

Helium (refrigerated)

ALSA061B



2.2 : Non flammable, non toxic gas.

Warning**SECTION 1. Identification of the substance/mixture and of the company/undertaking****Product identifier**

Trade name : Helium (refrigerated)
SDS Nr : ALSA061B
Chemical description : Helium (refrigerated)
CAS No :007440-59-7
EC No :231-168-5
Index No :---
Registration-No. : Listed in Annex IV / V REACH, exempted from registration.
Chemical formula : He

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

Relevant identified uses : Industrial and professional. Perform risk assessment prior to use.
Test gas / Calibration gas. Purging. Laboratory use
Contact supplier for more uses information

Details of the supplier of the safety data sheet

Company identification : AIR LIQUIDE (PTY) LTD
Crn Vereeniging Road & Andre Marais Street
Alrode, Alberton
Gauteng SOUTH AFRICA
Tel. : +27 87 288 1100
E-Mail address (competent person) : scr.sales@airliquide.com

Emergency telephone number

Emergency telephone number : +27 87 288 1100

SECTION 2. Hazards identification**Classification of the substance or mixture****Hazard Class and Category Code Regulation EC 1272/2008 (CLP)**

• Physical hazards : Gases under pressure - Refrigerated liquefied gas - Warning - (CLP : Press. Gas) - H281

Classification EC 67/548 or EC 1999/45

: Not classified as dangerous substance/mixture.
Not included in Annex VI.
No EC labelling required.

Label elements**Labelling Regulation EC 1272/2008 (CLP)**

Helium (refrigerated)

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SECTION 2. Hazards identification (continued)

• Hazard pictograms



- Hazard pictograms code : GHS04
- Signal word : Warning
- Hazard statements : H281 - Contains refrigerated gas; may cause cryogenic burns or injury.
- Precautionary statements
 - Prevention : P282 - Wear cold insulating gloves, face shield, eye protection.
 - Response : P336+P315 - Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice / attention.
 - Storage : P403 - Store in a well-ventilated place.

Other hazards

: Asphyxiant in high concentrations.

SECTION 3. Composition/information on ingredients

Substance / 3.2. Mixture

Substance.

Substance name	Contents	CAS No	EC No	Index No	Registration no	Classification
Helium (refrigerated)	: 100 %	7440-59-7	231-168-5	-----	* 1	Not classified (DSD/DPD) Press. Gas (H281)

Contains no other components or impurities which will influence the classification of the product.

* 1: Listed in Annex IV / V REACH, exempted from registration.

* 2: Registration deadline not expired.

* 3: Registration not required: Substance manufactured or imported < 1t/y

Full text of R-phrases see chapter 16. Full text of H-statements see chapter 16

SECTION 4. First aid measures

Description of first aid measures

- Inhalation : 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 contact : In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
- Eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes.
- Ingestion : Ingestion is not considered a potential route of exposure.

Most important symptoms and effects, both acute and delayed

: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/ consciousness. Victim may not be aware of asphyxiation.

Indication of any immediate medical attention and special treatment needed

: None.

Helium (refrigerated)**ALSA061B****SECTION 5. Fire-fighting measures****Extinguishing media****Extinguishing media****- Suitable extinguishing media** : All known extinguishants can be used.**Special hazards arising from the substance or mixture****Specific hazards** : Exposure to fire may cause containers to rupture/explode.**Hazardous combustion products** : None.**Advice for fire-fighters****Specific methods** : If possible, stop flow of product.
Coordinate fire measure to the surrounding fire. Cool endangered containers with water spray jet from a protected position. Do not empty contaminated fire water into drains.
If leaking do not spray water onto container. Water surrounding area (from protected position) to contain fire.**Special protective equipment for fire fighters** : In confined space use self-contained breathing apparatus.**SECTION 6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**: Try to stop release.
Evacuate area.
Use protective clothing.
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Ensure adequate air ventilation.**Environmental precautions**

: Try to stop release.

