

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Natural Gas Liquids

CAS-No.: 64741-48-6

Synonyms: LP Gas, Y-Grade, LPG, Raw Feed, Demethanized Raw Feed Mix

1.2. Intended Use of the Product

Use of the Substance/Mixture: Industrial Use

1.3. Name, Address, and Telephone of the Responsible Party

Corporation

ONEOK, Inc.

100 W. Fifth Street

Tulsa, OK 74103

Tel (888) 417-6275

Fax (918) 588-7543

www.oneok.com

1.4. Emergency Telephone Number

Emergency Number : For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night within USA and Canada: 1-800-424-9300
or+1 703-527-3887 (collect calls accepted)
CHEMTREC

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US Classification

Flammable liquids Category 1	H224
Skin corrosion/irritation Category 2	H315
Germ cell mutagenicity Category 1B	H340
Carcinogenicity Category 1A	H350
Reproductive toxicity Category 2	H361
Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336
Specific target organ toxicity (repeated exposure) Category 1	H372
Aspiration hazard Category 1	H304
Hazardous to the aquatic environment - Acute Hazard Category 2	H401
Hazardous to the aquatic environment - Chronic Hazard Category 2	H411

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H224 - Extremely flammable liquid and vapor.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.
H340 - May cause genetic defects.
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child.
H372 - Causes damage to organs (hematopoietic system, nervous system, hearing organs, blood) through prolonged or repeated exposure.
H401 - Toxic to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment.
P241 - Use explosion-proof electrical, ventilating, and lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe mist, vapors, spray, fume.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P321 - Specific treatment (see section 4 on this SDS).
P331 - Do NOT induce vomiting.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.
P391 - Collect spillage.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Fumes may displace oxygen and cause rapid suffocation. Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Name : Natural Gas Liquids
CAS-No. : 64741-48-6

Name	Synonyms	Product Identifier	%	GHS US classification
Ethane	Ethyl hydride / ETHANE	(CAS-No.) 74-84-0	1 – 80	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Simple Asphy, SIAS
Propane	Normal propane / PROPANE / n-Propane / R290	(CAS-No.) 74-98-6	1 – 80	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Simple Asphy, SIAS
Hexane	Hexane, n- / n-Hexane / Normal hexane	(CAS-No.) 110-54-3	≤ 60	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

n-Butane	Butane / BUTANE	(CAS-No.) 106-97-8	≤ 45	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Simple Asphy, SIAS
Isobutane	2-Methylpropane / Propane, 2-methyl- / ISOBUTANE / R600a / isobutane	(CAS-No.) 75-28-5	≤ 40	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Simple Asphy, SIAS
Isopentane	Butane, 2-methyl- / 2-Methylbutane / ISOPENTANE / Methylbutane / isopentane	(CAS-No.) 78-78-4	≤ 25	Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
n-Pentane	Pentane / Normal pentane / PENTANE / Pentane, n-	(CAS-No.) 109-66-0	≤ 25	Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
Benzene	Cyclohexatriene / Benzol	(CAS-No.) 71-43-2	0.1 – 5	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 1B, H340 Carc. 1A, H350 STOT SE 3, H336 STOT SE 3, H335 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Toluene	Benzene, methyl- / Methylbenzene / Phenylmethane / TOLUENE	(CAS-No.) 108-88-3	0.1 – 5	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Ethylbenzene	ETHYLBENZENE / Ethyl benzene / Benzene, ethyl- / Phenylethane	(CAS-No.) 100-41-4	0.1 – 5	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:dust,mist), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Xylenes (o-, m-, p-isomers)	Benzene, dimethyl- / Dimethylbenzene (mixed isomers) / Xylene / Xylene (all isomers) / Xylene (mixed isomers) / Xylene (o-, m-, p- isomers) / Xylenes / Xylenes (mixed isomers) / Dimethylbenzene / XYLENE / Benzene, dimethyl-, mixed isomers / Xylol / Xylene, mixed isomers / Xylenes (meta-, ortho-, para-) / Xylene (mixture), including m-xylene, o-xylene, p-xylene / Xylene (o-,m-,p- isomer mixture) / Dimethylbenzene (2-, 3-, 4-isomers) / Dimethylbenzene (mixed 2-, 3-, 4-isomers) / C8 Disubstituted benzenes / Dimethylbenzenes / Xylene isomers mixture	(CAS-No.) 1330-20-7	0.1 – 5	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 STOT SE 3, H336 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Methane	Marsh gas / Methyl hydride / Methane, compressed / Monomethylamine	(CAS-No.) 74-82-8	≤ 5	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Simple Asphy, SIAS
---------	--	----------------------	-----	--

