SAFETY DATA SHEET **ODORIZED PROPANE**

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

GHS Product Identifier:	**Propane**
Product Name:	Odorized Propane
Synonyms:	Dimethyl methane, LP-Gas, liquefied petroleum gas (LPG), propane, propyl hydridic, n-Propane, bottled gas, propane in gaseous state, propane liquefied, dimethylmethane, Freon 290, propyl hydride, R 290, C3H8, UN 1075, A-108, hydrocarbon propellant
SDS Number:	**169570**
Product Use:	Fuel
Restrictions on Use:	Not available
Supplier Name & Address:	Penn Valley Gas Inc., 3000 Meetinghouse Road, Telford, PA 18969
Emergency Number:	800-223-4266
For Routine Info Call:	800-223-4266
Date of Preparation of SDS:	May 15, 2015

2. HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification of the substance or mixture:	Flammable gas Category 1 Gas under pressure, Liquefied gas

GHS Label Elements

Hazard Pictograms:

Explosive

Compressed Gases

Signal Word:	Danger
Hazard Statements:	Extremely flammable gas Contains gas under pressure; may explode if heated May displace oxygen and cause rapid suffocation May cause frostbite.

Precautionary Statements

Prevention:	Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection.
Response:	IF ON SKIN (or hair): Take off all contaminated clothing immediately. Rinse skin with water/shower. In case of fire: Use appropriate extinguishing media for surrounding fire to extinguish.

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

Storage: Store in a well-ventilated place. Keep cool. Protect from sunlight.

Hazards Not Otherwise Classified: Not applicable

Ingredients with Unknown Toxicity: None

Potential Health Effects: See Section 11 for more information.

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

Medical Conditions Aggravated By Exposure: Not available

Target Organs: Skin. Eyes. Respiratory system. Blood. Liver. Kidneys. Nervous system.

Potential Environmental Effects: See Section 12 for more information.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component(s)/Ingredient(s)	Common name/Synonyms	CAS No.	Wt. %
Propane	Not available	74-98-6	100
Ethanethiol	Ethyl mercaptan	75-08-1	<0.1

Impurities/Stabilizing additives: None known

4. FIRST AID MEASURES

Inhalation: Remove person to fresh air. If breathing has stopped apply artificial respiration. If signs-symptoms develop, get medical attention. **Acute and delayed symptoms and effects:** This product is an asphyxiant gas that can cause unconsciousness and/or death if oxygen levels are sufficiently reduced. May cause respiratory tract irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Eye Contact: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. Flush eyes with plenty of warm water for at least 15 minutes. Get medical attention immediately. **Acute and delayed symptoms and effects:** Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. The pain after contact with liquid can quickly subside. Permanent eye damage or blindness could result.

Skin contact: 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. Get medical attention immediately. **Acute and delayed 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.

Ingestion: Not a normal route of exposure. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately. **Acute and delayed effects:** Not a normal route of exposure.

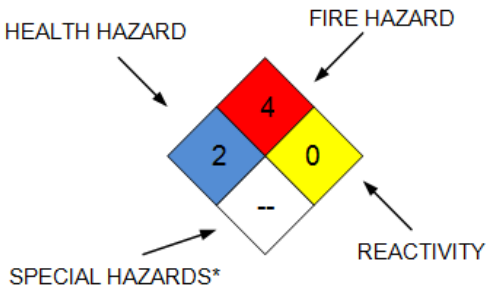
General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

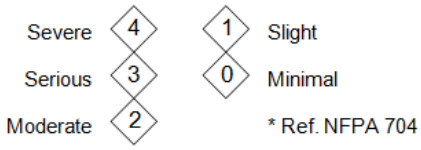
Note to Physicians: Symptoms may not appear immediately.

5. FIRE-FIGHTING MEASURES

NATIONAL FIRE PROTECTION ASSOCIATION LABEL:

Health: 2 **Flammability:** 4 **Instability:** 0





Flammability: Extremely flammable gas. Cool containing vessels with water jet in order to prevent pressure build-up, auto-ignition, or explosion. May be ignited by contact with heat, sparks, or open flame. Gas may accumulate in confined spaces. Gas can travel considerable distances to ignition sources and case a flash fire.

