

MATERIAL SAFETY DATA SHEET

PRODUCT NAME(S): Propane, Unodorized and Odorized, Unstented, HD-5, Commercial, Canadian Grade 1, Liquid, Liquefied, Heavy Density; Liquefied Petroleum Gas, LPG; Bottle Gas; Dimethyl Methane; n-Propane
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SECTION 4 - FIRST AID MEASURES

INHALATION: Remove affected person to fresh air; provide oxygen if breathing is difficult; if affected person is not breathing, administer CPR and seek emergency medical attention.

SKIN: Wash affected area with soap and water; if irritation persists, seek medical attention.

EYES: Remove contact lenses. Flush eyes with clear running water for 15 minutes while holding eyelids open; if irritation persists, seek medical attention.

INGESTION: Not expected under normal conditions due to gaseous state.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT (METHOD USED)

-155° F (-104° C) TCC

FLAMMABLE LIMITS

LEL: 1.8%

UEL: 9.5%

AUTOIGNITION TEMPERATURE: 690 - 842° F

NFPA CLASS: **IA**

GENERAL HAZARDS: Product is extremely flammable. Products of combustion include compounds of carbon, hydrogen and oxygen, including carbon monoxide. Vapors may cause a flash fire or ignite explosively. Vapors may travel a considerable distance to a source of ignition and flash back.

EXTINGUISHING MEDIA

Carbon dioxide, water fog, dry chemical, chemical foam

FIRE FIGHTING PROCEDURES

Firefighters must wear full facepiece self - contained breathing apparatus in positive pressure mode. Do not use solid stream of water since stream will scatter and spread fire. Fine water spray can be used to keep fire - exposed containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers can explode due to buildup of pressure when exposed to extreme heat. Do not use direct stream of water on pool fires as product may reignite on water surface. Caution - Material is extremely flammable!

HAZARDOUS COMBUSTION PRODUCTS

Smoke, fumes, oxides of carbon

SECTION 6 - ENVIRONMENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: CAUTION - EXTREMELY FLAMMABLE - EXTREMELY VOLATILE - Evacuate and ventilate area, remove all sources of ignition. Product will dissipate rapidly.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Protect cylinders against physical damage. Store in cool, dry, well-ventilated area, away from sources of heat, ignition and direct sunlight. Do not allow area where cylinders are stored to exceed 52°C (125°F). Isolate from oxidizers such as oxygen, chlorine, or fluorine. Use a check valve or trap in the discharge line to prevent hazardous backflow. Post "No Smoking or Open Flame" signs in storage and use areas. Cylinders should be stored upright and be firmly secured to prevent falling or being knocked over. Cylinders can be stored in the open, but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

The use of local exhaust ventilation is recommended to control emissions near the source. Provide mechanical ventilation of confined spaces. Use explosion-proof ventilation equipment. See Section 2 for Component Exposure Guidelines.

PERSONAL PROTECTION:

RESPIRATORY PROTECTION (SPECIFY TYPE): None required while threshold limits (Section 2) are kept below maximum allowable concentrations; if TWA exceeds limits, NIOSH approved respirator must be worn. Refer to 29 CFR 1910.134 or European Standard EN 149 for complete regulations.

PROTECTIVE GLOVES: Recommended for general protection

EYE PROTECTION: Safety goggles with side shields

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Safety eyebath nearby

WORK / HYGIENIC PRACTICES: Practice safe workplace habits. Minimize body contact with this, as well as all chemicals in general.

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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE (PSI) 100 - 215 psi	VAPOR DENSITY (AIR = 1) 1.5
SPECIFIC GRAVITY (WATER = 1) 0.5	EVAPORATION RATE (WATER = 1) Not determined
SOLUBILITY IN WATER Trace	FREEZING POINT - 130 TO - 310° F
pH Not applicable	APPEARANCE AND ODOR Colorless liquefied gas. Odorless to foul odorant
BOILING POINT - 43.6° F (- 42° C)	PHYSICAL STATE Liquefied Gas
VISCOSITY Not determined	VOLATILE ORGANIC COMPOUNDS (Total VOC's) Not determined