Full text of H-phrases: see section 16. This product has a variable composition that is based on the composition of the individual feedstocks, as well as the extraction location of each feedstock. The listed percentages represent expected variations in composition but are not absolute. If additional information is required, contact the Manufacturer in Section 1 of this SDS.

3.2. Mixture

Not applicable

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

First-aid Measures General: First aid personnel should wear appropriate protective equipment during any rescue. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Give oxygen or artificial respiration if necessary. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Immediately remove contaminated clothing. Immediately drench affected area with water for at least 15 minutes. Wash with plenty of soap and water. If exposed or concerned: Get medical advice/attention.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice.

First-aid Measures After Ingestion: Turn affected person(s) on their side and maintain in that position to prevent aspiration. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries: May cause drowsiness and dizziness. May cause cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs (hematopoietic system, blood, nervous system, hearing organs) through prolonged or repeated exposure. Causes skin irritation. May cause genetic defects. May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: High concentrations of fumes may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms. Aspiration of this material may cause chemical pneumonia. In high concentrations, fumes may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Exposed person may not be aware of asphyxiation.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion: Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.

Chronic Symptoms: May cause cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs (hematopoietic system, blood, hearing organs, nervous system) through prolonged or repeated exposure. May cause genetic defects.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂). Water may be ineffective but water should be used to keep fire-exposed container cool.

Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Extremely flammable liquid and vapor.

Explosion Hazard: May form flammable or explosive vapor-air mixture.

Reactivity: Reacts violently with strong oxidizers. Increased risk of fire or explosion.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂).

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe vapor, mist, spray or fumes. Do not get in eyes, on skin, or on clothing. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Use special care to avoid static electric charges.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Eliminate ignition sources first, then ventilate the area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material. Do not take up in combustible material such as: saw dust or cellulosic material. Use only non-sparking tools. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable. In high concentrations, fumes may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Exposed person may not be aware of asphyxiation.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist, vapors, spray, or fumes. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharge. Use only non-sparking tools.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Take action to prevent static discharges. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment.

Storage Conditions: Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area. Store in a well-ventilated place. Keep container tightly closed. Keep in fireproof place.

Incompatible Materials: Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

Industrial Use

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Isopentane (78-78-4)		
USA ACGIH	ACGIH OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
n-Pentane (109-66-0)		
USA ACGIH	ACGIH OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
USA NIOSH	NIOSH REL (TWA)	350 mg/m ³
USA NIOSH	NIOSH REL TWA [ppm]	120 ppm
USA NIOSH	NIOSH REL (Ceiling)	1800 mg/m ³
USA NIOSH	NIOSH REL C [ppm]	610 ppm
USA IDLH	IDLH [ppm]	1500 ppm (10% LEL)

