

Section 1: IDENTIFICATION

Product Name:	Ethane Plus, UN1075, Non-toxic
Synonyms:	Peace C2+; Peace Ethane Plus; Brazeau C2+; Brazeau Ethane Plus; Northern C2+; Northern Ethane Plus; North C2+; North Ethane Plus; Northern Sulphur Ethane Plus; Northern SC2+; North Sulphur Ethane Plus; North SC2+; Musreau Ethane Plus; Musreau C2+; LGS SC2+; LGS Sulphur C2+; LGS Ethane Plus.
Product Use:	Refinery feedstock.
Restrictions on Use:	Not available.
Manufacturer/Supplier:	Pembina Pipeline Corporation 4000, 585 - 8th Avenue SW Calgary, Alberta T2P 1G1
Emergency Phone:	1-800-360-4706
Date of Preparation of SDS:	December 14, 2023

**Section 2: HAZARD(S) IDENTIFICATION****GHS INFORMATION**

Classification: Flammable Gases, Category 1A
Gases Under Pressure - Liquefied Gas
Flammable Liquids, Category 1
Skin Irritation, Category 2
Germ Cell Mutagenicity, Category 1B
Carcinogenicity, Category 1A
Reproductive Toxicity, Category 2
Specific Target Organ Toxicity (Single Exposure), Category 3 - Narcotic Effects
Specific Target Organ Toxicity (Repeated Exposure), Category 2
Aspiration Hazard, Category 1
Simple Asphyxiant, Category 1

LABEL ELEMENTS**Hazard****Pictogram(s):****Signal Word:** Danger**Hazard****Statements:**

Extremely flammable gas.
Contains gas under pressure; may explode if heated.
Extremely flammable liquid and vapor.
Causes skin irritation.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.
May displace oxygen and cause rapid suffocation.

Precautionary Statements

- Prevention:** Obtain special instructions before use.
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.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical, ventilating, and lighting equipment.
Use non-sparking tools.
Take action to prevent static discharges.
Do not breathe gas.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing and eye protection.
- Response:** IF SWALLOWED: Immediately call a POISON CENTER or doctor.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If exposed or concerned: Get medical advice/attention.
Call a POISON CENTER or doctor if you feel unwell.
Do NOT induce vomiting.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
In case of fire use: Dry chemical or CO₂.
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
In case of leakage, eliminate all ignition sources.
- Storage:** Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.
Protect from sunlight.
- Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200). This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% vol./vol.
Methane	Not available.	74-82-8	0 - 2
Ethane	Not available.	74-84-0	35 - 70
Propane	Not available.	74-98-6	15 - 40
Propane, 2-methyl-	Isobutane	75-28-5	1 - 10
Butane	Not available.	106-97-8	1 - 15
Butane, 2-methyl-	Isopentane	78-78-4	0.5 - 5
Pentane	Not available.	109-66-0	0.1 - 5

Hexane	Not available.	110-54-3	0.1 - 5
Heptane	Not available.	142-82-5	0 - 2
Octane	Not available.	111-65-9	0 - 1
Nonane	Not available.	111-84-2	0 - 1
Decane	Not available.	124-18-5	< 0.1
Benzene, dimethyl-	Xylene	1330-20-7	0 - 1
Benzene, methyl-	Toluene	108-88-3	0 - 1
Benzene	Not available.	71-43-2	0 - 1
Benzene, ethyl-	Ethylbenzene	100-41-4	0 - 1
Cyclohexane, methyl-	Methylcyclohexane	108-87-2	0 - 1
Cyclohexane	Not available.	110-82-7	0 - 1
Cyclopentane, methyl-	Methylcyclopentane	96-37-7	0 - 1
Cyclopentane	Not available.	287-92-3	0 - 1
Benzene, 1,2,4-trimethyl-	1,2,4-Trimethylbenzene	95-63-6	0 - 1

Section 4: FIRST-AID MEASURES

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.