Means of Extinction

Suitable Extinguishing Media: Use appropriate extinguishing media for surrounding fire.

Unsuitable Extinguishing Media: Not available.

Product of Combustion: Oxides of carbon. Oxides of sulphur.

Protection of Firefighters: Do not extinguish fire if source of gas cannot be safely turned off. If flames are accidentally extinguished explosive re-ignition may occur if ignition sources are not controlled. Be alert to container rupture potential if tanks are involved in a fire. Keep upwind of fire. Wear full fire-fighting turn-out gear (full Bunker gear) and self-contained breathing apparatus.

Explosion Data

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

Sensitivity to Static Discharge: This material is sensitive to static discharge.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Evacuate all unnecessary personnel. Stay upwind. Eliminate all ignition sources. Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental Precautions: Prevent spreading of vapors through sewers, ventilation systems, and confined areas.

Methods for Containment: Control release of gas if without risk.

Methods for Clean-Up: Isolate area until gas has dispersed.

Other Information: Dispose of in accordance with all federal, state, and local regulations. Comply with federal, state, and local requirements for spill and/or release notification.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. All equipment used when handling the product must be grounded. Wash hands before eating, drinking, or smoking. See Section 8 for information on Personal Protective Equipment.

Storage: Store in a cool, dry, well-ventilated area away from incompatible materials, heat, and sources of ignition. All storage containers and pumping equipment should be grounded. Keep out of reach of children. See Section 10 for information on Incompatible Materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines:

Component	CAS No.	ACGIH	OSHA
Propane	74-98-6	1000 ppm, (TWA); (2001)	1000 ppm (TWA), 1800 mg/m^3 (TWA)
Ethyl mercaptan	75-08-1	0.5 ppm (TWA); (2003)	10 ppm (C), 25 mg/m^3 (C) 0.5 ppm (TWA) [Vacated]

PEL: Perishable 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, vapor, gas, etc.) below recommended exposure limits. Use explosion-proof ventilation equipment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye/Face Protection: Safety glasses are recommended.

Skin and Body Protection: Wear impervious gloves. Consult manufacturer's specifications for further information.

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 or self-contained breathing apparatus must be used. Supplied are 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquefied gas

Color: Colorless

Odor: No distinct odor (or skunk/rotten egg odor if mercaptan added)

Odor Threshold: Not available

Physical State: Gas

pH: Not available

Viscosity: Not available

Melting Point/Freezing Point: -309° F / -189° C

Initial Boiling Point: Not available

Boiling Point: -44° F / -42° C

Flash Point: -156° F / -104.4° C (closed cup)

Evaporation Rate: Not available

Lower Flammability Limit: 2.1%

Upper Flammability Limit: 9.5%

Flammability (solid, gas):	Extremely flammable gas
Vapor Pressure:	208 psia (Reid VP) @ 100° F / 37.8° C
Specific Gravity:	0.50 – 0.51 @ 60° F (water = 1)
Density:	Not available
Solubility in Water:	Insoluble
Other Solubilities:	Not available
Partition Coefficient: (n-octanol/water) (Kow)	Not available
Coefficient of Water/Oil Distribution:	Not available
Auto-ignition Temperature:	842° F / 449.9° C
Decomposition Temperature:	Not available
Percent Volatile, wt. %:	Not available
VOC content, wt. %:	Not available

10. STABILITY AND REACTIVITY

Reactivity:	Contact with incompatible materials. Sources of ignition.
Chemical Stability:	Stable under normal storage conditions.
Possibility of Hazardous Reactions:	None known.
Conditions to Avoid:	Contact with incompatible materials. Sources of ignition.
Incompatible Materials:	Strong acids. Strong bases. Oxidizers.
Hazardous Decomposition Products:	Oxides of carbon. Oxides of sulphur. Hydrogen sulphide.

11. TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD50 oral	LD50 dermal	LC50
Propane	74-98-6	Not available	Not available	Not available
Ethyl mercaptan	75-08-1	682 ppm (rat)	Not available	2770 ppm, (mouse), 4H

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

Symptoms (including delayed and immediate effects)

Inhalation: This product is an asphyxiant gas that can cause unconsciousness and/or death if oxygen levels are sufficiently reduced. May cause respiratory tract irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

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

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.