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

USA OSHA	OSHA PEL (TWA) [1]	2950 mg/m ³
USA OSHA	OSHA PEL (TWA) [2]	1000 ppm
Benzene (71-43-2)		
USA ACGIH	ACGIH OEL TWA [ppm]	0.5 ppm
USA ACGIH	ACGIH OEL STEL [ppm]	2.5 ppm
USA ACGIH	ACGIH chemical category	Confirmed Human Carcinogen, Skin - potential significant contribution to overall exposure by the cutaneous route
USA ACGIH	BEI (BLV)	25 µg/g Kreatinin Parameter: S-Phenylmercapturic acid - Medium: urine - Sampling time: end of shift (background) 500 µg/g Kreatinin Parameter: t,t-Muconic acid - Medium: urine - Sampling time: end of shift (background)
USA NIOSH	NIOSH REL TWA [ppm]	0.1 ppm
USA NIOSH	NIOSH REL STEL [ppm]	1 ppm
USA IDLH	IDLH [ppm]	500 ppm
USA OSHA	OSHA PEL (TWA) [2]	10 ppm 1 ppm
USA OSHA	OSHA PEL (STEL) [2]	5 ppm (see 29 CFR 1910.1028)
USA OSHA	OSHA PEL C [ppm]	25 ppm
USA OSHA	Acceptable Maximum Peak Above The Acceptable Ceiling Concentration For An 8-Hr Shift	50 ppm Peak (10 minutes)
USA OSHA	OSHA Action Level/Excursion Limit	0.5 ppm (Action Level, see 29 CFR 1910.1028)
Toluene (108-88-3)		
USA ACGIH	ACGIH OEL TWA [ppm]	20 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA ACGIH	BEI (BLV)	0.02 mg/l Parameter: Toluene - Medium: blood - Sampling time: prior to last shift of workweek 0.03 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift 0.3 mg/g Kreatinin Parameter: o-Cresol with hydrolysis - Medium: urine - Sampling time: end of shift (background)
USA NIOSH	NIOSH REL (TWA)	375 mg/m ³
USA NIOSH	NIOSH REL TWA [ppm]	100 ppm
USA NIOSH	NIOSH REL (STEL)	560 mg/m ³
USA NIOSH	NIOSH REL STEL [ppm]	150 ppm
USA IDLH	IDLH [ppm]	500 ppm
USA OSHA	OSHA PEL (TWA) [2]	200 ppm
USA OSHA	OSHA PEL C [ppm]	300 ppm
USA OSHA	Acceptable Maximum Peak Above The Acceptable Ceiling Concentration For An 8-Hr Shift	500 ppm Peak (10 minutes)
Ethylbenzene (100-41-4)		
USA ACGIH	ACGIH OEL TWA [ppm]	20 ppm
USA ACGIH	ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA ACGIH	BEI (BLV)	0.15 g/g Kreatinin Parameter: Sum of mandelic acid and phenylglyoxylic acid - Medium: urine - Sampling time: end of shift (nonspecific)
USA NIOSH	NIOSH REL (TWA)	435 mg/m ³
USA NIOSH	NIOSH REL TWA [ppm]	100 ppm
USA NIOSH	NIOSH REL (STEL)	545 mg/m ³
USA NIOSH	NIOSH REL STEL [ppm]	125 ppm
USA IDLH	IDLH [ppm]	800 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) [1]	435 mg/m ³
USA OSHA	OSHA PEL (TWA) [2]	100 ppm

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Xylenes (o-, m-, p- isomers) (1330-20-7)		
USA ACGIH	ACGIH OEL TWA [ppm]	100 ppm
USA ACGIH	ACGIH OEL STEL [ppm]	150 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA ACGIH	BEI (BLV)	1.5 g/g Kreatinin Parameter: Methylhippuric acids - Medium: urine - Sampling time: end of shift
USA OSHA	OSHA PEL (TWA) [1]	435 mg/m ³
USA OSHA	OSHA PEL (TWA) [2]	100 ppm
n-Butane (106-97-8)		
USA ACGIH	ACGIH OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
USA NIOSH	NIOSH REL (TWA)	1900 mg/m ³
USA NIOSH	NIOSH REL TWA [ppm]	800 ppm
USA IDLH	IDLH [ppm]	1600 ppm (>10% LEL)
Isobutane (75-28-5)		
USA ACGIH	ACGIH OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
USA NIOSH	NIOSH REL (TWA)	1900 mg/m ³
USA NIOSH	NIOSH REL TWA [ppm]	800 ppm
Hexane (110-54-3)		
USA ACGIH	ACGIH OEL TWA [ppm]	50 ppm
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
USA ACGIH	BEI (BLV)	0.5 mg/l Parameter: 2,5-Hexanedione without hydrolysis - Medium: urine - Sampling time: end of shift
USA NIOSH	NIOSH REL (TWA)	180 mg/m ³
USA NIOSH	NIOSH REL TWA [ppm]	50 ppm
USA IDLH	IDLH [ppm]	1100 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) [1]	1800 mg/m ³
USA OSHA	OSHA PEL (TWA) [2]	500 ppm
Methane (74-82-8)		
USA ACGIH	ACGIH chemical category	Simple asphyxiant See Appendix F: Minimal Oxygen Content
Ethane (74-84-0)		
USA ACGIH	ACGIH chemical category	Simple asphyxiant See Appendix F: Minimal Oxygen Content
Propane (74-98-6)		
USA ACGIH	ACGIH chemical category	Simple asphyxiant See Appendix F: Minimal Oxygen Content
USA NIOSH	NIOSH REL (TWA)	1800 mg/m ³
USA NIOSH	NIOSH REL TWA [ppm]	1000 ppm
USA IDLH	IDLH [ppm]	2100 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) [1]	1800 mg/m ³
USA OSHA	OSHA PEL (TWA) [2]	1000 ppm

