

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name Propane/Propylene Mix

Effective date February 2008

Synonyms P/P Mix

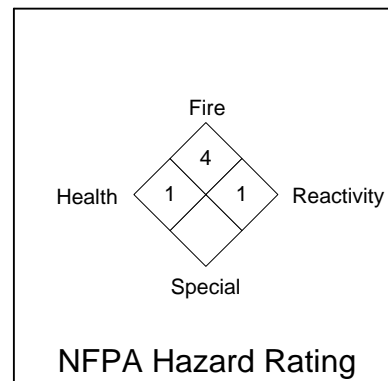
Chemical formula Mixture

CAS name & no. Propane, 74-98-6
Propylene, 115-07-1

Manufacturer's name and address Georgia Gulf Chemicals & Vinyls, LLC
P.O. Box 1959
Pasadena, TX 77501

Emergency telephone numbers For transportation emergencies:
CHEMTREC (800) 424-9300
For all other emergencies: (225) 685-2500

MSDS contact Corporate Health & Safety Department
P.O. Box 629
Plaquemine, LA 70765
Phone Number (225) 685-2500



2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Wt. %
Butane	106-97-8	0-1.5
Ethane	74-84-0	0-1
Propane	74-98-6	0-35
Propylene	115-07-1	65-100

3. HAZARDS IDENTIFICATION

PRECAUTIONARY INFORMATION

DANGER: Highly flammable gas. Eye injury. An asphyxiant. May cause headaches, nausea and dizziness. May cause central nervous system effects. Contact of liquid propane/propylene mix with the skin may cause frostbite.

Primary Routes of Exposure

Inhalation, skin, and eye contact.

HAZARD CLASSIFICATION

Acute Effects

Propane/propylene mix exhibits some degree of anesthetic action and is mildly irritating to the mucous membranes and/or acts as a simple asphyxiant. Depending on the duration of exposure and concentration, symptoms such as rapid respiration, dyspnea, ataxia, diminished mental alertness, emotional instability, rapid fatigue, nausea, vomiting, prostration, loss of consciousness and convulsions, followed by deep coma may occur at concentrations near those which induce simple asphyxiation. Contact of liquid propane/propylene mix with the skin may cause frostbite.

Chronic Effects

Irritation of the eyes, nose, and throat are the most common problems associated with chronic exposure to propane/propylene mix. Central nervous system effects such as dizziness and sleepiness can occur, as can dryness, irritation, and inflammation of the skin.

Carcinogen Status

Propane/propylene mix is not considered carcinogenic by OSHA, NIOSH, NTP, IARC or EPA.

4. FIRST AID MEASURES

Inhalation

If person is overcome, remove to fresh air and call a physician. If breathing is irregular or has stopped, administer artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

Skin Contact

Wash well with water. If clothing is contaminated, promptly remove clothing and wash the skin with soap and water for at least 15 minutes. Get medical attention promptly. If systemic effects are observed, first aid procedures are the same as above for inhalation.

Eye Contact

Immediately flush eyes with room temperature water for at least 15 minutes, occasionally lifting the lower and upper lids. Consult an ophthalmologist without delay.

5. FIRE FIGHTING MEASURES

	Propane	Butane	Ethane	Propylene
Flash Point	-156°F	-76° F	-202° F	-162° F
Flammable Limits (% By Vol.)				
Lower Explosive Limit (LEL)	2.1	1.9	3	2
Upper Explosive Limit (UEL)	9.5	8.5	12	11
Auto-ignition Temperature	480°C	405° C	515° C	497° C

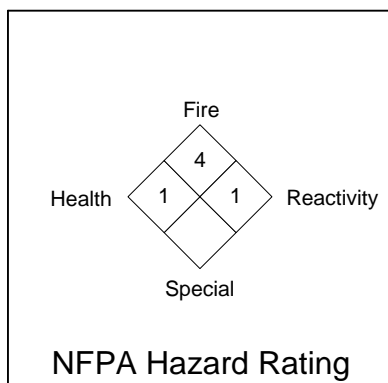
Fire Fighting Procedures/Fire Extinguishing Media