Ingestion: Not a normal route of exposure.

Skin Sensitization: Not hazardous by OSHA criteria.

Respiratory Sensitization: Not hazardous by OSHA criteria.

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

Target Organs: Skin. Eyes. Respiratory system. Blood. Liver. Kidneys. Nervous system.

Chronic Effects: Not available

Carcinogenicity: Not hazardous by OSHA criteria.

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Propane	Not listed	Not listed	Not listed	Not listed	Not listed
Ethyl mercaptan	Not listed	Not listed	Not listed	Not listed	Not listed

Mutangenicity: Not hazardous by OSHA criteria.

Reproductive Effects: Not hazardous by OSHA criteria.

Developmental Effects

Teratogenicity: Not hazardous by OSHA criteria.

Embryotoxicity: Not hazardous by OSHA criteria.

Toxicologically Synergistic Materials: Not available

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available

Persistence/Degradability: Not available

Bioaccumlation/Accumulation: Not available

Mobility in Soil: Not available

Other Adverse Effects: Not available

13. DISPOSAL CONSIDERATIONS

Disposal Instructions: This material is a gas and would not typically be managed as a waste. Do not attempt to dispose of residual or unused product in the container. Return to supplier for safe disposal.

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.

Residual product within process system may be burned at a controlled rate, if a suitable burning unit (flare stack) is available on site. This shall be done in accordance with federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name: UN1075, PROPANE, 2.1

Class: 2.1 (Flammable Gas)

UN Number: UN1075

Packing Group: Not applicable.

Label Code:

Special Shipping Information: Container should be transported in a secure, upright position in a well-ventilated vehicle.

15. REGULATORY INFORMATION

CERCLA/SARA – Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA – Section 311/312 (Title III Hazard Categories):

Acute Health: Yes

Chronic Health: No

Fire Hazard: Yes

Pressure Hazard: Yes

Reactive Hazard: No

CERCLA/SARA – Section 313 and 40 CFR 372:
This material contains the following chemicals subject to the reporting requirements of Section 313 and SARA Title III and 40 CFR 372:

Chemical Name	Concentration	de minim's
Propylene, propene	<20	1.0%

EPA (CERCLA) Reportable Quantity (in pounds):
EPA's Petroleum Exclusion applies to this material – CERCLA 101(14)).

California Proposition 65:
WARNING: Chemicals knows to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of propane.

International Hazard Classification

Canada

Canadian Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

WHMIS Hazard Class:
A – Compressed Gas
B1 – Flammable Gases

National Chemical Inventories
All components are either listed on the US TSCA Inventory or are not regulated under TSCA.
All components are either on the DSL or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

16. OTHER INFORMATION

Guide to Abbreviations:
ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; LC = Lethal Concentration; LD = Lethal Dosage; MSHA = Mine Safety and Health Administration; NFPA = National Fire Protection Association; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TPQ = Threshold Planning Quantity; TWA = Time-Weighted Average (8 hours); WHMIS = Worker Hazardous Materials Information System (Canada)

NFPA 58 *Standard for the Storage and Handling of Liquefied Petroleum Gases* and OSHA 29 CFR 1910.10 require that all persons employed in handling LP gases be trained in proper handling and operating procedures, which the employer shall document. Contact your propane supplier to arrange for the required training. Allow only trained and qualified persons to install and service propane containers and systems.

WARNING: Be aware that with odorized propane the intensity of ethyl mercaptan stench (its odor) may fade due to chemical oxidation (in the presence of rust, air, or moisture), adsorption, or absorption. Some people have nasal perception problems and may not be able to smell the ethyl mercaptan stench. Leaking propane from underground gas lines may lose its odor as it passes through certain soils. While ethyl mercaptan may not impart the warning of the presence of propane in every instance, it is generally effective in a majority of situations. Familiarize yourself, your employees and customers with this warning, and other facts associated with the so-called "odor-fade" phenomenon. If you do not already know all the facts, contact your propane supplier for more information about odor, electronic gas alarms, and other safety considerations associated with the handling, storage, and use of propane.

ISSUE INFORMATION

The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from the abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the sustainability of the product for the particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.