

SAFETY DATA SHEET

SDS ID NO.: 106MPLX001

Revision date 09/23/2020

1. IDENTIFICATION

Product Name Natural Gas

Synonym Methane; Residue gas; Finished gas
Product code 106MPLX001
Chemical family Hydrocarbon Gas

Recommended use Fuel.
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	Compressed Gas
Simple asphyxiant	-
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3

Hazards Not Otherwise Classified (HNOC)

Contact with product may cause frostbite.

Label Elements

Danger

Extremely flammable gas
Contains gas under pressure; may explode if heated
May displace oxygen and cause rapid suffocation
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
Contact with rapidly expanding gas may cause frostbite



Appearance Clear, Colorless Gas**Physical State** Gas**Odor** Odorless to sweet**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
 Avoid breathing gas/vapors
 Use only outdoors or in a well-ventilated area
 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Leaking gas fire: Do not extinguish, unless leak can be stopped safely
 Eliminate all ignition sources if safe to do so
 IF exposed or concerned: 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

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	8006-14-2	100
Methane	74-82-8	> 70
Ethane	74-84-0	< 25
Nitrogen	7727-37-9	< 20
Carbon Dioxide	124-38-9	< 12
Propane	74-98-6	< 5
Pentane (mixed isomers)	109-66-0	< 2.5
Butane (mixed isomers)	106-97-8	< 2
n-Hexane	110-54-3	< 0.5

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 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

Ingestion not likely. If swallowed, immediately call a poison control center or physician.

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. Contact with product may cause frostbite.

Indication of any immediate medical attention and special treatment needed**Notes to physician**

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. Treat symptomatically. Administer supplemental oxygen as needed.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam or water spray can be used. For large fires, water spray, fog or foam can be used. 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. Vapors may travel along the ground 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 can occur along vapor trail. For additional fire related information see NFPA 30 or the Emergency Response Guidebook 115. 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.

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. Since this gas could burn with a near invisible flame in daylight, approach with caution. 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. 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. Use extreme caution when fighting petroleum gas fires.

Additional firefighting tactics

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.

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.

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. 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. 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.
- 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
Methane 74-82-8	Simple asphyxiant	-	-

Ethane 74-84-0	Simple asphyxiant	-	-
Nitrogen 7727-37-9	Simple asphyxiant	-	-
Carbon Dioxide 124-38-9	5000 ppm TWA 30000 ppm STEL	TWA: 5000 ppm TWA: 9000 mg/m ³	40000 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
Butane (mixed isomers) 106-97-8	1000 ppm STEL	-	1600 ppm
n-Hexane 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

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 gases and/or vapors that exceed permissible limits, or when excessive gases and/or vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134. Self-contained breathing apparatus should be used for fire fighting.

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 Use mechanical ventilation equipment that is explosion-proof. 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 Clear, Colorless Gas
Physical State Gas
Color Colorless
Odor Odorless to sweet
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	-162 °C / -259 °F (methane)
Flash Point	No data available.
Evaporation Rate	No data available.
Flammability (solid, gas)	Extremely flammable gas

Flammability Limit in Air (%):	
Upper Flammability Limit:	17
Lower Flammability Limit:	3.8
Explosion Limits	No data available.
Vapor Pressure	No data available.
Vapor Density	0.54-0.82 (air=1)
Specific Gravity / Relative Density	No data available.
Water Solubility	No data available.
Partition Coefficient	No data available.
Autoignition Temperature	482-632 °C / 900-1170 °F
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.
Eye contact	Vapor may cause irritation. Contact with rapidly expanding gas may cause frostbite.
Skin contact	Gas or vapor is generally non-irritating to skin. Contact with rapidly expanding gas may cause frostbite.
Ingestion	Ingestion not likely.

Acute toxicological data

Name	Oral LD50	Dermal LD50	Inhalation LC50
Natural Gas 8006-14-2	-	-	658 mg/L (Rat) 4 h
Methane 74-82-8	-	-	326 mg/m ³ (Mouse) 2 h
Ethane 74-84-0	-	-	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
Butane (mixed isomers) 106-97-8	-	-	658 mg/L (Rat) 4 h
n-Hexane 110-54-3	15000 mg/kg (Rat)	3000 mg/kg (Rabbit)	48000 ppm (Rat) 4 h

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

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.

NITROGEN: Nitrogen is a simple asphyxiant gas without significant potential for systemic toxicity. At very high concentrations, it acts as an asphyxiant gas 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.

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.

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.

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.

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. Contact with product may cause frostbite.
Acute toxicity	None known.
Skin corrosion/irritation	None known.
Serious eye damage/eye irritation	None known.
Sensitization	None known.
Mutagenic effects	None known.
Carcinogenicity	None known.
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	None known.
Aspiration hazard	Not applicable.

12. ECOLOGICAL INFORMATION

Ecotoxicity This product is not expected to be harmful to aquatic organisms.

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	-
n-Hexane 110-54-3	96-hr LC50 = 2.5 mg/l Fathead minnow	-	-

Persistence and degradability Readily biodegradable in the environment.

Bioaccumulation Not expected to bioaccumulate in aquatic organisms.

Mobility in soil Due to physical property, the mobility of this material is expected to be negligible.

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 1971
UN Proper Shipping Name: Natural Gas, Compressed
Transport Hazard Class(es): 2.1
Packing Group: Not applicable

IATA

UN/Identification No: UN 1971
UN Proper Shipping Name: Natural Gas, Compressed
Transport Hazard Class(es): 2.1
Packing Group: Not applicable

IMDG

UN/Identification No: UN 1971
UN Proper Shipping Name: Natural Gas, Compressed
Transport Hazard Class(es): 2.1
Packing Group: Not applicable
EmS No: F-D, S-U
Marine Pollutant: No

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 does not contain any component(s) included on EPA's Extremely Hazardous Substance (EHS) List above the de minimis threshold.

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
n-Hexane 110-54-3	5000 lb 2270 kg

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

Flammable
Gas under pressure
Simple asphyxiant
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
n-Hexane 110-54-3	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
n-Hexane 110-54-3	Male reproductive toxicity, initial date 12/15/17

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
Natural Gas 8006-14-2	Not Listed	Listed	Listed
Methane 74-82-8	Listed	Listed	Listed
Ethane 74-84-0	Listed	Listed	Listed
Nitrogen 7727-37-9	Listed	Listed	Listed
Carbon Dioxide	Listed	Listed	Listed

124-38-9			
Propane 74-98-6	Listed	Listed	Listed
Pentane (mixed isomers) 109-66-0	Listed	Listed	Listed
Butane (mixed isomers) 106-97-8	Listed	Listed	Listed
n-Hexane 110-54-3	Listed	Listed	Listed

16. OTHER INFORMATION

Prepared by 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 date of its publication. The information is intended as guidance for safe handling, use, processing, storage, transportation, accidental release, clean-up and disposal and is not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.