

SAFETY DATA SHEET

SDS ID NO.: 111MPLX001

Revision date 09/23/2020

1. IDENTIFICATION

Product Name Natural Gas Liquids

Synonym NGL; Y-Grade; Demethanized raw feed mix
Product code 111MPLX001
Chemical family Hydrocarbon Mixture

Recommended use Intermediate Stream.
Restrictions on use All others.

Manufacturer, Importer, or Responsible Party Name and Address
MPLX LP
200 E. Hardin Street
Findlay, OH 45840

SDS Information 1-419-421-3070 (M-F; 8-5 EST)
24 Hour Emergency Telephone CHEMTREC: 1-800-424-9300

2. HAZARD IDENTIFICATION

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Classification

Flammable gases	Category 1
Gases under pressure	Liquefied Gas
Simple asphyxiant	-
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Chronic aquatic toxicity	Category 2

Hazards Not Otherwise Classified (HNOC)

Static accumulating flammable liquid
May release hydrogen sulfide gas
Liquid product may cause freeze burn

Label Elements

Danger

Extremely flammable gas
Contains gas under pressure; may explode if heated
May accumulate electrostatic charge and ignite or explode
May release highly toxic hydrogen sulfide gas that quickly fatigues the sense of smell
May displace oxygen and cause rapid suffocation
May cause drowsiness or dizziness
Contact with liquid may cause frostbite
May cause genetic defects
May cause cancer
Suspected of damaging fertility or the unborn child

May cause damage to organs (nervous system) through prolonged or repeated exposure
 Toxic to aquatic life with long lasting effects



Appearance Colorless Gas

Physical State Gas

Odor Mild hydrocarbon to Rotten egg

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 Do not breathe gas/vapors
 Use only outdoors or in a well-ventilated area
 Wear protective gloves/protective clothing/eye protection/face protection
 Wash hands and any possibly exposed skin thoroughly after handling
 Avoid release to the environment

Precautionary Statements - Response

If exposed, concerned or you feel unwell: Get medical attention
 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 Call a poison center or doctor if you feel unwell
 Leaking gas fire: Do not extinguish, unless leak can be stopped safely
 Eliminate all ignition sources if safe to do so
 Collect spillage

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
 Protect from sunlight
 Store locked up

Precautionary Statements - Disposal

Dispose of contents/container at an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition Information

Name	CAS Number	% Concentration
Natural Gas, Raw Liquid Mix	64741-48-6	100
Butane (mixed isomers)	106-97-8	0-95
Propane	74-98-6	3-82
Pentane (mixed isomers)	109-66-0	0-77
Ethane	74-84-0	0-67
Hexane (mixed isomers)	110-54-3	0-66
Heptane (mixed isomers)	142-82-5	0-30
Carbon Dioxide	124-38-9	0-4
Methane	74-82-8	0-2.5
Benzene	71-43-2	<1
Toluene	108-88-3	<1
Xylene (mixed isomers)	1330-20-7	<1
Hydrogen sulfide	7783-06-4	<0.06

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

4. FIRST AID MEASURES

First aid measures

General advice	In case of accident or if you feel unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).
Inhalation	Remove to fresh air. If not breathing, utilize bag valve mask or other form of barrier device to institute rescue breathing. If breathing is difficult, ensure airway is clear, give oxygen and continue to monitor. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Get immediate medical attention.
Skin contact	If liquefied product has caused frostbite, remove contaminated clothing. Thaw frost bitten areas slowly with lukewarm water or by wrapping affected areas with blankets. Do not rub affected areas. Let circulation reestablish itself naturally, exercising area if possible. Get immediate medical attention.
Eye contact	Flush with large amounts of tepid water for at least 15 minutes. Gently remove contact lenses while flushing. Eyelids should be held away from the eyeball to ensure thorough rinsing. If frostbite is suspected (cloudy lens or greyish white tissue around the eye) get immediate medical attention.
Ingestion	If swallowed, immediately call a poison control center or physician. Do not induce vomiting. If spontaneous vomiting occurs, keep head below hips, or if patient is lying down, turn body and head to side to prevent aspiration and monitor for breathing difficulty.