Propane/propylene is highly flammable and explosive and dangerous when exposed to heat or flame. Keep unnecessary people away; isolate hazard area and deny entry. Avoid breathing vapors, stay upwind. Do not enter fire area without structural firefighters' protective equipment including NIOSH approved self-contained breathing apparatus in positive pressure mode. Use water spray to knock down vapors. Use carbon dioxide extinguishers or dry powder for small fires. Large fires are best controlled by alcohol foam, fog, and water spray. Use water spray to cool containers exposed to propane/propylene mix fires. Stay away from ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Isolate for 1/2 mile in all directions if tank, rail car, or tank truck is involved in fire. Propane - water solutions containing more than 2.0 wt. % propane will flash at less than 38°C, and should be considered flammable.

5. FIRE FIGHTING MEASURES (continued)

Unusual Fire and Explosion Hazards

Highly dangerous fire hazard when exposed to heat, sparks, flame, or oxidants. Propane/propylene mix is extremely flammable and its vapors form explosive mixtures with air. Propane/propylene mix containers may explode in heat of fire. Vapors of this material are heavier than air, and may travel considerable distance to a source of ignition and flash back. Do not use a direct stream of water on propane/propylene mix fires, as direct water streams have a tendency to spread the fire. Water solutions of propane/propylene may still be flammable because of released vapors.



National Fire Protection Association Hazard Rating

- 4 = Extreme
- 3 = High
- 2 = Moderate
- 1 = Slight
- 0 = Insignificant

6. ACCIDENTAL RELEASE MEASURES

Shut off all ignition sources. No smoking or flares allowed in the spill area. Restrict access to the spill area, and move unprotected personnel upwind of the area. Allow only trained personnel wearing appropriate protective clothing and self-contained breathing apparatus in the vicinity of the spill. Remove all oxidizing agents. Stop flow of gas. If the leak cannot be stopped in place, remove the leaking cylinder to a safe place in the open air, repair leak or allow the cylinder to empty. Dispose spill material in accordance with federal, state, and local regulations.

7. HANDLING AND STORAGE

Store in a well-ventilated place, away from sources of ignition and direct sunlight and in accordance with 29 CFR 1910.106. Propane/propylene mix should be stored in containers made from nonflammable materials. Store away from plastics, oxidizing materials, mineral acids, and chloroform. Store propane/propylene mix in an area equipped with automatic sprinklers or fire extinguishing system. All storage and transfer equipment should be electrically grounded and bonded to prevent possible ignition from static sparks. Use spark resistant equipment to store propane/propylene mix. Do not use air pressure to unload this chemical from containers. Containers of this material may be hazardous when empty. Since emptied containers retain product residues, assume emptied containers to have the same hazards as full containers. Wear appropriate protective equipment when handling propane/propylene mix. Follow all federal, state, and local regulations as well as all insurance codes when storing and handling propane/propylene mix.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection

Use appropriate NIOSH approved respirators in accordance with 29 CFR 1910.132 and 1910.134, to prevent overexposure. Respirators must be selected based on the airborne levels found in the workplace and must not exceed the working limits of the respirator.

Ventilation

Provide local ventilation to maintain exposure levels below recommended exposure limits, and to prevent accumulation of propane in explosive levels. Use explosion proof ventilation equipment. Local exhaust ventilation should comply with OSHA regulations and the American Conference of Governmental Industrial Hygienists, Industrial Ventilation - A Manual of Recommended Practice.

Eye Protection

Use splash proof chemical safety goggles. Follow the eye and face protection guidelines of 29 CFR 1910.132 and 1910.133. Where there is any possibility that individuals' eyes may be exposed to propane/propylene mix, an eye wash fountain (in accordance with 29 CFR 1910.151) should be within the immediate work area for emergency use.