SECTION 10 - STABILITY AND REACTIVITY

STABILITY UNSTABLE: STABLE: XXX	CONDITIONS TO AVOID: Extreme temperatures, open flames, sparks
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers, strong acids	
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbons, fumes, and smoke may be produced.	
HAZARDOUS POLYMERIZATION MAY OCCUR: WILL NOT OCCUR: XXX	CONDITIONS TO AVOID: None

SECTION 11 - TOXICOLOGICAL INFORMATION

Hazardous Ingredients	%	CAS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Propane	0 - 100	74-98-6	Not established	Not established
Ethane	0 - 5	74-84-0	Not determined	Not determined
Ethyl Mercaptan	0 - 0.1	75-08-1	682 mg / kg Oral - rat	4420 ppm / 4H Inhalation - rat
Isobutane	0 - 10	75-28-5	Not established	57 pph / 15 M Inhalation - rat
Propylene (a)	0 - 5	115-07-1	Not established	Not established
n-Butane	0 - 10	106-97-8	Not established	658 mg / L / 4H Inhalation - rat

SECTION 12 - ECOLOGICAL INFORMATION

No data are available on the adverse effects of this material on the environment. Neither COD nor BOD data are available. Based on the chemical composition of this product it is assumed that the mixture can be treated in an acclimatized biological waste treatment plant system in limited quantities. However, such treatment should be evaluated and approved for each specific biological system. None of the ingredients in this mixture are classified as a Marine Pollutant.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of in accordance with Local, State, and Federal Regulations. This product may produce concentrated hazardous vapors or fumes in a disposal container creating a dangerous environment. Refer to "40 CFR Protection of Environment Parts 260 - 299" for complete waste disposal regulations for ignitable materials. Consult your local, state, or Federal Environmental Protection Agency before disposing of any chemicals.

SECTION 14 - TRANSPORT INFORMATION

PROPER SHIPPING NAME: Propane

HAZARD CLASS / Pack Group: 2.1

REFERENCE: 49 CFR 173.306, .304, .314

IDENTIFICATION NUMBER: UN 1978

LABEL: FLAMMABLE GAS

HAZARD SYMBOLS: F

IATA HAZARD CLASS / Pack Group: 2.1

IMDG HAZARD CLASS: 2.1

RID/ADR Dangerous Goods Code: 2.1

Canadian TDG Class / Division: 2.1

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EC, Canadian TDG, and United Nations TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

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SECTION 15 - REGULATORY INFORMATION**TSCA (Toxic Substance Control Act)**

Components of this product are listed on the TSCA Inventory.

SARA TITLE III (Superfund Amendments and Reauthorization Act)

311/312 Hazard Categories

Flammable

313 Reportable Ingredients:

(a) A "Yes" in the SARA TITLE III column in Section 2 indicates a toxic chemical subject to annual reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

CERCLA (Comprehensive Response Compensation and Liability Act)

None

CPR (Canadian Controlled Products Regulations)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

IDL (Canadian Ingredient Disclosure List)

Components of this product identified by CAS number and listed on the Canadian Ingredient Disclosure List are shown in Section 2.

DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List)

Components of this product identified by CAS number are listed on the DSL or NDSL and may or may not be listed in Section 2 of this document. Only ingredients classified as "hazardous" are listed in Section 2 unless otherwise indicated.

EINECS (European Inventory of Existing Commercial Chemical Substances)

Components of this product identified by CAS numbers are on the European Inventory of Existing Commercial Chemical Substances.

EC Risk Phrases

R12 Extremely flammable.

R36 Irritating to eyes.

R37 Irritating to respiratory system.

R38 Irritating to skin.

EC Safety Phrases

S16 Keep away from sources of ignition.

SECTION 16 - OTHER INFORMATION

Values do not reflect absolute minimums and maximums; these values are typical which may vary from time to time

HMIS HAZARD RATINGS

HEALTH

1

0 = INSIGNIFICANT

3 = HIGH

FLAMMABILITY

4

1 = SLIGHT

4 = EXTREME

REACTIVITY

0

2 = MODERATE

PERSONAL PROTECTIVE EQUIPMENT

B

Safety Glasses, Gloves

REVISION SUMMARY:

This MSDS has been revised in the following sections:

No revisions available

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