Most important signs and symptoms, both short-term and delayed with overexposure

Adverse effects	Asphyxiant gas. High concentrations in the immediate area can displace oxygen causing the feeling of suffocation and can cause headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue from oxygen deprivation. Hydrogen sulfide can cause respiratory paralysis and death, depending on the concentration and duration of exposure. Do not rely on ability to smell vapors, since loss of smell rapidly occurs. Effects of overexposure include irritation of the nose and throat, nausea, vomiting, diarrhea, abdominal pain and signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination and fatigue), irregular heartbeats, pulmonary edema, weakness and convulsions. Contact with product may cause frostbite. Prolonged or repeated exposure may cause adverse effects to the nervous system.
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Indication of any immediate medical attention and special treatment needed

Notes to physician	Inhalation exposure can produce toxic effects. Treat intoxications as hydrogen sulfide exposures. At high concentrations hydrogen sulfide may produce pulmonary edema, respiratory depression, and/or respiratory paralysis. The first priority in treatment should be the establishment of adequate ventilation and the administration of 100% oxygen. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis. This material (or a component) sensitizes the myocardium to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.
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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	For small fires, Class B fire extinguishing media such as CO ₂ or dry chemical can be used. For large fires use water spray or fog. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.
Unsuitable extinguishing media	DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.
Specific hazards arising from the chemical	This product has been determined to be an extremely flammable gas per the OSHA Hazard Communication Standard and should be handled accordingly. May accumulate electrostatic

charge and ignite or explode. Sealed containers may rupture when heated. A phenomena known as boiling liquid expanding vapor explosions (Bleve) can occur when a liquid in a pressurized container comes in close proximity to a fire and reaches a temperature well above its boiling point. A catastrophic failure of the vessel can occur, resulting in flying equipment fragments, a shock wave and a fireball causing serious damage and death. For additional fire related information see NFPA 30 or the Emergency Response Guidebook 115.

Hazardous combustion products	Smoke, carbon monoxide, and other products of incomplete combustion.			
Explosion data				
Sensitivity to mechanical impact:	No.			
Sensitivity to static discharge:	Yes.			
Special protective equipment and precautions for firefighters	Firefighters should wear full protective clothing and positive-pressure self-contained breathing apparatus (SCBA) with a full face-piece, as appropriate. Isolate hazard area. If safe to do so, stop the flow of gas and allow fire to burn out. Extinguishing the flame before shutting off the supply can cause the formation of explosive mixtures. In some cases it may be preferred to allow the flame to continue to burn. Use extreme caution when fighting liquefied petroleum gas fires. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Avoid use of solid water streams. Contact with water and liquefied product can cause increased vaporization.			
Additional firefighting tactics	<p>FIRES INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after the fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.</p> <p>EVACUATION: Consider initial downwind evacuation for at least 1000 feet. If tank, rail car or tank truck is involved in a fire, ISOLATE for 5280 feet (1 mile) in all directions; also, consider initial evacuation of 5280 feet (1 mile) in all directions.</p>			
NFPA	Health 1	Flammability 4	Instability 0	Special Hazard -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Keep people away from and upwind of spill/leak. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Use spark-proof tools and explosion-proof equipment. Leaks may self-ignite due to static accumulation. Distant ignition and flashback are possible. Monitor area for flammable or explosive atmosphere. Before entry, especially into confined areas, check atmosphere with an appropriate monitor.
Protective equipment	Use personal protection measures as recommended in Section 8.
Emergency procedures	Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate.
Environmental precautions	If leaking, take appropriate steps to disperse gas.
Methods and materials for containment	Prevent further leakage or spillage if safe to do so.
Methods and materials for cleaning up	Shut off gas supply, if safe to do so. Allow equipment to depressurize. Isolate area until gas has dispersed.