Acute and delayed symptoms and effects: May cause drowsiness or dizziness. May displace oxygen and cause rapid suffocation. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. Adverse health effects occur as a result of the displacement of oxygen. Central nervous system depression can occur if product is present in concentrations that will reduce the oxygen content of air below 18 % (vol). Symptoms may include headache, lightheadedness, drowsiness, disorientation, vomiting and seizures. Unconsciousness and death may occur with severe oxygen deprivation. High vapour concentrations of Xylene are anesthetic and central nervous system depressants. Inhalation of Toluene may result in peculiar skin sensations (e.g. pins and needles) or numbness. Very high concentrations may cause unconsciousness and death.

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. Flush eyes with plenty of lukewarm water for at least 15 minutes.

Acute and delayed symptoms and effects: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. The pain after contact with liquid can quickly subside. Permanent eye damage or blindness could result. May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Get immediate medical advice/attention. If skin

irritation occurs: Get medical advice/attention. Thaw frosted parts with lukewarm water. Do not rub affected area. Take off contaminated clothing and wash it before reuse. Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. Flush immediately with warm water. Remove non-adhering contaminated clothing. Do not remove adherent material or clothing.

Acute and delayed symptoms and effects: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with liquid can quickly subside. Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: IF SWALLOWED: Do NOT induce vomiting. Immediately call a POISON CENTER or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.

Acute and delayed symptoms and effects: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingestion of Isopentane may cause ventricular fibrillation and kidney, liver, and bone marrow damage. Swallowed liquids can vapourize in the trachea. Aspiration into the lungs is an asphyxiation hazard.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately. To monitor n-Hexane exposure, measure n-hexane in expired air. Monitor arterial blood gases in cases of severe aspiration.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Extremely flammable gas. Contains gas under pressure; may explode if heated. Extremely flammable liquid and vapor. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after 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.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.

Sensitivity to Static Discharge: Take action to prevent static discharges. This material is sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Small Fire: Dry chemical or CO₂.

Large Fire: Water spray or fog. Move containers from fire area if you can do it without risk.

Unsuitable Extinguishing Media: Not available.

Products of Combustion: Oxides of carbon.

Protection of Firefighters: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources. Vapors may cause dizziness or asphyxiation without warning. Some may be irritating if inhaled at high concentrations. Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite. Fire may produce irritating and/or toxic gases. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Keep out of low areas. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded.

Personal Precautions: Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

Environmental Precautions: Not normally required.

Methods for Containment: Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak.

Methods for Clean-Up: Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.

Other Information: See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE**Handling:**

Obtain special instructions before use. 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. Keep container tightly closed. Ground and bond container and receiving equipment. Use non-sparking tools. Take action to prevent static discharges. Do not pierce or burn, even after use. Do not breathe gas. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.

Storage:

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Protect from sunlight. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**Exposure Guidelines****Component**

Methane [CAS No. 74-82-8]

ACGIH: Simple asphyxiant; Explosion hazard

OSHA: No PEL established.

Ethane [CAS No. 74-84-0]

ACGIH: Simple asphyxiant; Explosion hazard

OSHA: No PEL established.

Propane [CAS No. 74-98-6]

ACGIH: Simple asphyxiant; Explosion hazard

OSHA: 1000 ppm (TWA), 1800 mg/m³ (TWA); For Propane.

Isobutane [CAS No. 75-28-5]

ACGIH: 1000 ppm (STEL); Explosion hazard (2017)

OSHA: No PEL established.

Butane [CAS No. 106-97-8]

ACGIH: 1000 ppm (STEL); Explosion hazard (2017)

OSHA: 800 ppm (TWA) [Vacated];

Isopentane [CAS No. 78-78-4]

ACGIH: 1000 ppm (TWA); (2014)

OSHA: No PEL established.

