


**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Code:** XXXXX  
**Product Name:** Propane HD-5 Odorized

**Company Name:** Gas Innovations  
 18005 E. Hwy 225  
 La Porte, TX 77571

**Web site address:** www.gasinnovations.com      **Phone Number:** +1 (281)471-2200  
**Emergency Contact:** 3E (within United States)      +1 (866)303-2640  
**Information:** Infotrac (outside of United States)      +1 (352)323-3500

**2. HAZARDS IDENTIFICATION**

<b>Flammable Gases:</b>	<b>Flam. Gas 1 H220</b>
<b>Gas Under Pressure:</b>	<b>Liquified gas H280</b>
<b>Germ Cell Mutagenicity:</b>	Category 1B
<b>Carcinogenicity:</b>	Category 1A
<b>Specific Target Organ Toxicity - Single Exposure</b>	Category 3 (Central nervous system)
<b>Symbol:</b>	
<b>GHS Signal Word:</b>	<b>Danger</b>
<b>GHS Hazard Phrases:</b>	H220 - Extremely flammable gas. H280 - Contains gas under pressure; may explode if heated. H281 – May cause cryogenic burns or injury
<b>GHS Precaution Phrases:</b>	P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P282 - Wear cold insulating gloves/face shield/eye protection P315 - Get immediate medical advice and attention P336 - Thaw frosted parts with lukewarm water. Do no rub affected area P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely P381 - Eliminate all ignition sources if safe to do so P403 - Store in a well-ventilated place
<b>GHS Response Phrases:</b>	P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381 - Eliminate all ignition sources if safe to do so. P302 - IF ON SKIN: Thaw frosted parts with lukewarm water. Do not rub affected area, Get immediate medical advice/attention. P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
<b>Other hazards not contributing to the classification</b>	Warning – May displace oxygen and cause rapid suffocation
<b>Unknown acute toxicity (GHS-US)</b>	No data available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substance**

Not applicable

**Full text of H-phase:** See section 16

**3.2 Mixture**

Name	Product identifier	%	GHS-US classification
Propane	(CAS No) 74-98-6	90-95	Flam. Gas 1 H220, Compressed gas, H280
Ethane	(CAS No) 74-84-0	< 6	Flam. Gas 1 H220, Compressed gas, H280
Propene, propylene	(CAS No) 115-07-1	< 1.5	Not classified
Isobutane	(CAS No) 75-28-5	<1	Not classified
Ethanethiol, ethyl mercaptan	(CAS No) 75-08-1	<1	Not classified

**4. FIRST AID MEASURES****4.1. Description of first aid measures**

First-aid measures after inhalation	Call 911 or emergency medical service. If not breathing, give artificial respiration. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
First-aid measures after skin contact	In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
First-aid measures after eye contact	Seek medical attention immediately. Contact with the liquid may cause frostbite and serious damage to eyes. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart.
First-aid measures after ingestion	Rinse mouth. Do NOT induce vomiting. Vomiting: prevent asphyxia/aspiration pneumonia. Obtain emergency medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**

Symptoms/injuries after inhalation	Cough. Shortness of breath.
Symptoms/injuries after skin contact	May cause frostbite.
Symptoms/injuries after eye contact	May cause frostbite
Symptoms/injuries after ingestion	This product is a compressed gas; hence oral exposure and resulting acute toxicity are unlikely.

**4.3. Indication of any immediate medical attention and special treatment needed**

Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias (irregular beating) in persons exposed to this material.

**5. FIRE FIGHTING MEASURES****5.1 Extinguishing Media**

Suitable extinguishing media	Class B fire extinguisher; carbon dioxide; multipurpose dry chemical, water fog or alcohol resistant foam.
Unsuitable extinguishing media	Do not use a heavy water stream.

**5.2 Special hazards arising from the substance or mixture**

Fire hazard	Extremely flammable gas. Not flammable.
Explosion hazard	May form flammable/explosive vapor-air mixture. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

**5.3 Advice for firefighters**

Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.
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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Advice for firefighters

General measures	Remove ignition sources. Use special care to avoid static electric charges. Eliminate every possible source of ignition. No naked lights. No smoking. Isolate from fire, if possible, without unnecessary risk.
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#### 6.1.1 For emergency responders

Emergency procedures	Evacuate unnecessary personnel.
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#### 6.1.2 For non-emergency personnel

Protective equipment	Equip cleanup crew with proper protection.
Emergency procedures	Ventilate area.