7. HANDLING AND STORAGE

Safe handling precautions

Avoid breathing fumes, gas, or vapors. Use only outdoors or with adequate ventilation. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Gas and/or vapors may accumulate along the ground, settle in low lying areas or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback may occur along vapor trails. Use only non-sparking tools. Use appropriate grounding and bonding practices. Bonding and grounding may be insufficient to eliminate the hazard from static electricity. Use personal protection recommended in Section 8. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water. Do not cut, drill, grind or weld on empty containers since explosive residues may remain. Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements.

Components of this product are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering or pumping at high flow rates. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources.

Harmful concentrations of hydrogen sulfide (H₂S) gas can accumulate in excavations and low-lying areas as well as the vapor space of storage and bulk transport compartments. Stay upwind and vent open hatches before unloading. Sulfur containing products may cause polysulfide deposits (iron sulfide) to form inside iron storage tanks. These pyrophoric deposits, upon exposure to air, can ignite spontaneously.

Storage conditions

Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area. Keep product and empty container away from heat and sources of ignition. Do not puncture or incinerate container.

Incompatible materials

Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Name	ACGIH TLV	OSHA PELS	NIOSH IDLH
Butane (mixed isomers) 106-97-8	1000 ppm STEL	-	1600 ppm
Propane 74-98-6	Simple asphyxiant	TWA: 1000 ppm TWA: 1800 mg/m ³	2100 ppm
Pentane (mixed isomers) 109-66-0	1000 ppm TWA	TWA: 1000 ppm TWA: 2950 mg/m ³	1500 ppm
Ethane 74-84-0	Simple asphyxiant	-	-
Hexane (mixed isomers) 110-54-3	50 ppm TWA Skin - potential significant contribution to overall exposure by the cutaneous route	TWA: 500 ppm TWA: 1800 mg/m ³	1100 ppm
Heptane (mixed isomers) 142-82-5	400 ppm TWA 500 ppm STEL	TWA: 500 ppm TWA: 2000 mg/m ³	750 ppm
Carbon Dioxide 124-38-9	5000 ppm TWA 30000 ppm STEL	TWA: 5000 ppm TWA: 9000 mg/m ³	40000 ppm
Methane 74-82-8	Simple asphyxiant	-	-
Benzene 71-43-2	0.5 ppm TWA 2.5 ppm STEL Skin - potential significant contribution to overall exposure	TWA: 10 ppm (applies to industry segments exempt from the benzene standard) TWA: 1 ppm	500 ppm

	by the cutaneous route	STEL: 5 ppm (see 29 CFR 1910.1028)	
Toluene 108-88-3	20 ppm TWA	TWA: 200 ppm Ceiling: 300 ppm	500 ppm
Xylene (mixed isomers) 1330-20-7	100 ppm TWA 150 ppm STEL	TWA: 100 ppm TWA: 435 mg/m ³	900 ppm
Hydrogen sulfide 7783-06-4	1 ppm TWA 5 ppm STEL	Ceiling: 20 ppm Peak: 50 ppm	100 ppm

Notes: No further information available.

Engineering measures Local or general exhaust required in an enclosed area or when there is inadequate ventilation. Use mechanical ventilation equipment that is explosion-proof. Monitor atmospheric oxygen levels.

Personal protective equipment

Eye protection Goggles or faceshield may be needed when handling pressurized gases.

Skin and body protection Wear insulated gloves when handling pressurized gases to prevent skin contact and frostbite or freeze burn. Contact the glove manufacturer for specific advice on glove selection and breakthrough times.

Respiratory protection Use atmosphere supplying respirators in the event of oxygen deficiency, when material produces vapors that exceed permissible limits, or when excessive vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134.

Note: Air purifying respirators are not to be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturers instructions), in oxygen deficient atmospheres, (less than 19.5% oxygen) or under conditions that are immediately dangerous to life and health (IDLH).

Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Do not smoke while handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance Colorless Gas
Physical State Gas
Color Colorless
Odor Mild hydrocarbon to Rotten egg
Odor Threshold No data available.

