Mixed P-P's (Propane/Propylene)

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
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SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Mixed P-P's (Propane/Propylene)

Synonyms: Blend of Propane and Propylene, Refinery Grade Propylene

1.2. Intended Use of the Product

Use of the Substance/Mixture: Organic synthesis; Household and Industrial Fuel. For professional use only.

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

Company

Delek US
200 Refinery Road
Big Spring, TX 79720
Phone #: 432-263-7661

Delek US
365 S. Levee Road
Krotz Springs, LA 70750
Phone #: 337-566-0175

Delek US
425 N. McMurrey Drive
Tyler, TX 75702
Phone #: 903-579-3400

Delek US
1000 Mc Henry St.
El Dorado, AR 71730
Phone #: 615-771-6701

1.4. Emergency Telephone Number

Emergency Number : 800-424-9300
CHEMTREC – TOLL FREE 24 HOUR EMERGENCY TELEPHONE NUMBER

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US Classification

Flammable gases Category 1	H220
Gases under pressure Liquefied gas	H280
Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336
Simple Asphyxiant	SIAS
Hazardous to the aquatic environment - Acute Hazard Category 3	H402
Hazardous to the aquatic environment - Chronic Hazard Category 3	H412

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS02 GHS04 GHS07

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
H336 - May cause drowsiness or dizziness.
H402 - Harmful to aquatic life.
H412 - Harmful to aquatic life with long lasting effects.
May displace oxygen and cause rapid suffocation.

Precautionary Statements (GHS-US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 - Avoid breathing gas.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a poison center or doctor if you feel unwell.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P410+P403 - Protect from sunlight. Store in a well-ventilated place.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Contact with gas escaping the container can cause frostbite.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Synonyms	Product Identifier	%*	GHS US classification
Propene	Propylene / 1-Propene / n-Propene / 1-Propylene / Prop-1-ene	(CAS-No.) 115-07-1	50 – 80	Simple Asphy, SIAS Flam. Gas 1, H220 Press. Gas (Liq.), H280 STOT SE 3, H336 Aquatic Acute 3, H402 Aquatic Chronic 3, H412
Propane	Normal propane / PROPANE / n-Propane / R290	(CAS-No.) 74-98-6	20 – 40	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Simple Asphy, SIAS
Ethane	Ethyl hydride / ETHANE	(CAS-No.) 74-84-0	0.1 – 10	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Simple Asphy, SIAS
Ethene	Ethylene / Ethylene, refrigerated liquid / Ethylene, compressed	(CAS-No.) 74-85-1	0.1 – 10	Flam. Gas 1, H220 Press. Gas (Comp.), H280 STOT SE 3, H336 Simple Asphy, SIAS Aquatic Acute 3, H402 Aquatic Chronic 3, H412
Isobutane	2-Methylpropane / Propane, 2-methyl- / ISOBUTANE / R600a / isobutane	(CAS-No.) 75-28-5	0.1 – 1	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Simple Asphy, SIAS

Full text of H-phrases: see section 16

*This mixture has a variable composition.

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

First-aid Measures General: 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: First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Immediately remove contaminated clothing. For brief contact with a small amount: Rewarm with body heat. Get immediate medical advice/attention. For extensive contact or a large amount: Immediately call a poison center/doctor and follow their advice. Specific treatment is urgent, incorrect first-aid practices will aggravate the injury. Protect affected area with a loose cover until proper medical treatment is received.

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. Obtain medical attention if irritation develops or persists. If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries: Asphyxia by lack of oxygen: risk of death. May cause drowsiness and dizziness. May cause frostbite on contact with the liquid.

Symptoms/Injuries After Inhalation: In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death. High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms.

Symptoms/Injuries After Skin Contact: Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

Symptoms/Injuries After Eye Contact: Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

Symptoms/Injuries After Ingestion: Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

Chronic Symptoms: None expected under normal conditions of use.