Protective Gloves

Choose gloves in accordance with 29 CFR 1910.132.

Exposure Guidelines

OSHA-PEL (8-hr TWA) for propane is 1000 ppm.
The ACGIH-TLV (8-hr TWA) for propane is 2500 ppm.

Other

Where there is a possibility of exposure of an individual's body to propane/propylene mix, facilities for quick drenching of the body should be provided (in accordance with 29 CFR 1910.151) within the immediate work area for emergency use. Such individuals should be provided with and required to use impervious clothing in accordance with 29 CFR 1910.132.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless gas
Odor	Odorless
Molecular Weight	Mixture
Boiling Point	Mixture
Freezing Point	Mixture
Solubility	Slightly soluble
Specific Gravity (Water = 1.0)	Not applicable
Vapor Density (Air = 1.0)	2
Vapor Pressure	@ 100° F 226 psig
pH	Not applicable

10. STABILITY AND REACTIVITY

Stability

Stable

Polymerization

Will not occur

Hazardous Decomposition Products

Combustion yields carbon dioxide and carbon monoxide

Incompatible Materials

Acids and strong oxidizing materials

11. TOXICOLOGICAL INFORMATION

Animal Toxicity**Propane:**

In an early study, guinea pigs were exposed to propane at concentrations from 2.4% (24,000 ppm) to 2.9% (29,000 ppm) and 4.7% (47,000 ppm) to 5.5% (55,000 ppm) by volume for periods of 5 minutes, 30 minutes, or 1 to 2 hours. Each animal was examined upon removal from the test chamber. At the lower concentration, the first sign noted was irregular breathing. At the higher concentration, tremors were seen during the first 5 minutes; nausea, retching, ataxia and narcosis were observed during the longer periods of exposure. All animals recovered and no effects were found at necropsy.

Propylene:

Propylene was administered by inhalation, 7 hours daily, 5 days weekly, at a concentration of 5000, 1000, 200 and 0 ppm, to Sprague-Dawley rats and Swiss mice. Groups of 120 male and 120 female rats (high-dose and controls) or 100 male and 100 female rats (med-and low-dose) were treated for 104 weeks, and groups of 100 male and 100 female mice (each dose and controls) for 78 weeks. The animals were kept under observation until spontaneous death. Under the tested experimental conditions, the monomer was not shown to be carcinogenic.

12. ECOLOGICAL INFORMATION

Environmental Fate: The following information on propane is extracted from the TOXNET database maintained by the National Library of Medicine.

Propane:

Atmosphere: Based on a vapor pressure of 7162 mm Hg at 25 deg C, propane is expected to exist entirely in the vapor phase in ambient air. Propane gas does not absorb UV light in the environmentally significant range, >290 nm and should not undergo direct photolysis in the atmosphere. Vapor phase reactions with photo-chemically produced hydroxyl radicals in the atmosphere have been shown to occur.

Terrestrial: Photolysis or hydrolysis of propane gas is not expected to be important in soils. The biodegradation of propane may occur in soils; however, primarily volatilization is expected to be the dominant fate process. To a lesser extent, adsorption may occur. A calculated Koc range of 450 to 460 indicates a medium mobility class for propane in soils. Based upon an estimated Henry's Law constant of 7.07×10^{-1} atm-cu m/mole at 25 deg C, propane is expected to rapidly volatilize from most surface soils.

Aquatic: Photolysis or hydrolysis of propane gas in aquatic systems is not expected to be important. The bioconcentration factor (log BCF) for propane has been estimated to range from 1.56 to 1.78 suggesting bioconcentration is not an important factor in aquatic systems. Biodegradation of propane may occur in aquatic environments; however, volatilization is expected to be the dominant fate process. To a lesser extent, adsorption may occur. An estimated range for Koc from 450 to 460 indicates propane may partition from the water column to organic matter contained in sediments and suspended materials. An estimated Henry's Law constant of 7.07×10^{-1} atm-cu m/mole at 25 deg C suggests extremely rapid volatilization of propane from environmental waters.