Pentane [CAS No. 109-66-0]

ACGIH: 1000 ppm (TWA); (2014)

OSHA: 1000 ppm (TWA), 2950 mg/m³ (TWA); 600 ppm (TWA); 750 ppm (STEL) [Vacated];

Hexane [CAS No. 110-54-3]

ACGIH: 50 ppm (TWA); Skin, BEI (1998)

OSHA: 500 ppm (TWA), 1800 mg/m³ (TWA); Skin. 50 ppm (TWA) [Vacated];

Heptane [CAS No. 142-82-5]

ACGIH: 400 ppm (TWA); 500 ppm (STEL); (1979)

OSHA: 500 ppm (TWA), 2000 mg/m³ (TWA); 400 ppm (TWA); 500 ppm (STEL) [Vacated];

Octane [CAS No. 111-65-9]

ACGIH: 300 ppm (TWA); (1999)

OSHA: 500 ppm (TWA), 2350 mg/m³ (TWA); 300 ppm (TWA); 375 ppm (STEL) [Vacated];

Nonane [CAS No. 111-84-2]

ACGIH: 200 ppm (TWA); (2011)

OSHA: 200 ppm (TWA) [Vacated];

Decane [CAS No. 124-18-5]

ACGIH: No TLV established.

OSHA: No PEL established.

Xylene [CAS No. 1330-20-7]

ACGIH: 20 ppm (TWA); OTO; A4; BEI (2021)

OSHA: 100 ppm (TWA), 435 mg/m³ (TWA); 150 ppm (STEL) [Vacated]; For Xylenes.

Toluene [CAS No. 108-88-3]

ACGIH: 20 ppm (TWA); OTO; A4; BEI (2020)

OSHA: 200 ppm (TWA); 300 ppm (C); 500 ppm (Peak) (Maximum duration: 10 minutes.)
100 ppm (TWA); 150 ppm (STEL) [Vacated];

Benzene [CAS No. 71-43-2]

ACGIH: 0.5 ppm (TWA); 2.5 ppm (STEL); Skin; A1; BEI (1997)

OSHA: 1 ppm (TWA); 5 ppm (STEL);

Ethylbenzene [CAS No. 100-41-4]

ACGIH: 20 ppm (TWA); OTO; A3; BEI (2021)

OSHA: 100 ppm (TWA), 435 mg/m³ (TWA); 125 ppm (STEL) [Vacated];

Methylcyclohexane [CAS No. 108-87-2]

ACGIH: 400 ppm (TWA); (1987)

OSHA: 500 ppm (TWA), 2000 mg/m³ (TWA); 400 ppm (TWA) [Vacated];

Cyclohexane [CAS No. 110-82-7]

ACGIH: 100 ppm (TWA); (2020)

OSHA: 300 ppm (TWA), 1050 mg/m³ (TWA);

Methylcyclopentane [CAS No. 96-37-7]

ACGIH: No TLV established.

OSHA: No PEL established.

Cyclopentane [CAS No. 287-92-3]

ACGIH: 1000 ppm (TWA); Explosion hazard (2021)

OSHA: 600 ppm (TWA) [Vacated];

1,2,4-Trimethylbenzene [CAS No. 95-63-6]

ACGIH: 10 ppm (TWA); A4 (2021)

OSHA: No PEL established.

PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
TWA: Time-Weighted Average
STEL: Short-Term Exposure Limit
C: Ceiling

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits. Use explosion-proof electrical, ventilating, and lighting equipment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)



Eye/Face Protection: Wear chemical safety goggles. Wear cold insulating face shield and eye protection. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3:20 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection: Wear protective gloves. Wear cold insulating gloves. Consult manufacturer specifications for further information.

Skin and Body Protection: Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20-2017 standards is recommended in areas where material is stored or handled.

Respiratory Protection: If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-18, with organic vapor cartridge, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

General Hygiene Considerations: Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colourless gas liquefied under pressure.
Colour:	Colourless.
Odour:	Slight hydrocarbon.
Odour Threshold:	Not available.
Physical State:	Gas.
pH:	Not available.
Melting Point / Freezing Point:	Not available.