Methods and material for containment and cleaning up: Ventilate area.
Liquid spillages can cause embrittlement of structural materials.**Reference to other sections**

: See also sections 8 and 13.

SECTION 7. Handling and storage**Precautions for safe handling****Safe use of the product** : Only experienced and properly instructed persons should handle gases under pressure.
The product must be handled in accordance with good industrial hygiene and safety procedures.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
Do not smoke while handling product.
Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.
Ensure the complete gas system was (or is regularly) checked for leaks before use.**Safe handling of the gas receptacle** : Refer to supplier's container handling instructions.
Suck back of water into the container must be prevented.
Do not allow backfeed into the container.
Never attempt to repair or modify container valves or safety relief devices.
Damaged valves should be reported immediately to the supplier.
Keep container valve outlets clean and free from contaminants particularly oil and water.
Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.
Close container valve after each use and when empty, even if still connected to equipment.
Never attempt to transfer gases from one cylinder/container to another.
Never use direct flame or electrical heating devices to raise the pressure of a container.

Helium (refrigerated)**ALSA061B****SECTION 7. Handling and storage (continued)**

Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.

Conditions for safe storage, including any incompatibilities

- : Keep container below 50°C in a well ventilated place.
Observe all regulations and local requirements regarding storage of containers. Containers should be stored in the vertical position and properly secured to prevent toppling. Stored containers should be periodically checked for general condition and leakage. Container valve guards or caps should be in place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.
Containers should not be stored in conditions likely to encourage corrosion.

Specific end use(s)

- : None.

SECTION 8. Exposure controls/personal protection**Control parameters**

- DNEL: Derived no effect level** : None available.
PNEC: Predicted no effect concentration : None available.

Exposure controls

- Appropriate engineering controls** : Product to be handled in a closed system.
Oxygen detectors should be used when asphyxiating gases may be released.
Consider work permit system e.g. for maintenance activities.
Systems under pressure should be regularly checked for leakages.
Provide adequate general and local exhaust ventilation.
- Individual protection measures, e.g. personal protective equipment** : A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk.
The following recommendations should be considered.
Protect eyes, face and skin from liquid splashes.
Wear cold insulating gloves when transfilling or breaking transfer connections.
Wear goggles and a face shield when transfilling or breaking transfer connections
- Environmental exposure controls** : None necessary.

SECTION 9. Physical and chemical properties**Information on basic physical and chemical properties**

- Appearance**
- Physical state at 20°C / 101.3kPa : Gas.
 - Colour : Colourless.
 - Odour** : No odour warning properties.
 - Odour threshold** : Odour threshold is subjective and inadequate to warn for overexposure.
 - Molar mass [g/mol]** : 4
 - Melting point [°C]** : Not applicable for gas-mixtures.
 - Boiling point [°C]** : -269
 - Critical temperature [°C]** : -268
 - Flash point [°C]** : Not applicable for gases and gas-mixtures.
 - Evaporation rate (ether=1)** : Not applicable for gases and gas-mixtures.
 - Flammability range [vol% in air]** : Non flammable.
 - Vapour pressure [20°C]** : Not applicable.
 - Relative density, gas (air=1)** : 0.14
 - Relative density, liquid (water=1)** : 0.12

Helium (refrigerated)**ALSA061B****SECTION 9. Physical and chemical properties (continued)**

Solubility in water [mg/l] : 1.5
Partition coefficient n-octanol/water : Not applicable for inorganic gases.
Not applicable for inorganic gases.
Auto-ignition temperature [°C] : Not applicable.

Other information

Other data : None.

SECTION 10. Stability and reactivity**Reactivity**

: No reactivity hazard other than the effects described in sub-sections below.

Chemical stability

: Stable under normal conditions.

Possibility of hazardous reactions

: None.

Conditions to avoid

: None under recommended storage and handling conditions (see section 7).