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases or vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles or glasses. Face shield. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Chemically resistant materials and fabrics. Wear fire/flame resistant/retardant clothing.

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hand Protection	: Wear protective gloves.
Eye and Face Protection	: Chemical safety goggles or safety glasses with side shields. Faceshield as determined by task.
Skin and Body Protection	: Wear suitable protective clothing.
Respiratory Protection	: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.
Other Information	: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Colorless liquid
Odor	: Hydrocarbon
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: No data available
Flash Point	: -135 to -76 °C (-211 to -104.8 °F)
Auto-ignition Temperature	: 427 °C (800.6 °F)
Decomposition Temperature	: No data available
Flammability	: Not applicable
Vapor Pressure	: 14 to 600 psi (@ 38 °C / 100.4 °F)
Relative Vapor Density at 20°C	: 1.04 – 4
Relative Density	: No data available
Specific Gravity	: 0.37 to 0.7
Solubility	: Negligible.
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available
Lower Flammable Limit	: 1.4 %
Upper Flammable Limit	: 13 %

9.2. Other Information

No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reacts violently with strong oxidizers. Increased risk of fire or explosion.

10.2. Chemical Stability

Extremely flammable liquid and vapor. May form flammable or explosive vapor-air mixture.

10.3. Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

10.4. Conditions to Avoid

Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.

10.5. Incompatible Materials

Strong acids, strong bases, strong oxidizers.

10.6. Hazardous Decomposition Products

Thermal decomposition may produce: Carbon oxides (CO, CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

n-Pentane (109-66-0)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rabbit	3000 mg/kg
LC50 Inhalation Rat	364 g/m ³ (Exposure time: 4 h)
LC50 Inhalation Rat	> 20 mg/l/4h
Benzene (71-43-2)	
LD50 Oral Rat	810 mg/kg
LD50 Dermal Rabbit	> 8200 mg/kg
LC50 Inhalation Rat	44.66 mg/l/4h
Toluene (108-88-3)	
LD50 Oral Rat	2600 mg/kg
LD50 Dermal Rabbit	12000 mg/kg
LC50 Inhalation Rat	25.7 mg/l/4h
Ethylbenzene (100-41-4)	
LD50 Oral Rat	3500 mg/kg
LD50 Dermal Rabbit	15400 mg/kg
LC50 Inhalation Rat	17.2 mg/l/4h (Exposure time: 4 h)
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LD50 Oral Rat	> 5000 mg/kg
ATE (Dermal)	1,100.00 mg/kg body weight
ATE (Vapors)	11.00 mg/l/4h
n-Butane (106-97-8)	
LC50 Inhalation Rat	30957 mg/m ³ (Exposure time: 4 h)
LC50 Inhalation Rat	276798.8 ppm
Hexane (110-54-3)	
LD50 Oral Rat	25 g/kg
LD50 Dermal Rabbit	3000 mg/kg
LC50 Inhalation Rat	169 mg/l/4h
LC50 Inhalation Rat	48000 ppm/4h
Methane (74-82-8)	
LD50 Dermal Rat	> 2000 mg/kg
LC50 Inhalation Rat	539600 ppm (Exposure time: 2 h)
Ethane (74-84-0)	
LC50 Inhalation Rat	> 800000 ppm/4h
Propane (74-98-6)	
LC50 Inhalation Rat	> 800000 ppm (Exposure time: 15 min)
Natural gas, petroleum, raw liquid mix (64741-48-6)	
LD50 Dermal Rabbit	> 6000 mg/kg
LC50 Inhalation Rat	> 7630 mg/m ³ (Exposure time: 4 h)

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: May cause genetic defects.