Biodegradation: Propane is utilized by *Microbacterium vaccae*, and is readily degraded by soil bacteria.

Ecotoxicity: Based upon a water solubility of 62.4 ppm at 25 deg C and a log Kow of 2.36, the bioconcentration factor (log BCF) for propane has been calculated, using recommended regression derived equations, to be 1.56 and 1.78, respectively. These bioconcentration factor values do not indicate that bioconcentration in aquatic organisms is important.

Propylene:

Atmosphere: If released to the atmosphere, propylene will exist in the vapor-phase. Vapor-phase propylene may be degraded by ozone (half-life of 24 hr), nitrate radicals (half-life of 4 days), or photochemically produced hydroxyl radicals (estimated half-life of 14.6 hr).

Terrestrial/Aquatic: Hydrolysis and adsorption are not expected to be important fate processes of propylene in soil or aquatic ecosystems. In soil and water, propylene may oxidize to its corresponding 1,2-epoxide. The high vapor pressure suggests that the gas may permeate through soil and sediment. Volatilization is expected to be the primary environmental fate process in soil and water. Volatilization half-lives from a model river and a model environmental pond have been estimated to be 1.9 and 23 hr, respectively. The most probable route of human exposure to propylene is by inhalation of contaminated air.

Biodegradation: Biodegradation is not expected to be an important fate process of propylene in soil or aquatic systems.

Ecotoxicity: Bioconcentration is not expected to be an important fate process of propylene in soil or aquatic systems.

13. DISPOSAL CONSIDERATIONS

Waste Management Information: Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agencies for specific rules).

14. TRANSPORTATION INFORMATION

Proper Shipping Name	Liquefied Petroleum Gas
DOT Hazard Class	2.1
DOT Shipping ID No.	UN 1075
DOT Labeling	Flammable Gas
PG	N/A
Placard	Flammable Gas

15. REGULATORY INFORMATION

SARA Title III

Title III Section 302 and 304 of the Act; Extremely Hazardous Substances (40 CFR 355)

COMPONENT	CAS No.	TPQ (lbs.)	RQ (lbs.)
None	Not Applicable	Not Applicable	Not Applicable

Note: TPQ - Threshold Planning Quantity RQ - Reportable Quantity

Specific state and locality regulations regarding reportable quantities should be reviewed prior to chemical use, as they may differ from the federal reportable quantity requirement as stated above.

Section 311 Hazard Categorization (40 CFR 370)

ACUTE	CHRONIC	FIRE	PRESSURE	REACTIVE
X		X	X	

Section 313 Toxic Chemicals (40 CFR 372.65)

COMPONENT	CAS No.	WT. %
None	Not Applicable	Not Applicable

CERCLA

CERCLA Section 102(a) Hazardous Substances (40 CFR 302.4)

COMPONENT	CAS No.	WT. %
None	Not Applicable	Not Applicable

15. REGULATORY INFORMATION (continued)

TSCA

All applicable components of this mixture are listed on the TSCA inventory.

Canadian Environmental Protection Act (CEPA)

All substances in this product are listed on the Canadian Domestic Substances (DSL) list or are not required to be listed.

Canada Regulations (WHMIS)

This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33 and the MSDS contains all information required by this regulation. Class B1 – Flammable Gas

16. OTHER INFORMATION

IMPORTANT: The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. **GEORGIA GULF MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE ACCURACY OR COMPLETENESS OF THE INFORMATION AND DATA HEREIN.** Georgia Gulf will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading. This information relates to the material designated and may not be valid for such material used in combination with any other materials nor in any process.

MSDS Status: Revision Date: 2/28/2008

Supersedes: 6/10/2004