<u>Property</u>	<u>Values (method)</u>
pH	Not applicable
Melting Point / Freezing Point	No data available.
Initial Boiling Point / Boiling Range	No data available.
Flash Point	< -40 °C / < -40 °F (estimated)
Evaporation Rate	No data available.
Flammability (solid, gas)	Highly Flammable Gas
Flammability Limit in Air (%):	
Upper Flammability Limit:	No data available.
Lower Flammability Limit:	No data available.
Explosion Limits	No data available.
Vapor Pressure	150-200 psia @ 40°C (estimated)
Vapor Density	>1
Specific Gravity / Relative Density	0.7 (0.4-0.7 estimated)
Water Solubility	No data available.
Partition Coefficient	No data available.
Autoignition Temperature	No data available.

Decomposition Temperature	No data available.
Kinematic Viscosity	No data available.
VOC Content (%)	No data available.

10. STABILITY AND REACTIVITY

Reactivity	The product is non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	Will not occur.
Conditions to avoid	Sources of heat or ignition.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	None known under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Potential short-term adverse effects from overexposures

Inhalation	May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. In high concentration the gas may cause suffocation. Victim may not be aware of asphyxiation. May release highly toxic hydrogen sulfide gas that quickly fatigues the sense of smell. Concentrations of >1000 ppm will cause immediate unconsciousness and death through respiratory paralysis.
Eye contact	Gas or vapor is generally non-irritating to eyes. Direct contact with liquefied product can cause freeze burn or frostbite.
Skin contact	Gas or vapor is generally non-irritating to skin. Direct contact with liquefied product can cause freeze burn or frostbite.
Ingestion	Aspiration into lungs may cause chemical pneumonia and lung damage.

Acute toxicological data

Name	Oral LD50	Dermal LD50	Inhalation LC50
Butane (mixed isomers) 106-97-8	-	-	658 mg/L (Rat) 4 h
Propane 74-98-6	-	-	> 1,464 mg/L (Rat) 15 min
Pentane (mixed isomers) 109-66-0	> 2000 mg/kg (Rat)	-	364 mg/L (Rat) 4 h
Ethane 74-84-0	-	-	658 mg/L (Rat) 4 h
Hexane (mixed isomers) 110-54-3	15000 mg/kg (Rat)	3000 mg/kg (Rabbit)	48000 ppm (Rat) 4 h
Heptane (mixed isomers) 142-82-5	-	3000 mg/kg (Rabbit)	103 g/m ³ (Rat) 4 h
Methane 74-82-8	-	-	326 mg/m ³ (Mouse) 2 h
Benzene 71-43-2	> 2000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 20 mg/l (Rat) 4 h
Toluene 108-88-3	> 2000 mg/kg (Rat)	8390 mg/kg (Rabbit)	12.5 mg/L (Rat) 4 h
Xylene (mixed isomers) 1330-20-7	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.04 mg/L (Rat) 4 h
Hydrogen sulfide 7783-06-4	-	-	444 ppm (Rat) 4 h

Immediate and delayed effects as well as chronic effects from short and long-term exposure

PROPANE, BUTANE and PENTANE: Laboratory animal studies indicate exposure to extremely high levels (1 to 10 vol.% in air) may cause cardiac arrhythmias (irregular heartbeats) which may be serious or fatal.

METHANE and ETHANE: Exposure to high levels of these gases produce weak central nervous system (CNS) depressant effects without significant potential for systemic toxicity. At very high levels they act as asphyxiant gases by diluting and displacing oxygen. Symptoms of persons exposed to oxygen deficient atmospheres include headache, dizziness, incoordination, cyanosis and narcosis. Extremely high concentrations can produce unconsciousness followed by death.

