

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Helium, refrigerated liquid

Chemical formula	He
CAS number	7440-59-7
Transport identifier	UN 1963

1.2 Relevant identified uses

Industrial and professional cryogenic uses, including cooling, laboratory, electronic-component manufacturing and controlled liquid-helium transfer applications. Perform a task-specific risk assessment before use.

Uses advised against	Intentional inhalation and any use not supported by a task-specific risk assessment.
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1.3 Supplier

SG TRADING L.L.C-FZ

Address	Meydan Grandstand, 6th Floor, Meydan Road, Nad Al Sheba, Dubai, United Arab Emirates
Telephone	+971 4 422 4811
Email	info@sgtrading.biz
Website	https://www.sgtrading.biz

1.4 Emergency and safety contact (WhatsApp)

+1 832 525 5066, available 07:00–22:00 (UTC+3).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Physical hazards Gases under pressure	Refrigerated liquefied gas H281
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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP] Hazard pictograms (CLP) :

GHS04

Signal word (CLP)	Warning
Hazard statements (CLP)	H281 - Contains refrigerated gas; may cause cryogenic burns or injury.

Precautionary statements (CLP)

- Prevention : P282 - Wear cold insulating gloves and either face shield or eye protection. 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.
- Storage : P403 - Store in a well-ventilated place.



Gas cylinder

2.3. Other hazards

Asphyxiant in high concentrations. Not classified as PBT or vPvB. Not classified as PMT or vPvM. The substance / mixture has no endocrine disrupting properties

SECTION 3: Composition/information on ingredients

3.1. Substances

Name % Product identifier Classification according to Regulation (EC) No. 1272/2008 [CLP]

Helium (refrigerated) 100 CAS-No.	7440-59-7
EC-No.	231-168-5
EC Index-No.	---
REACH registration No	*1 Press. Gas (Ref. Liq.), 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.
*3	Registration not required: Substance manufactured or imported < 1t/y.

3.2. Mixtures Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

- Inhalation : Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation 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.

4.2. 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.

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

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray or fog.
- Unsuitable extinguishing media : Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Exposure to fire may cause containers to rupture/explode.
Hazardous combustion products	None.

5.3. Advice for firefighters

Specific methods	Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. Exposure to fire may cause containers to rupture/explode. If possible, stop flow of product. Use water spray or fog to knock down fire fumes if possible. Move containers away from the fire area if this can be done without risk.
Special protective equipment for fire fighters	Use self-contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask. Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Try to stop release. Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Use protective clothing. Ensure adequate air ventilation. Act in accordance with local emergency plan. Stay upwind.

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

Ventilate area. Liquid spillages can cause embrittlement of structural materials.

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe use of the product

The product must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not smoke while handling product. Do not remove or deface labels provided by the supplier for the identification of the content of 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. Do not breathe gas. Avoid release of product into work area.

Safe handling of the gas receptacle

Refer to supplier's container handling instructions. Do not allow back feed 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. Do not remove or deface labels provided by the supplier for the identification of the content of the container. Suck back of water into the container must be prevented.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Product to be handled in a closed system. Systems under pressure should be regularly checked for leakages. Oxygen detectors should be used when asphyxiating gases may be released. Consider the use of a work permit system e.g. for maintenance activities.

8.2.2. 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. PPE compliant to the recommended EN/ISO standards should be selected.

- **Eye/face protection** Wear safety glasses with side shields. Wear goggles and a face shield when transfilling or breaking transfer connections. Standard EN 166 - Personal eye-protection - specifications. • Skin protection
- **Hand protection** : Wear working gloves when handling gas containers. Standard EN 388 - Protective gloves against mechanical risk, performance level 1 or higher.
- **Other** : Wear safety shoes while handling containers. Standard EN ISO 20345 - Personal protective equipment - Safety footwear.
- **Respiratory protection** Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask. Self-contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.
- **Thermal hazards** Wear cold insulating gloves when transfilling or breaking transfer connections. Standard EN 511 - Cold insulating gloves.

8.2.3. Environmental exposure controls

None necessary.

SECTION 9: Physical and chemical properties

9.1. 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 is subjective and inadequate to warn of overexposure.
Melting point / Freezing point	-272 °C
Boiling point	-269 °C
Flammability	Not available
Lower explosion limit	Not available
Upper explosion limit	Not available
Flash point	Not applicable for gases and gas mixtures.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available
pH	Not applicable.
Viscosity, kinematic	Not applicable.
Water solubility [20°C]	1.5 mg/l
Partition coefficient n-octanol/water (Log Kow)	Not available
Vapour pressure [20°C]	Not applicable.
Vapour pressure [50°C]	Not applicable.
Density and/or relative density	Not applicable.
Relative vapour density (air=1)	0.14
Particle characteristics	Not applicable.