Initial Boiling Point:	-89 °C (-128.2 °F) (Ethane)
Boiling Range:	Not available.
Flash Point:	< 0 °C (32 °F)
Evaporation Rate:	Not available.
Flammability (solid, gas):	Extremely flammable gas.
Lower Flammability Limit:	3% (Ethane) 2.1% (Propane) 1.8% (Butane & Isobutane) 5% (Methane)
Upper Flammability Limit:	12.5% (Ethane) 9.5% (Propane) 8.4% (Butane & Isobutane) 15% (Methane)
Vapor Pressure:	2000 to 3000 kPa at 37.8 °C (100 °F)
Relative Vapor Density:	Not available.
Relative Density:	0.400 to 0.500 (Water = 1) at 15 °C (59 °F)
Solubilities:	Slightly soluble in water.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	472 °C (881.6 °F) (Ethane)
Decomposition Temperature:	Not available.
Kinematic Viscosity:	Not available.
Percent Volatile, wt. %:	100
VOC content, wt. %:	Not available.
Density:	Not available.
Coefficient of Water/Oil Distribution:	Not available.
Particle Characteristics:	Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Chemical Stability:	Stable under normal storage conditions.
Possibility of Hazardous Reactions:	None known.
Conditions to Avoid:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Incompatible Materials:	Strong acids. Acids. Strong oxidizers. Oxidizers. Oxides of nitrogen. Chlorine. Halogenated organic solvents. Perchlorates.
Hazardous Decomposition Products:	Not available.

Section 11: TOXICOLOGICAL INFORMATION
EFFECTS OF ACUTE EXPOSURE
Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD ₅₀ oral	LD ₅₀ dermal	LC ₅₀
Methane	74-82-8	Not available.	Not available.	Not available.
Ethane	74-84-0	Not available.	Not available.	Not available.
Propane	74-98-6	Not available.	Not available.	Not available.
Isobutane	75-28-5	Not available.	Not available.	570000 ppm (rat); 15M
Butane	106-97-8	Not available.	Not available.	658000 mg/m ³ (rat); 4H
Isopentane	78-78-4	Not available.	Not available.	Not available.
Pentane	109-66-0	400 mg/kg (rat)	Not available.	364000 mg/m ³ (rat); 4H
Hexane	110-54-3	25000 mg/kg (rat)	Not available.	48000 ppm (rat); 4H
Heptane	142-82-5	Not available.	Not available.	103000 mg/m ³ (rat); 4H
Octane	111-65-9	Not available.	Not available.	118000 mg/m ³ (rat); 4H
Nonane	111-84-2	Not available.	Not available.	3200 ppm (rat); 4H
Decane	124-18-5	Not available.	Not available.	> 1369 ppm (rat); 8H
Xylene	1330-20-7	4300 mg/kg (rat)	> 1700 mg/kg (rabbit)	5000 ppm (rat); 4H
Toluene	108-88-3	2600 mg/kg (rat)	14.1 mL/kg (rabbit)	49000 mg/m ³ (rat); 4H
Benzene	71-43-2	930 mg/kg (rat)	> 9400 µL/kg (rabbit)	10000 ppm (rat); 7H
Ethylbenzene	100-41-4	3500 mg/kg (rat)	17800 µL/kg (rabbit)	Not available.
Methylcyclohexane	108-87-2	> 3200 mg/kg (rat)	> 86700 mg/kg (rabbit)	15227 ppm (rabbit); 1H
Cyclohexane	110-82-7	813 mg/kg (mouse)	180000 mg/kg (rabbit)	Not available.
Methylcyclopentane	96-37-7	Not available.	Not available.	Not available.
Cyclopentane	287-92-3	11400 mg/kg (rat)	Not available.	106000 mg/m ³ (rat); 4H
1,2,4- Trimethylbenzene	95-63-6	5000 mg/kg (rat)	Not available.	18000 mg/m ³ (rat); 4H

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Skin absorption.

Target Organs: Skin. Eyes. Respiratory system. Cardiovascular system. Bone marrow. Liver. Kidneys. Central nervous system. Peripheral nervous system.