N-HEXANE: Short-term overexposure to n-hexane vapor may cause headache, nausea, vomiting, dizziness, lightheadedness, loss of consciousness, coma, and even death in humans. Respiratory effects of overexposure may include nose, throat, and lung irritation, coughing, wheezing, and shortness of breath. Direct and prolonged contact with liquid may cause dryness and redness of the skin. Long-term or repeated overexposure to n-hexane can cause peripheral nerve damage. Initial signs are numbness of the fingers and toes. Motor/muscle weakness can occur in the digits, but may also involve muscles of the arms, forearms, and thighs. Onset of these signs may be delayed for several months to a year after initial exposure. Repeated and sustained inhalation exposure to high vapor concentrations of n-hexane resulted in degenerative changes in the testes and reduced sperm count in male laboratory rats.

CARBON DIOXIDE: Carbon dioxide is a simple asphyxiant and has no warning properties (such as odor). Inhalation of high concentrations can produce mild narcotic effects and stimulation of the respiratory centers. Eye, nose and throat irritation can occur at very high exposure concentrations. Poisoning may affect the lungs, heart, kidney and central nervous system. Sleepiness, mental confusion, giddiness, lassitude (weakness), noise in the ear, weakened reflexes, tremors, flaccid paralysis, coma, and death may all occur from carbon dioxide poisoning.

BENZENE: Benzene exposure may cause skin, eye and respiratory irritation. Excessive exposures may cause central nervous system effects. Numerous studies of workers exposed to airborne benzene for prolonged or repeated periods show strong evidence that overexposure can cause cancer of the blood, AML (acute myeloid leukemia), along with other disorders indicating damage to the blood forming organs including aplastic anemia, leukopenia, thrombocytopenia, and the development of myelodysplastic syndrome. Some studies of pregnant women occupationally exposed to benzene suggest associations with an increased risk of miscarriage, stillbirth, reduced birth weight, and gestational age. Prolonged and repeated exposure to benzene has induced chromosomal aberrations in circulating human lymphocytes, in bone marrow cells of laboratory animals, and in sperm cells of both humans and laboratory animals.

TOLUENE: Inhalation abuse of toluene at high concentrations has been associated with adverse effects on the liver, kidney and nervous system, and can cause nervous system depression, cardiac arrhythmias, and death. Studies of workers indicate long-term exposure may be related to impaired color vision and hearing. Some studies of workers suggest long-term exposure may be associated with neurobehavioral and mental functional changes. Laboratory animal studies indicate some changes in reproductive organs after exposure to high airborne concentrations, but no significant effects on mating performance or reproduction were observed. Positive findings include small increases in minor skeletal and visceral malformations and developmental delays following maternal exposure to high concentrations. Adverse effects on the liver, kidney, thymus and nervous system of laboratory animal were observed after very high levels of prolonged and repeated exposure.

XYLENE: Overexposure to airborne xylene may cause upper respiratory tract irritation, headache, cyanosis, blood serum changes, nervous system damage and narcosis. Impaired neurological function has been reported in workers exposed to solvents including xylene. Laboratory animal studies have shown evidence of impaired hearing after prolonged exposure high airborne concentrations. Laboratory animal studies suggest some changes in reproductive organs after exposure to high airborne concentrations of xylene without an effect on reproduction. Skeletal and visceral malformations, developmental delays, and increased fetal resorptions were observed in laboratory animals after extremely high airborne concentrations with evidence of maternal toxicity. Adverse effects on the liver, kidney, and bone marrow were observed in laboratory animals after prolonged and repeated exposure to high airborne concentrations of xylene.

HYDROGEN SULFIDE: Hydrogen sulfide has a strong, unpleasant odor resembling that of rotten eggs. Odor, however, is not a reliable means for detecting potentially dangerous concentration of the gas, as the sense of smell diminishes very rapidly at concentrations of 50 ppm or higher. Eye irritation has been reported at 4 ppm. Irritation of the respiratory tract may occur at 50 ppm. Hydrogen sulfide gas may be fatal if inhaled in sufficient concentrations. Immediate loss of consciousness and death resulting from respiratory paralysis has occurred at concentrations as low as 500 ppm.

