safe Drinking Water Act (SDWA)

Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Toluene (CAS 108-88-3) 6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Toluene (CAS 108-88-3) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Toluene (CAS 108-88-3) 594

Food and Drug

Administration (FDA)

Not regulated.

US state regulations WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

2-Methylbutane (CAS 78-78-4)
Benzene (CAS 71-43-2)
Butane (CAS 106-97-8)
Ethane (CAS 74-84-0)
Hydrogen sulfide (CAS 7783-06-4)
Isobutane (CAS 75-28-5)
Methane (CAS 74-82-8)
n-Hexane (CAS 110-54-3)
Pentane (CAS 109-66-0)
Propane (CAS 74-98-6)

US. New Jersey Worker and Community Right-to-Know Act

2-Methylbutane (CAS 78-78-4) 500 LBS
Benzene (CAS 71-43-2) 500 LBS
Butane (CAS 106-97-8) 500 LBS
Ethane (CAS 74-84-0) 500 LBS
Hydrogen sulfide (CAS 7783-06-4) 500 LBS
Isobutane (CAS 75-28-5) 500 LBS
Methane (CAS 74-82-8) 500 LBS
n-Hexane (CAS 110-54-3) 500 LBS
Pentane (CAS 109-66-0) 500 LBS
Propane (CAS 74-98-6) 500 LBS

US. Pennsylvania RTK - Hazardous Substances

2-Methylbutane (CAS 78-78-4)
Benzene (CAS 71-43-2)
Butane (CAS 106-97-8)
Ethane (CAS 74-84-0)
Hydrogen sulfide (CAS 7783-06-4)
Isobutane (CAS 75-28-5)
Methane (CAS 74-82-8)
n-Hexane (CAS 110-54-3)
Pentane (CAS 109-66-0)
Propane (CAS 74-98-6)

US. Rhode Island RTK

Benzene (CAS 71-43-2)
Butane (CAS 106-97-8)
Ethane (CAS 74-84-0)
Hydrogen sulfide (CAS 7783-06-4)
Methane (CAS 74-82-8)
n-Hexane (CAS 110-54-3)
Pentane (CAS 109-66-0)
Propane (CAS 74-98-6)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Benzene (CAS 71-43-2)

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other information, including date of preparation or last version

Issue date 11-28-2012

Revision date – 9-19-2013

Version # 01

Further information Not available.

References ACGIH

EPA: Acquire database

NLM: Hazardous Substances Data Base

US. IARC Monographs on Occupational Exposures to Chemical Agents

Disclaimer This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.