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: Do not extinguish burning gas if flow cannot be shut off immediately. Extinguish secondary FIRES with appropriate materials.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Extremely flammable gas.

Explosion Hazard: May form flammable/explosive vapor-air mixture. Container may explode in heat of fire.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

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

Firefighting Instructions: Fight fire remotely due to the risk of explosion. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Use water spray or fog for cooling exposed containers.

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

Hazardous Combustion Products: Carbon oxides (CO, CO_2).

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Eliminate every possible source of ignition. Do not get in eyes, on skin, or on clothing. Do not breathe Gas. Handle in accordance with good industrial hygiene and safety practice.

6.1.1. For Non-Emergency Personnel

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

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Eliminate ignition sources. Evacuate unnecessary personnel, isolate, and ventilate 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.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: As an immediate precautionary measure, isolate spill or leak area in all directions. Stop leak, if possible without risk.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Stop the source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering. 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: Asphyxiating gas at high concentrations. Do not pressurize, cut, or weld containers. Ruptured cylinders may rocket. Handle empty containers with care because residual vapors are flammable.

Precautions for Safe Handling: Do not breathe gas. Avoid prolonged contact with eyes, skin and clothing. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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. Proper grounding procedures to avoid static electricity should be followed.

Storage Conditions: Store in a dry, cool place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Keep in fireproof place. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Store locked up/in a secure area.

Incompatible Materials: Oxidizers. Halogenated compounds. Nitrogen oxides.

7.3. Specific End Use(s)

Organic synthesis; Household and Industrial FuelFor professional use only.

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).

Propane (74-98-6)		
USA ACGIH	ACGIH chemical category	Simple asphyxiant See Appendix F: Minimal Oxygen Content
USA NIOSH	NIOSH REL (TWA)	1800 mg/m³
USA NIOSH	NIOSH REL TWA [ppm]	1000 ppm
USA IDLH	IDLH [ppm]	2100 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) [1]	1800 mg/m³
USA OSHA	OSHA PEL (TWA) [2]	1000 ppm

Propene (115-07-1)		
USA ACGIH	ACGIH OEL TWA [ppm]	500 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen

Isobutane (75-28-5)		
USA ACGIH	ACGIH OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers)
USA NIOSH	NIOSH REL (TWA)	1900 mg/m³
USA NIOSH	NIOSH REL TWA [ppm]	800 ppm

Ethane (74-84-0)		
USA ACGIH	ACGIH chemical category	Simple asphyxiant See Appendix F: Minimal Oxygen Content

Ethene (74-85-1)		
USA ACGIH	ACGIH OEL TWA [ppm]	200 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen

8.2. Exposure Controls

Appropriate Engineering Controls : Ensure adequate ventilation, especially in confined areas. Use explosion-proof equipment. Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when flammable gases or vapors may be released. Oxygen detectors should be used when asphixiating gases may be released. Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment : Protective goggles. Protective clothing. Gloves. Insufficient ventilation: wear respiratory protection. Respiratory protection of the dependent type.

Materials for Protective Clothing : Chemically resistant materials and fabrics. Wear fire/flame resistant/retardant clothing.

Hand Protection	: Wear protective gloves.
Eye and Face Protection	: Chemical safety goggles.
Skin and Body Protection	: Wear suitable protective clothing.
Respiratory Protection	: Use a NIOSH-approved self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.
Thermal Hazard Protection	: Wear thermally resistant protective clothing. If material is cold, wear thermally resistant protective gloves.
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	: Gas
Appearance	: Colorless gas.
Odor	: Natural gas. Skunk.
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: -169 °C (-272°F) (Ethylene) Weighted average: -190°C (-310°F)
Boiling Point	: -42.2 – -11.6 °C (-44 to 11°F)
Flash Point	: -136 °C (-213°F) Ethylene
Auto-ignition Temperature	: > 260 °C (500°F)
Decomposition Temperature	: No data available
Flammability	: Extremely flammable gas
Vapor Pressure	: No data available
Relative Vapor Density at 20°C	: 1.6 (Air = 1)
Relative Density	: No data available
Specific Gravity	: 0.52 (Water = 1)
Solubility	: Water: Insoluble in cold water.
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available
Explosive Properties	: Contains gas under pressure; may explode if heated.
Lower Flammable Limit	: 1.0 %
Upper Flammable Limit	: 9.5 %

9.2. Other Information

VOC Content	: 100 %
Gas Group	: Press. Gas (Liq.)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability

Extremely flammable gas. Contains gas under pressure; may explode if heated.

