SAFETY DATA SHEET

Section 1. Identification

CHS Inc.
P.O. Box 64089
Mail station 525
St. Paul, MN 55164-0089

Transportation Emergency (CHEMTREC) : **1-800-424-9300**
Technical Information : **1-651-355-8443**
SDS Information : **1-651-355-8445**

Product name : PROPANE
Common name : Propane, Liquefied Petroleum Gas; LP Gas; HD-5 Propane; HD-10 Propane; Commercial Propane, Unordorized Propane, Odorized Propane.
Chemical name : Dimethylmethane
Chemical family : Paraffin Hydrocarbons

SDS no. : 0148-M7A0
Revision date : 03/13/2015
Chemical formula : C_3H_8

Relevant identified uses of the substance or mixture and uses advised against

Not available.

Section 2. Hazards identification

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

Classification of the substance or mixture : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Compressed gas

GHS label elements

Hazard pictograms :

Signal word : Danger

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

Precautionary statements

General : If medical advice is needed, have product container or label at hand.

Prevention : 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. Wear protective gloves/clothing and eye/face protection. Use personal protective equipment as required.

Response : Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

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

Disposal : Not applicable.

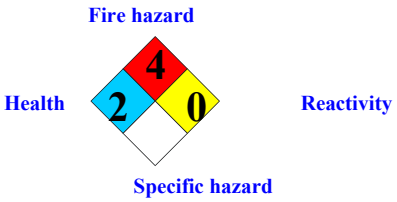
Hazards not otherwise classified (HNOC) : None known.

Hazardous Material Information System (U.S.A.)	**Health :**	1	**Flammability :**	4	**Physical hazards :**	2	
National Fire Protection Association (U.S.A.)	**Health :**	2	**Flammability :**	4	**Instability :**	0	

Hazardous Material Information System (U.S.A.)

Health	1
Fire hazard	4
Physical hazards:	2
Personal protection	

National Fire Protection Association (U.S.A.)



Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Chemical name : Dimethylmethane

Other means of identification : Propane, Liquefied Petroleum Gas; LP Gas; HD-5 Propane; HD-10 Propane; Commercial Propane, Unordorized Propane, Odorized Propane.

Ingredient name	%	CAS number
Propane	90 - 100	74-98-6
Ethyl Mercaptan	< 0.1	75-08-1
Potential impurties:		
Propene; Propylene	0 - 10	115-07-1
Butanes (n-Butane and iso-Butane)	0 - 5	106-97-8, 75-28-5
Ethane	0 - 8	74-84-0

Odorized products contain small quantities of ethyl mercaptan as an olfactory indicator.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : In case of liquid contact with eyes, flush eyes immediately with clear water for at least 15 minutes, occasionally lifting the upper and lower lids, until no evidence of chemical remains. Remove contact lenses if present and easy to do. Seek immediate medical attention.

Inhalation : If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If breathing difficulties develop, oxygen should be administered by qualified personnel. If victim is not breathing, clear airway and immediately begin artificial respiration. Seek immediate medical attention.

Skin contact : Frozen tissue should be flushed with plenty of tepid water. Do not use hot water. In case of blistering, frostbite, or freeze burns, seek immediate medical attention.

Ingestion : Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with cool water. Seek medical attention.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : The substance may cause effects on the central nervous system.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : Propane exhibits some degree of anesthetic action and is mildly irritating to the mucous membranes.

Inhalation : At high concentrations propane acts as a simple asphyxiant without other significant physiological effects. High concentrations may cause death due to oxygen depletion. Dizziness; confusion; excitation; asphyxia.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire. Do not extinguish gas fire unless the gas leak can be stopped.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.The gas is heavier than air and may flash back at a distance.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Methods and materials for containment and cleaning up

Spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Propane	**NIOSH REL (United States, 4/2013).** TWA: 1800 mg/m³ 10 hours. TWA: 1000 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.
Propene	**ACGIH TLV (United States, 3/2012).** TWA: 500 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Gas. [(liquid under pressure).]

Color : Colorless.

Odor : If odorized, will have rotten egg odor, otherwise odorless.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : -42.222°C (-44°F)

Flash point : Closed cup: -104.444°C (-156°F)

Flammability : Not available.

Lower and upper explosive (flammable) limits : Lower: 2.1%
Upper: 9.5%

Relative density : 0.5

Evaporation rate : Not available.

Solubility : Not available.

Solubility in water : Very slightly soluble.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : 467.778°C (874°F)

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not available.

Vapor pressure : 190 psia @ 100°F.

Vapor density : 1.5 [Air = 1]

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials and acids.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

There is no data available.

Irritation/Corrosion

Skin : There is no data available.

Eyes : There is no data available.

Respiratory : There is no data available.

Sensitization

Skin : There is no data available.

Respiratory : There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

Central nervous system (CNS)

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation.

Section 12. Ecological information

Toxicity

Liquid release is only expected to cause localized, non-persistent environmental damage, such as freezing.

Persistence and degradability

Biodegradation of this product may occur in soil and water. Volatilization is expected to be the most important removal process in soil and water. This product is expected to exist entirely in the vapor phase in ambient air.

Bioaccumulative potential

Not expected to bioaccumulate.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : There is no data available.

Other adverse effects : Other environmental hazards cannot be excluded in the event of unprofessional handling or disposal.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

DOT IDENTIFICATION NUMBER UN1075 **DOT proper shipping name** LIQUEFIED PETROLEUM GAS (Propane, Ethane)

DOT Hazard Class(es) 2.1 **PG** Not applicable. **DOT EMER. RESPONSE GUIDE NO.** 115

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Air Act (CAA) 112 regulated flammable substances: Propane; Propene; Ethane; Isobutane; Butane

Clean Air Act Section 602 Class I Substances : Not listed
Clean Air Act Section 602 Class II Substances : Not listed
DEA List I Chemicals (Precursor Chemicals) : Not listed
DEA List II Chemicals (Essential Chemicals) : Not listed
Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Sudden release of pressure

Composition/information on ingredients

No products were found.

SARA 313 : This product (does/not) contain toxic chemicals subject to the reporting requirements of SARA Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

Product name	CAS number	%
Propene	115-07-1	0 - 10

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: Propane; Propene; Ethane; Isobutane; Butane

New York : None of the components are listed.

New Jersey : The following components are listed: Propane; Propene; Ethane; Isobutane; Butane

Pennsylvania : The following components are listed: Propane; Propene; Ethane; Isobutane; Butane

California Prop. 65 : No products were found.

Section 16. Other information

Revision date : 03/13/2015

Revised Section(s) : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

Supersedes : 01/05/2011

Prepared by : KMK Regulatory Services Inc.

CENEX®
OUR ENERGY COMES THROUGH.®

A BRAND OF CHS®