Carcinogenicity: May cause cancer.

Benzene (71-43-2)	
IARC group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens, Evidence of Carcinogenicity.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
OSHA Specifically Regulated Carcinogen List	In OSHA Specifically Regulated Carcinogen list.
Toluene (108-88-3)	
IARC group	3
Ethylbenzene (100-41-4)	
IARC group	2B

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

National Toxicology Program (NTP) Status	Evidence of Carcinogenicity.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Xylenes (o-, m-, p- isomers) (1330-20-7)	
IARC group	3

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

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

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs (hematopoietic system, nervous system, hearing organs, blood) through prolonged or repeated exposure.

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

Symptoms/Injuries After Inhalation: High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms. Aspiration of this material may cause chemical pneumonia. In high concentrations, fumes may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Exposed person may not be aware of asphyxiation.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion: Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.

Chronic Symptoms: May cause cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs (hematopoietic system, blood, hearing organs, nervous system) through prolonged or repeated exposure. May cause genetic defects.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General

: Toxic to aquatic life with long lasting effects.

Isopentane (78-78-4)	
EC50 - Crustacea [1]	2.3 mg/l (Exposure time: 48 h - Species: Daphnia magna)
n-Pentane (109-66-0)	
LC50 Fish 1	9.87 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 - Crustacea [1]	9.74 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	11.59 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
NOEC Chronic Algae	2 mg/l
Benzene (71-43-2)	
LC50 Fish 1	10.7 – 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	8.76 – 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 Fish 2	5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 - Crustacea [2]	10 mg/l (Exposure time: 48 h - Species: Daphnia magna)
ErC50 (Algae)	29 mg/l
NOEC Chronic Fish	0.8 mg/l
Toluene (108-88-3)	
LC50 Fish 1	15.22 (15.22 – 19.05) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	5.46 (5.46 – 9.83) mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 Fish 2	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [2]	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
NOEC Chronic Fish	1.4 mg/l (Oncorhynchus kisutch)
NOEC Chronic Crustacea	0.74 mg/l (Ceriodaphnia dubia)
Ethylbenzene (100-41-4)	
LC50 Fish 1	11 – 18 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 - Crustacea [1]	1.8 – 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
NOEC Chronic Crustacea	0.956 mg/l
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LC50 Fish 1	3.3 mg/l
EC50 - Crustacea [1]	3.82 mg/l (Exposure time: 48 h - Species: water flea)
LC50 Fish 2	2.661 (2.661 – 4.093) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
NOEC Chronic Crustacea	1.17 mg/l

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hexane (110-54-3)	
LC50 Fish 1	2.1 – 2.98 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	3.88 mg/l

12.2. Persistence and Degradability

Natural Gas Liquids (64741-48-6)	
Persistence and Degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative Potential

Natural Gas Liquids (64741-48-6)	
Bioaccumulative Potential	Not established.

Isopentane (78-78-4)	
Partition coefficient n-octanol/water (Log Pow)	4 (at 25 °C (at pH 6.6))

n-Pentane (109-66-0)	
Partition coefficient n-octanol/water (Log Pow)	3.45 (at 25 °C (at pH 7))

Benzene (71-43-2)	
BCF Fish 1	3.5 – 4.4
Partition coefficient n-octanol/water (Log Pow)	2.13

Toluene (108-88-3)	
Partition coefficient n-octanol/water (Log Pow)	2.73 (at 20 °C (at pH 7))

Ethylbenzene (100-41-4)	
BCF Fish 1	(15 dimensionless)
Partition coefficient n-octanol/water (Log Pow)	3.6 (at 20 °C (at pH 7.84))

Xylenes (o-, m-, p- isomers) (1330-20-7)	
BCF Fish 1	0.6 (0.6 – 15)
Partition coefficient n-octanol/water (Log Pow)	2.77 – 3.15

n-Butane (106-97-8)	
Partition coefficient n-octanol/water (Log Pow)	2.31 (at 20 °C (at pH 7))