10.3. Possibility of Hazardous Reactions

Hazardous polymerization may occur.

10.4. Conditions to Avoid

Direct sunlight, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.

10.5. Incompatible Materials

Oxidizers. Halogenated compounds. Nitrogen oxides.

10.6. Hazardous Decomposition Products

Thermal decomposition may produce: Carbon oxides (CO, CO_2).

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

Propane (74-98-6)

LC50 Inhalation Rat	> 800000 ppm (Exposure time: 15 min)

Propene (115-07-1)	
LC50 Inhalation Rat	> 65000 ppm/4h

Ethane (74-84-0)	
LC50 Inhalation Rat	> 800000 ppm/4h

Ethene (74-85-1)	
LC50 Inhalation Rat	> 57000 ppm/4h

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Propene (115-07-1)	
IARC group	3

Ethene (74-85-1)	
IARC group	3

Reproductive Toxicity: Not classified

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

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death. High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms.

Symptoms/Injuries After Skin Contact: Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

Symptoms/Injuries After Eye Contact: Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

Symptoms/Injuries After Ingestion: Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

Chronic Symptoms: None expected under normal conditions of use.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Harmful to aquatic life with long lasting effects.

Propene (115-07-1)	
ErC50 (Algae)	33.39 mg/l

Ethene (74-85-1)	
ErC50 (Algae)	72 mg/l
NOEC Chronic Fish	13 mg/l

12.2. Persistence and Degradability

Mixed P-P's (Propane/Propylene)	
Persistence and Degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative Potential

Mixed P-P's (Propane/Propylene)	
Bioaccumulative Potential	Not established.

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

Propene (115-07-1)	
Partition coefficient n-octanol/water (Log Pow)	1.77 (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)

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

Ethene (74-85-1)	
BCF Fish 1	4 – 4.6
Partition coefficient n-octanol/water (Log Pow)	1.13 (at 25 °C (at pH 7)

12.4. Mobility in Soil
No additional information available

12.5. Other Adverse Effects
Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS
13.1. Waste Treatment Methods
Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Do not puncture or incinerate container. Empty gas cylinders should be returned to the vendor for recycling or refilling. Container may remain hazardous when empty. Continue to observe all precautions.

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

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

ERG Number : 115

14.2. In Accordance with IMDG
Proper Shipping Name : PETROLEUM GASES, LIQUEFIED
Hazard Class : 2.1
Identification Number : UN1075
Label Codes : 2.1
EmS-No. (Fire) : F-D
EmS-No. (Spillage) : S-U

MFAG Number : 115

14.3. In Accordance with IATA
PASSENGER AIRCRAFT: FORBIDDEN
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

Mixed P-P's (Propane/Propylene)	
SARA Section 311/312 Hazard Classes	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Physical hazard - Gas under pressure Health hazard - Specific target organ toxicity (single or repeated exposure) Health hazard - Simple asphyxiant

Propane (74-98-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	

Propene (115-07-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 %

Isobutane (75-28-5)
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

Ethene (74-85-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 %

15.2. US State Regulations

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

Propene (115-07-1)
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

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

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

Ethene (74-85-1)
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

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

Date of Preparation or Latest Revision : 10/27/2022

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200This 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
H280	Contains gas under pressure; may explode if heated
H336	May cause drowsiness or dizziness
H402	Harmful to aquatic life
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.