

SAFETY DATA SHEET

Propane

Date: 05.09.2002
replaces version dated: 05.05.2002

MSDS-Nr.: 8368/2-Eng
Page 1 of 2

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND NAME OF THE COMPANY

Product name

Propane, liquefied

Chemical formula: C₃H₈

Company identification

LINDE GAS GesmbH

Waschenbergerstraße 13

A-4651 Stadl-Paura

Emergency phone number: 050 / 4273

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation: Substance.

Components/Impurities

Propane according to DIN 51622: at least 95% Propane and Propylene, Rest Ethane, Ethylene, Butane, Butylene

Propane [F+;R12]

Propylene [F+;R12]

CAS No.: 00074-98-6

EEC No. (from EINECS): 200-827-9

3 HAZARDS IDENTIFICATION

Hazards identification

Liquefied gas.

Extremely flammable.

Contact with liquid may cause cold burns/frost bite.

4 FIRST AID MEASURES

Inhalation

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of coordination. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Skin/eye contact

Immediately flush eyes thoroughly with water for at least 15 minutes. In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

Ingestion

Ingestion is not considered a potential route of exposure.

5 FIRE FIGHTING MEASURES

Specific hazards

Exposure to fire may cause containers to rupture/explode.

Hazardous combustion products

Incomplete combustion may form carbon monoxide.

Suitable extinguishing media

All known extinguishants can be used.

Specific methods

If possible, stop flow of product. Move container away or cool with water from a protected position. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive reignition may occur. Extinguish any other fire.

Special protective equipment for fire fighters

In confined space use self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions

Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Evacuate area. Ensure adequate air ventilation. Eliminate ignition sources.

Environmental precautions

Try to stop release. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Clean up methods

Ventilate area. Keep area evacuated and free from ignition sources until any spilled liquid has evaporated. (Ground free from frost).

7 HANDLING AND STORAGE

Handling and storage

Ensure equipment is adequately earthed. Suck back of water into the container must be prevented. Purge air from system before introducing gas. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Keep away from ignition sources (including static discharges). Segregate from oxidant gases and other oxidants in store. Refer to supplier's container handling instructions. Keep container below 50°C in a well ventilated place.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit value TLV(ACGIH)

Not established.

Exposure limit value for country

Germany: MAK 1000 ppm (TRGS 900 10/2000)

Personal protection

Ensure adequate ventilation. Do not smoke while handling product.

9 PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight: 44

Melting point: -188 °C

Boiling point: -42.1 °C

Critical temperature: 97 °C

Relative density, gas: 1.5 (air=1)

Relative density, liquid: 0.58 (water=1)

Vapour pressure 20°C: 8.3 bar

Solubility mg/l water: 75 mg/l

Appearance/Colour: Colourless gas

Odour: Sweetish Poor warning properties at low concentrations. Stenchant often added

Autoignition temperature: 470 °C

Flammability range: 2.2-9.5 vol% in air.

Other data

Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10 STABILITY AND REACTIVITY

Stability and reactivity

Can form explosive mixture with air. May react violently with oxidants.

11 TOXICOLOGICAL INFORMATION

General

No known toxicological effects from this product.

12 ECOLOGICAL INFORMATION

General

No known ecological damage caused by this product.

13 DISPOSAL CONSIDERATIONS

SAFETY DATA SHEET**Propane**

Date: 05.09.2002
replaces version dated: 05.05.2002

MSDS-Nr.: 8368/2-Eng
Page 2 of 2

General

Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor. Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required.

EWC No. 16 05 01

14 TRANSPORT INFORMATION

ADR / RID: Class 2 Code 2F

IMDG: Class 2.1

IATA: Class 2.1

UN number and Proper shipping name ADR / RID / IMDG / IATA:

UN 1965 Kohlenwasserstoffgas, Gemisch, verflüssigt, n.a.g. (Propan, Propylen)

UN 1965 Hydrocarbon gas mixture, compressed, n.o.s. (Propane, Propylene)

Packing Instruction: P200

Labelling according to ADR / RID:

Label 2.1: Flammable gases

ADR / RID Hazard No.: 23

CEFIC Trencard Nr.: 27a

CEFIC Groupcard Nr.: 20g11

Other transport information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured and:

- cylinder valve is closed and not leaking

- valve outlet cap nut or plug (where provided) is correctly fitted
- valve protection device (where provided) is correctly fitted
- there is adequate ventilation.
- compliance with applicable regulations.

15 REGULATORY INFORMATION

Number in Annex I of Dir 67/548

601-003-00-5.

EC Classification: F+;R12

Labelling of cylinders

-Symbols

F+: Extremely flammable

-Risk phrases

R12 Extremely flammable.

-Safety phrases

S9 Keep container in a well-ventilated place

S16 Keep away from sources of ignition - No smoking

16 OTHER INFORMATION

Ensure all national/local regulations are observed. Ensure operators understand the flammability hazard. Contact with liquid may cause cold burns/frost bite. The hazard of asphyxiation is often overlooked and must be stressed during operator training. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

End of document