Symptoms (including delayed and immediate effects)

Inhalation: May cause drowsiness or dizziness. May displace oxygen and cause rapid suffocation. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. Adverse health effects occur as a result of the displacement of oxygen. Central nervous system depression can occur if product is present in concentrations that will reduce the oxygen content of air below 18 % (vol). Symptoms may include headache, lightheadedness, drowsiness, disorientation, vomiting and seizures. Unconsciousness and death may occur with severe oxygen deprivation. High vapour concentrations of Xylene are anesthetic and central nervous system depressants. Inhalation of Toluene may result in peculiar skin sensations (e.g. pins and needles) or numbness. Very high concentrations may cause unconsciousness and death.

Eye: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. The pain after contact with liquid can quickly subside. Permanent eye damage or blindness could result. May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with liquid can quickly subside. Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingestion of Isopentane may cause ventricular fibrillation and kidney, liver, and bone marrow damage. Swallowed liquids can vapourize in the trachea. Aspiration into the lungs is an asphyxiation hazard.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Respiratory system. Central nervous system. Cardiovascular system. Blood. Bone marrow. Liver. Kidneys. Peripheral nervous system.

Chronic Effects: May cause chronic effects. High vapour concentrations, generally greater than 10% by volume, may sensitize the heart and lead to lethal cardiac arrhythmias. Reports of chronic poisoning with Benzene, Toluene, Ethylbenzene or Xylene describe anemia, decreased blood cell count and bone marrow hypoplasia. Liver and kidney damage may occur. Repeated exposure of the eyes to high concentrations of Xylenes vapour may cause reversible eye damage. Chronic inhalation exposure to xylene causes mid-frequency hearing loss in laboratory animals. Xylene reacts synergistically with n-hexane to enhance hearing loss. Immunodepressive effects have also been reported for Benzene. Prolonged or repeated inhalation of

Isopentane may cause dizziness, weakness, weight loss, anemia, nervousness, pains in the limbs and peripheral numbness. Chronic inhalation of n-Hexane may cause peripheral nerve disorders and central nervous system effects. Prolonged or repeated skin contact with Nonane may cause liver and kidney damage and cause blood effects. This material contains Cyclohexane which is known to cause liver and kidney damage. 1,2,4-Trimethylbenzene may cause CNS changes, asthmatic bronchitis, and changes in the blood such as anemia or thrombocytopenia (i.e. low thrombocyte count that may affect the blood's ability to clot).

Carcinogenicity: May cause cancer. Chronic exposure to benzene has been associated with an increased incidence of leukemia and multiple myeloma (tumour composed of cells of the type normally found in the bone marrow).

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Xylene	A4	Group 3	Not listed.	Not listed.	Not listed.
Toluene	A4	Group 3	Not listed.	Not listed.	Not listed.
Benzene	A1	Group 1	List 1	OSHA Carcinogen.	Listed.
Ethylbenzene	A3	Group 2B	Not listed.	OSHA Carcinogen.	Listed.

Mutagenicity: May cause genetic defects.

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

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Possible risk of harm to the unborn child. Exposure to Xylene has produced fetotoxic effects in animal studies. Exposure to Toluene may affect the developing fetus. Benzene has caused adverse fetal effects in laboratory animals.

Toxicologically Synergistic Materials: Xylene reacts synergistically with n-hexane to enhance hearing loss.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: UN1075, PETROLEUM GASES, LIQUEFIED, 2.1

Class: 2.1

UN Number: UN1075

Packing Group: Not applicable.

Placard(s):



Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: UN1075, PETROLEUM GASES, LIQUEFIED, 2.1

Class: 2.1

UN Number: UN1075

Packing Group: Not applicable.

Placard(s):



Section 15: REGULATORY INFORMATION

Chemical Inventories

US (TSCA)

The components of this product are in compliance with the chemical notification requirements of TSCA.