Incompatible materials

: None.
For additional information on compatibility refer to ISO 11114

Hazardous decomposition products

: None.

SECTION 11. Toxicological information**Information on toxicological effects**

Acute toxicity : No known toxicological effects from this product.
Skin corrosion/irritation : No known effects from this product.
Serious eye damage/irritation : No known effects from this product.
Respiratory or skin sensitisation : No known effects from this product.
Carcinogenicity : No known effects from this product.
Germ cell mutagenicity : No known effects from this product.
Reproductive toxicity : No known effects from this product.
STOT-single exposure : No known effects from this product.
STOT-repeated exposure : No known effects from this product.
Aspiration hazard : Not applicable for gases and gas-mixtures.

SECTION 12. Ecological information**Toxicity**

: No known ecological damage caused by this product.

Persistence - degradability

: No data available.

Bioaccumulative potential

: No data available.

Helium (refrigerated)**ALSA061B****SECTION 12. Ecological information (continued)****Mobility in soil**

: No data available.

Results of PBT and vPvB assessment

: Not classified as PBT or vPvB.

Other adverse effects

: Can cause frost damage to vegetation.

Effect on ozone layer : None.

Effect on the global warming : None.

SECTION 13. Disposal considerations**Waste treatment methods**

: Do not discharge into any place where its accumulation could be dangerous.
May be vented to atmosphere in a well ventilated place.
Refer to the code of practice of EIGA (Doc. 30/10 "Disposal of Gases, downloadable at <http://www.eiga.org>) for more guidance on suitable disposal methods
Consult supplier for specific recommendations.

Additional information

: None.

SECTION 14. Transport information

UN number : 1963

Labelling ADR, IMDG, IATA



: 2.2 : Non flammable, non toxic gas.

Land transport (ADR/RID)

H.I. nr : 22

UN proper shipping name : HELIUM, REFRIGERATED LIQUID

Transport hazard class(es) : 2

Classification code : 3 A

Packing Instruction(s) : P203

Tunnel Restriction : C/E Tank carriage: Passage forbidden through tunnels of category C, D and E; Other carriage: Passage forbidden through tunnels of category E

Environmental hazards : None.

Sea transport (IMDG)

Proper shipping name : HELIUM, REFRIGERATED LIQUID

Class : 2.2

Packing group : P203

Emergency Schedule (EmS) - Fire : F-C

Emergency Schedule (EmS) - Spillage : S-V

Packing instruction : P203

Air transport (ICAO-TI / IATA-DGR)

Proper shipping name (IATA) : HELIUM, REFRIGERATED LIQUID

Class : 2.2

Helium (refrigerated)**ALSA061B****SECTION 14. Transport information (continued)**

Passenger and Cargo Aircraft	: Allowed.
Packing instruction - Passenger and Cargo Aircraft	: 202
Cargo Aircraft only	: Allowed.
Packing instruction - Cargo Aircraft only	: 202

Special precautions for user

- : 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 containers are firmly secured.
 - Ensure cylinder valve is closed and not leaking.
 - Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
 - Ensure valve protection device (where provided) is correctly fitted.
 - Ensure there is adequate ventilation.

SECTION 15. Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****EU legislation**

Restrictions on use	: None.
Seveso directive 96/82/EC	: Not covered.

National legislation

- : Ensure all national/local regulations are observed.

Chemical Safety Assessment

- : A CSA does not need to be carried out for this product.

SECTION 16. Other information

Indication of changes	: Revised safety data sheet in accordance with commission regulation (EU) No 453/2010
Training advice	: The hazard of asphyxiation is often overlooked and must be stressed during operator training.
List of full text of H-statements in section 3.	: H281 - Contains refrigerated gas; may cause cryogenic burns or injury.
Note	: This Safety Data Sheet has been established in accordance with the applicable European Union legislation.
DISCLAIMER OF LIABILITY	: Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. 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. Details given in this document are believed to be correct at the time of going to press.

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