Adverse effects related to the physical, chemical and toxicological characteristics

Signs and symptoms Asphyxiant gas. High concentrations in the immediate area can displace oxygen causing

the feeling of suffocation and can cause headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue from oxygen deprivation. Hydrogen sulfide can cause respiratory paralysis and death, depending on the concentration and duration of exposure. Do not rely on ability to smell vapors, since loss of smell rapidly occurs. Effects of overexposure include irritation of the nose and throat, nausea, vomiting, diarrhea, abdominal pain and signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination and fatigue), irregular heartbeats, pulmonary edema, weakness and convulsions. Contact with product may cause frostbite. Prolonged or repeated exposure may cause damage to organs.

Acute toxicity	None known.
Skin corrosion/irritation	None known.
Serious eye damage/eye irritation	None known.
Sensitization	None known.
Mutagenic effects	May cause genetic defects.
Carcinogenicity	May cause cancer.

Name	ACGIH (Class)	IARC (Class)	NTP	OSHA
Benzene 71-43-2	Confirmed human carcinogen (A1)	Carcinogenic to humans (1)	Known to be human carcinogen	Known carcinogen
Toluene 108-88-3	Not classifiable (A4)	Not classifiable (3)	Not Listed	Not Listed
Xylene (mixed isomers) 1330-20-7	Not classifiable (A4)	Not classifiable (3)	Not Listed	Not Listed

Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific Target Organ Toxicity (STOT) - single exposure	May cause drowsiness or dizziness.
Specific Target Organ Toxicity (STOT) - repeated exposure	May cause damage to organs (nervous system) through prolonged or repeated exposure.
Aspiration hazard	Potential for aspiration if swallowed.

12. ECOLOGICAL INFORMATION

Ecotoxicity	This product should be considered toxic to aquatic organisms, with the potential to cause long lasting adverse effects in the aquatic environment.
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Name	Fish	Crustacea	Algae/aquatic plants
Pentane (mixed isomers) 109-66-0	96-hr LC50 >1 - <10 mg/L Rainbow trout	48-hr EC50 = 9.7 mg/L Daphnia magna	-
Hexane (mixed isomers) 110-54-3	96-hr LC50 = 2.5 mg/l Fathead minnow	-	-
Heptane (mixed isomers) 142-82-5	96-hr LC50 = 375 mg/L Tilapia	-	-
Benzene 71-43-2	96-hr LC50 = 5.3 mg/l Rainbow trout (flow-through)	48-hr EC50 = 8.76-15.6 mg/l Daphnia magna (Static)	72-hr EC50 = 29 mg/l Algae
Toluene 108-88-3	96-hr LC50 <= 10 mg/l Rainbow trout	48-hr EC50 = 5.46-9.83 mg/l Daphnia magna 48-hr EC50 = 11.5 mg/l Daphnia magna (Static)	72-hr EC50 = 12.5 mg/l Algae
Xylene (mixed isomers) 1330-20-7	96-hr LC50 = 8 mg/l Rainbow trout	48-hr LC50 = 3.82 mg/l Daphnia magna	72-hr EC50 = 11 mg/l Algae

Hydrogen sulfide 7783-06-4	96-hr LC50 = 0.016 mg/l Fathead minnow 96-hr LC50 = 0.013 mg/l Rainbow trout	-	-
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Persistence and degradability Expected to be inherently biodegradable.

Bioaccumulation Has the potential to bioaccumulate.

Mobility in soil Expected to rapidly partition to air.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Description of waste residues No information available.

Safe handling of wastes Handle in accordance with applicable local, state, and federal regulations. Use personal protection measures as required. Use appropriate grounding and bonding practices. Use only non-sparking tools. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. No smoking.

Disposal of wastes / methods of disposal The user is responsible for determining if any discarded material is a hazardous waste (40 CFR 262.11). Dispose of in accordance with federal, state and local regulations.