### 6.2 Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3 Methods and material for containment and cleaning up

For containment	Call Emergency Telephone Number(s) provided in Section 1. 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. Keep out of low areas. Ventilate closed spaces before entering
Methods for cleaning up	Store away from other materials.

### 6.4 Reference to other sections

See Heading 8. Exposure controls and personal protection.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Additional hazards when processed	Handle empty containers with care because residual vapors are flammable. Flammable gas. Hazardous waste due to potential risk of explosion.
Precautions for safe handling	Use only with adequate ventilation. Wear appropriate personal protective equipment and use exposure controls. Avoid all contact with skin and eyes. Avoid breathing product dust or vapors. Use explosion-proof electrical (ventillating, lighting and material handling) equipment. Do not reuse container. Remove contaminated clothing immediately. Wash with soap and water after working with this product.
Hygiene measures	Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2 Conditions for safe storage, including any incompatibilities

Technical measures	Proper grounding procedures to avoid static electricity should be followed.
Storage conditions	Keep only in the original container in a cool, well ventilated place away from : all heat sources, direct sunlight, where freezing is possible, incompatible materials, and away from oxygen cylinders or other oxidizers by a minimum distance of 20 feet, or by a barrier of non-combustible material at least 5 feet high having a fire rating of at least 1/2 hour. Store in the original container or an approved alternative made from compatible material. Do not store in unlabeled containers. Treat empty containers in a similar fashion as residual product may exist. Keep container closed when not in use. Keep in fireproof place.
Incompatible products	Strong bases. Strong acids.

Incompatible products	Sources of ignition. Direct sunlight. Heat sources.
Storage temperature	<= 50 °C
Storage area	Store in a well-ventilated place.

### 7.3 Specific end use(s)

No additional information available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Propane (74-98-6)		
USA ACGIH	Remark (ACGIH)	URT irr; CNS impair
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
USA OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (Ceiling) (ppm)	10 ppm

Ethyl Mercaptan (75-08-1)		
USA ACGIH	ACGIH TWA (ppm)	0.50 ppm

### 8.2 Exposure Control

Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Ensure exposure is below occupational exposure limits (where available).
Personal protective equipment	Self-contained breathing apparatus if conc. in air > 1000 ppm. Gloves. Protective clothing. Protective goggles.
Materials for protective clothing	Long sleeve shirt and long pants or coveralls. Consider wearing butyl rubber apron or outerwear where splashing may occur. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
Hand protection	Any impervious gloves including butyl rubber, nitrile rubber or neoprene rubber.
Eye protection	Employees should be provided with and required to use splash-proof safety goggles and splash shields where there is any possibility of product coming in contact with the eyes. Ensure that an eye wash station is operable and nearby.
Skin and body protection	Nitrile rubber gloves. Wear suitable protective clothing.
Respiratory protection	Depending on airborne concentration, a full-face supplied air respirator is recommended because air purifying respirators cannot provide adequate protection.
Other information	Do not eat, drink or smoke during use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Physical State:	<input checked="" type="checkbox"/> Gas <input type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	Colorless & distinctive odor due to the addition of ethyl mercaptan
Odor threshold	Not Established
pH	Not Applicable
Relative evaporation rate (butylacetate=1)	Not Established
Relative evaporation rate (ether=1)	Not Established
Melting point	Not Established
Freezing point	-190 °C (-309°F)
Boiling point	-42 °C (-44°F)
Flash point	-104 °C (-155°F); Closed Cup.
Self ignition temperature	No data available

Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapor pressure	Not Established
Relative vapor density at 20 °C	1.6 at 101 kPa
Relative density	No data available
Density	4.17 at 16°C (61°F)
Solubility	Insoluble.
Log Pow	No data available
Log Kow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

## 9.2 Other Information

No additional information available

## 10. STABILITY AND REACTIVITY

Reactivity	No additional information available
Chemical stability	This product is anticipated to be stable under normal ambient storage and handling conditions of temperature and pressure.
Possibility of hazardous reaction	Not established
Conditions to avoid	Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks
Incompatible materials	Oxidizing agent. chlorine. fluorine. bromine and metal catalysts.
Hazardous decomposition products	Products of thermal decomposition include sulfur oxides, carbon oxides and nitrogen oxides.

## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

Acute toxicity	Not classified
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<b>Propane (74-98-6)</b>	
LD50 oral rat	NE
LD50 dermal rabbit	NE
LC50 inhalation rat (mg/l)	658 mg/l/4h
Additional information	This product is non-toxic and is a simple asphyxiant; however, it does have slight anesthetic properties and higher concentrations may cause dizziness.

<b>Ethanethiol, ethyl mercaptan (75-08-1)</b>	
ATE (gases)	4500.000 ppmV/4h
ATE (vapors)	11.000 mg/l/4h
ATE (dust,mist)	1.500 mg/l/4h

Skin corrosion / irritation	Not classified
pH	Not Applicable
Serious eye damage / irritation	Not classified
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified (Not listed by NTP, OSHA, or IARC)

Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified

<b>Propane HD-5 Odorized (74-98-6)</b>	
Additional information	Exposure may have adverse health effects.

Specific target organ toxicity (repeated exposure) : Not classified

<b>Propane HD-5 Odorized (74-98-6)</b>	
Additional information	Repeated exposure may cause frostbite injuries, respiratory, and central nervous system effects, depending on routes of exposure
Specific target organ toxicity (repeated exposure)	Not classified

Aspiration hazard	Not classified
Potential adverse human health effects and symptoms	Based on available data, classification criteria are not met
Symptoms/injuries after inhalation	Cough, shortness of breath
Symptoms/injuries after skin contact	May cause frostbite
Symptoms/injuries after eye contact	May cause frostbite
Symptoms/injuries after ingestion	This product is a compressed gas; hence oral exposure and resulting acute toxicity are unlikely.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Ecology – general	This product has no known eco-toxicological effects.
Ecology - water	This product is not expected to be harmful to aquatic life.

### 12.2 Persistence and degradability

<b>Propane HD-5 Odorized (74-98-6)</b>	
Persistence and degradability	Readily biodegradable.

### 12.3 Bioaccumulative potential

<b>Propane HD-5 Odorized (74-98-6)</b>	
Bioconcentration factor (BCF REACH)	log BCF is about 1.56-1.78; therefore the product is not expected to accumulate.
Bioaccumulative potential	No ecological damage caused by this product.

<b>12.4 Mobility in soil</b>	No additional information available
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<b>12.5 Other adverse effects</b>	
Other adverse effects	Any other adverse environmental effects, in any form, such as environmental fate (exposure), ozone depletion potential, photochemical ozone creation potential, endocrine disrupting potential, and global warming potential are indicated in this section if data exists. Otherwise, this data has not been established.
Other information	Avoid release to the environment.


## 13. DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods**

Waste disposal recommendations	It is recommended that this product, in any form, be incinerated in a suitable combustion chamber for disposal. Empty containers should be disposed of in a similar fashion due to presence of product residue. Follow applicable Federal, state and local regulations.
Additional information	Handle empty containers with care because residual vapors are flammable. Hazardous waste due to potential risk of explosion.
Ecology - waste materials	Avoid release to the environment.

**14. TRANSPORT INFORMATION**

In accordance with DOT

Transport document description	UN1075 Petroleum gases, liquefied or Liquefied petroleum gas, 2.1
UN-No.(DOT)	UN1075
Proper Shipping Name (DOT)	Petroleum gases, liquefied or Liquefied petroleum gas
Department of Transportation (DOT) Hazard Classes	2.1 - Class 2.1 - Flammable gas 49 CFR 173.115
Hazard labels (DOT)	2.1 – Flammable gas 
DOT Special Provisions (49 CFR 172.102)	T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	306
DOT Packaging Non Bulk (49 CFR 173.xxx)	304
DOT Packaging Bulk (49 CFR 173.xxx)	314;315
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	Forbidden
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	150 kg
DOT Vessel Stowage Location	E - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.
DOT Vessel Stowage Other	40 - Stow “clear of living quarters”
Marine pollutant	Not Listed

<b>Additional Information</b>	
Other information	No supplementary information available.