Canada (DSL)

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

Federal Regulations

United States

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Methane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000
Ethane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000
Propane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000
Isobutane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000

**Ethane Plus, UN1075, Non-toxic**

Date of Preparation: December 14, 2023

SAFETY DATA SHEET

Butane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000
Isopentane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000
Pentane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000
Hexane	Not listed.	Not listed.	5000	313	Not listed.	Not listed.
Xylene	Not listed.	Not listed.	100	313	U239	Not listed.
Toluene	Not listed.	Not listed.	1000	313	U220	Not listed.
Benzene	Not listed.	Not listed.	10	313	U019	Not listed.
Ethylbenzene	Not listed.	Not listed.	1000	313	Not listed.	Not listed.
Cyclohexane	Not listed.	Not listed.	1000	313	U056	Not listed.
1,2,4-Trimethylbenzene	Not listed.	Not listed.	Not listed.	313	Not listed.	Not listed.

State Regulations**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Methane	74-82-8	Listed.
Ethane	74-84-0	Listed.
Propane	74-98-6	Listed.
Isobutane	75-28-5	Listed.
Butane	106-97-8	Listed.
Isopentane	78-78-4	Listed.
Pentane	109-66-0	Listed.
Hexane	110-54-3	Listed.
Heptane	142-82-5	Listed.
Octane	111-65-9	Listed.
Nonane	111-84-2	Listed.
Decane	124-18-5	Listed.
Xylene	1330-20-7	Listed.
Toluene	108-88-3	Listed.
Benzene	71-43-2	E
Ethylbenzene	100-41-4	Listed.
Methylcyclohexane	108-87-2	Listed.
Cyclohexane	110-82-7	Listed.
Methylcyclopentane	96-37-7	Listed.
Cyclopentane	287-92-3	Listed.
1,2,4-Trimethylbenzene	95-63-6	Listed.

Note: E = Extraordinarily Hazardous Substance



Ethane Plus, UN1075, Non-toxic

Date of Preparation: December 14, 2023

SAFETY DATA SHEET

New Jersey

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Methane	74-82-8	SHHS
Ethane	74-84-0	SHHS
Propane	74-98-6	SHHS
Isobutane	75-28-5	SHHS
Butane	106-97-8	SHHS
Isopentane	78-78-4	SHHS
Pentane	109-66-0	SHHS
Hexane	110-54-3	SHHS
Heptane	142-82-5	SHHS
Octane	111-65-9	SHHS
Nonane	111-84-2	SHHS
Decane	124-18-5	Listed.
Xylene	1330-20-7	SHHS
Toluene	108-88-3	SHHS
Benzene	71-43-2	SHHS
Ethylbenzene	100-41-4	SHHS
Methylcyclohexane	108-87-2	SHHS
Cyclohexane	110-82-7	SHHS
Methylcyclopentane	96-37-7	SHHS
Cyclopentane	287-92-3	SHHS
1,2,4-Trimethylbenzene	95-63-6	Listed.

Note: SHHS = Special Health Hazard Substance

Pennsylvania

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Methane	74-82-8	Listed.
Ethane	74-84-0	Listed.
Propane	74-98-6	Listed.
Isobutane	75-28-5	Listed.
Butane	106-97-8	Listed.
Isopentane	78-78-4	Listed.
Isopentane	78-78-4	Listed.
Pentane	109-66-0	Listed.
Hexane	110-54-3	Listed.
Heptane	142-82-5	Listed.
Octane	111-65-9	Listed.
Nonane	111-84-2	Listed.
Decane	124-18-5	Listed.
Xylene	1330-20-7	E
Toluene	108-88-3	E
Benzene	71-43-2	ES
Ethylbenzene	100-41-4	E
Methylcyclohexane	108-87-2	Listed.
Cyclohexane	110-82-7	E
Methylcyclopentane	96-37-7	Listed.

Cyclopentane	287-92-3	Listed.
1,2,4-Trimethylbenzene	95-63-6	E

Note: E = Environmental Hazard; S = Special Hazardous Substance

**California
California Prop 65:**



WARNING This product can expose you to chemicals including Benzene, Ethylbenzene, Hexane, Naphthalene, and Toluene which are 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.

Section 16: OTHER INFORMATION

Disclaimer:

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

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