Contaminated packaging disposal Empty containers should be completely drained and then discarded or recycled, if possible. Do not cut, drill, grind or weld on empty containers since explosive residues may be present. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT

UN/Identification No: UN 1075
UN Proper Shipping Name: Liquefied Petroleum Gas
Transport Hazard Class(es): 2.1
Packing Group: Not applicable

IATA

UN/Identification No: UN 1075
UN Proper Shipping Name: Liquefied Petroleum Gas
Transport Hazard Class(es): 2.1
Packing Group: Not applicable
ERG code: 10L

IMDG

UN/Identification No: UN 1075
UN Proper Shipping Name: Liquefied Petroleum Gas
Transport Hazard Class(es): 2.1
Packing Group: Not applicable
EmS No: F-D, S-U
Marine Pollutant: Yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
 Not applicable

15. REGULATORY INFORMATION

Regulatory Information

US TSCA Chemical Inventory This product and/or its components are listed on the TSCA Chemical Inventory or are

exempt.

Canada DSL/NDL Inventory This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

EPA Superfund Amendment & Reauthorization Act (SARA)

SARA Section 302 This product may contain component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Hydrogen sulfide	500

SARA Section 304 This product may contain component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	Hazardous Substances RQs
Hexane (mixed isomers) 110-54-3	5000 lb 2270 kg
Benzene 71-43-2	10 lb 4.54 kg
Toluene 108-88-3	1000 lb 454 kg
Xylene (mixed isomers) 1330-20-7	100 lb 45.4 kg
Hydrogen sulfide 7783-06-4	100 lb 45.4 kg

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

- Flammable
- Gas under pressure
- Hazard Not Otherwise Classified (HNOC)-Physical
- Simple asphyxiant
- Germ cell mutagenicity
- Carcinogenicity
- Reproductive toxicity
- Specific target organ toxicity
- Hazard Not Otherwise Classified (HNOC)-Health

SARA Section 313 This product may contain component(s), which if in exceedance of the de minimus threshold, may be subject to the reporting requirements of SARA Title III Section 313 Toxic Release Reporting (Form R).

Name	CERCLA/SARA 313 Emission reporting
Hexane (mixed isomers) 110-54-3	1.0 % de minimis concentration
Benzene 71-43-2	0.1 % de minimis concentration
Toluene 108-88-3	1.0 % de minimis concentration
Xylene (mixed isomers) 1330-20-7	1.0 % de minimis concentration
Hydrogen sulfide 7783-06-4	1.0 % de minimis concentration

U.S. State Regulations

California Proposition 65 This product can expose you to chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.

Name	California Proposition 65
Hexane (mixed isomers) 110-54-3	Male reproductive toxicity, initial date 12/15/17 (n-Hexane)
Benzene 71-43-2	Carcinogen, initial date 02/27/87 Male developmental toxicity, initial date 12/26/97
Toluene 108-88-3	Developmental toxicity, initial date 01/01/91

For more information, go to www.P65Warnings.ca.gov.

State Right-To-Know Regulations The following component(s) of this material are identified on the regulatory lists below:

Name	New Jersey Right-To-Know	Pennsylvania Right-To-Know	Massachusetts Right-To-Know
Butane (mixed isomers) 106-97-8	Listed	Listed	Listed
Propane 74-98-6	Listed	Listed	Listed
Pentane (mixed isomers) 109-66-0	Listed	Listed	Listed
Ethane 74-84-0	Listed	Listed	Listed
Hexane (mixed isomers) 110-54-3	Listed	Listed	Listed
Heptane (mixed isomers) 142-82-5	Listed	Listed	Listed
Carbon Dioxide 124-38-9	Listed	Listed	Listed
Methane 74-82-8	Listed	Listed	Listed
Benzene 71-43-2	Listed	Listed	Listed
Toluene 108-88-3	Listed	Listed	Listed
Xylene (mixed isomers) 1330-20-7	Listed	Listed	Listed
Hydrogen sulfide 7783-06-4	Listed	Listed	Listed

16. OTHER INFORMATION

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Toxicology & Product Safety

NFPA



Revision Notes

Revision date

09/23/2020

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the

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