Isobutane (75-28-5)	
BCF Fish 1	1.57 – 1.97
Partition coefficient n-octanol/water (Log Pow)	1.09 – 2.8 (at 20 °C (at pH 7))

Hexane (110-54-3)	
Partition coefficient n-octanol/water (Log Pow)	4 (at 20 °C (at pH 7))

Methane (74-82-8)	
Partition coefficient n-octanol/water (Log Pow)	1.09

Ethane (74-84-0)	
Partition coefficient n-octanol/water (Log Pow)	1.09 – 2.8 (at 20 °C (at pH 7))

Propane (74-98-6)	
Partition coefficient n-octanol/water (Log Pow)	1.09 (at 20 °C (at pH 7))

12.4. Mobility in Soil

Natural Gas Liquids (64741-48-6)	
Ecology - Soil	Leaches into groundwater.

12.5. Other Adverse Effects

Natural Gas Liquids (64741-48-6)	
Other Adverse Effects	: None known.
Other Information	: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment Methods

Waste Treatment Methods: Material should be recycled if possible. Incineration is also an acceptable method for disposal.

Sewage Disposal Recommendations: Do not dispose of waste into sewer.

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Handle empty containers with care because residual vapors are flammable.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED
Hazard Class : 2.1
Identification Number : UN1075
Label Codes : 2.1
Marine Pollutant : Marine pollutant
ERG Number : 115



14.2. In Accordance with IMDG

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED
Hazard Class : 2
Division : 2.1
Identification Number : UN1075
Label Codes : 2.1
EmS-No. (Fire) : F-D
EmS-No. (Spillage) : S-U
Marine Pollutant : Marine pollutant



14.3. In Accordance with IATA

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED
Identification Number : UN1075
Hazard Class : 2
Label Codes : 2.1
Division : 2.1
ERG Code (IATA) : 10L



SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Natural Gas Liquids (64741-48-6)	
SARA Section 311/312 Hazard Classes	Health hazard - Specific target organ toxicity (single or repeated exposure) Health hazard - Carcinogenicity Health hazard - Reproductive toxicity Health hazard - Skin corrosion or Irritation Physical hazard - Flammable (gases, aerosols, liquids, or solids) Health hazard - Germ cell mutagenicity Health hazard - Aspiration hazard
Isopentane (78-78-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
n-Pentane (109-66-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Benzene (71-43-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	10 lb
SARA Section 313 - Emission Reporting	0.1 %
Toluene (108-88-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	1000 lb
SARA Section 313 - Emission Reporting	1 %

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Ethylbenzene (100-41-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	1000 lb
SARA Section 313 - Emission Reporting	0.1 %
Xylenes (o-, m-, p- isomers) (1330-20-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	100 lb
SARA Section 313 - Emission Reporting	1 %
n-Butane (106-97-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Isobutane (75-28-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Hexane (110-54-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb
SARA Section 313 - Emission Reporting	1 %
Methane (74-82-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Ethane (74-84-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Propane (74-98-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Natural gas, petroleum, raw liquid mix (64741-48-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
EPA Toxic Release Inventory Information	
For more information concerning the Toxic Release Inventory concerning this product, please contact the Manufacturer as noted in Section 1 and ask for the Environmental Group. Please note that there is considerable variability in this product as noted in Section 3.	

15.2. US State Regulations

Isopentane (78-78-4)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List
n-Pentane (109-66-0)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List
Benzene (71-43-2)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
Toluene (108-88-3)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Ethylbenzene (100-41-4)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Xylenes (o-, m-, p- isomers) (1330-20-7)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

n-Butane (106-97-8)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Isobutane (75-28-5)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Hexane (110-54-3)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Methane (74-82-8)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List


Ethane (74-84-0)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Propane (74-98-6)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

California Proposition 65

 **WARNING:** This product can expose you to Benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
Benzene (71-43-2)	X	X		X
Toluene (108-88-3)		X		
Ethylbenzene (100-41-4)	X			
Hexane (110-54-3)				X

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 01/10/2023
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

GHS Full Text Phrases:

H220	Extremely flammable gas
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor

Natural Gas Liquids

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H350	May cause cancer
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)