<b>ADR</b>	
Transport document description	No additional information available
<b>Transport by sea</b>	No additional information available
<b>Air Transport</b>	
Class (IATA)	2.1 - Gases: Flammable

**15. REGULATORY INFORMATION**

**15.1. US Federal regulations**

<b>Propane HD-5 Odorized (74-98-6)</b>	
EPA TSCA Regulatory Flag	This product is listed on the TSCA inventory or otherwise complies with TSCA premanufacture notification requirements
SARA Section 311/312 Hazard Classes	Fire hazard, Immediate (acute) health hazard, Sudden release of pressure hazard

<b>Ethane (74-84-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

**15.2. International regulations**

<b>CANADA</b>	No additional information available
<b>EU-Regulations</b>	No additional information available
<b>Classification according to Regulation (EC) No.</b>	1272/2008 [CLP] Classification according to Directive
<b>67/548/EEC or 1999/45/EC</b>	Not classified
<b>National regulations</b>	No additional information available

**15.3. US State regulations**

U.S. - California - Aerosol Coating Product Emissions - Maximum Incremental Reactivity (MIR) Values U.S. - California - Occupational Exposure Limits - PELs U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min) U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr) U.S. - Connecticut - Occupational Exposure Limits - TWAs U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities U.S. - Delaware - Pollutant Discharge Requirements -	U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2 U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1 U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Cat 2 U.S. - Massachusetts - Right To Know List U.S. - Michigan - Occupational Exposure Limits - TWAs U.S. - Minnesota - Hazardous	U.S. - Nevada - Hazardous Materials - Threshold Quantities U.S. - Nevada - Hazardous Materials - Two Release Quantities U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances U.S. - New Jersey - Environmental Hazardous Substances List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New Jersey - Special Health Hazards Substances List U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS) U.S. - New York - Occupational Exposure Limits - TWAs U.S. - Ohio - Accidental Release
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Reportable Quantities U.S. - Idaho - Occupational Exposure Limits - TWAs U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1 U.S. - Tennessee - Occupational Exposure Limits - TWAs U.S. - Texas - Effects Screening Levels - Long Term	Substance List U.S. - Minnesota - Permissible Exposure Limits - TWAs U.S. - Nevada - Hazardous Materials Classification of Endpoints U.S. - Texas - Effects Screening Levels - Short Term U.S. - Vermont - Permissible Exposure Limits - TWAs	Prevention -Threshold Quantities U.S. - Oregon - Permissible Exposure Limits - TWAs U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Washington - Permissible Exposure Limits - STELs U.S. - Washington - Permissible Exposure Limits - TWAs
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**16. OTHER INFORMATION**

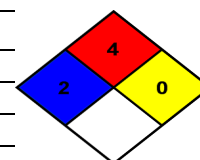
<b>Revision Date:</b>	7/1/2023
Data sources	ChemADVISOR, Inc.[ <a href="https://www.chemadvisor.com">https://www.chemadvisor.com</a> ]
<b>Additional Information About This Product:</b>	No data available.

**Full text of H-phrases: see section 16:**

Compressed gas	Gases under pressure Compressed gas
Flam. Gas 1	Flammable gases, Category 1
Refrigerated liquefied gas	Gases under pressure Refrigerated liquefied gas
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated
H281	Contains refrigerated gas; may cause cryogenic burns or injury

NFPA health hazard	2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given
NFPA fire hazard	4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.
NFPA reactivity	0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

<b>HMIS III Rating</b>	
Health	: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability	: 4 Severe Hazard
Physical	: 0 Minimal Hazard
Personal Protection	: H



<b>Company Policy or Disclaimer:</b>	The information, recommendations, and suggestions herein were compiled from reference material and other sources believed to be reliable. However, the SDS's accuracy or completeness is not guaranteed by Gas Innovations or its affiliates, nor is any responsibility assumed or implied for any loss or damage resulting from inaccuracies or omissions. Since conditions of use are beyond our control, no warranties of merchantability of fitness for a particular purpose are expressed or implied. This SDS is not intended as a license to operate under, or a recommendation to infringe on, any patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.
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