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosive properties	Not applicable.
Explosion limits	Non flammable.

Oxidising properties	None.
Critical temperature [°C]	-268 °C

9.2.2. Other safety characteristics

Molar mass	4 g/mol
Evaporation rate	Not applicable for gases and gas mixtures.
Gas group	Press. Gas (Ref. Liq.).
Other data	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

10.5. Incompatible materials

10.6. Hazardous decomposition products

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

Stable under normal conditions.

None.

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

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

None.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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.
Germ cell mutagenicity	No known effects from this product.
Carcinogenicity	No known effects from this product.
Toxic for reproduction	Fertility : No known effects from this product.
Toxic for reproduction	unborn child : 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.

11.2. Information on other hazards

The substance does not have endocrine disrupting properties for human health

SECTION 12: Ecological information

12.1. Toxicity

Assessment	No ecological damage caused by this product.
EC50 48h - Daphnia magna [mg/l]	No data available.

EC50 72h - Algae [mg/l] No data available.

LC50 96 h - Fish [mg/l] No data available.

12.2. Persistence and degradability

Assessment No ecological damage caused by this product.

12.3. Bioaccumulative potential

Assessment No ecological damage caused by this product.

12.4. Mobility in soil

Assessment No ecological damage caused by this product.

12.5. Results of PBT and vPvB assessment

Assessment Asphyxiant in high concentrations. Not classified as PBT or vPvB. Not classified as PMT or vPvM. The substance / mixture has no endocrine disrupting properties.

12.6. Endocrine disrupting properties

Assessment :

12.7. Other adverse effects

Other adverse effects Can cause frost damage to vegetation.

Effect on the ozone layer None.

Effect on global warming None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

List of hazardous waste codes (from Commission Decision 2000/532/EC as amended)

13.2. Additional information

Consult supplier for specific recommendations. May be vented to atmosphere in a well ventilated place. Do not discharge into any place where its accumulation could be dangerous. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at

http //www.eiga.org for more guidance on suitable disposal methods.

: 16 05 05 Gases in pressure containers other than those mentioned in 16 05 04.

None.

SECTION 14: Transport information

14.1. UN number or ID number

In accordance with ADR / RID / IMDG / IATA / ADN

UN-No. 1963

14.2. UN proper shipping name

Transport by road/rail (ADR/RID) HELIUM, REFRIGERATED LIQUID

Transport by air (ICAO-TI / IATA-DGR) HELIUM, REFRIGERATED LIQUID

Transport by sea (IMDG) HELIUM, REFRIGERATED LIQUID

14.3. Transport hazard class(es)

Labelling :

2.2 : Non-flammable, non-toxic gases.

Transport by road/rail (ADR/RID)

Class	2
Classification code	3A
Hazard identification number	22
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 Transport by air (ICAO-TI / IATA-DGR)
Class / Div. (Sub. risk(s))	2.2 Transport by sea (IMDG)
Class / Div. (Sub. risk(s))	2.2
Emergency Schedule (EmS) - Fire	F-C
Emergency Schedule (EmS) - Spillage	S-V

14.4. Packing group

Transport by road/rail (ADR/RID)	Not applicable.
Transport by air (ICAO-TI / IATA-DGR)	Not applicable.
Transport by sea (IMDG)	Not applicable.

14.5. Environmental hazards

Transport by road/rail (ADR/RID)	None.
Transport by air (ICAO-TI / IATA-DGR)	None.
Transport by sea (IMDG)	None.

14.6. Special precautions for user

Packing Instruction(s)

Transport by road/rail (ADR/RID)	P203. Transport by air (ICAO-TI / IATA-DGR)
Passenger and Cargo Aircraft	202.
Cargo Aircraft only	202.
Transport by sea (IMDG)	P203.
Special transport precautions	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 there is adequate ventilation.
- Ensure that containers are firmly secured.
- Ensure 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.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU-Regulations

Restrictions on use	None. Other information, restriction and prohibition regulations : Ensure all national/local regulations are observed. Not listed on the PIC list (Regulation EU 649/2012).
Seveso Directive	2012/18/EU (Seveso III) : Not covered. National regulations No additional information available

15.2. Chemical safety assessment

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

SECTION 16: Other information

Indication of changes

- Revision date: 01/09/2026 - Version: 1.2 (Supersedes Version: 1.1) This Safety Data Sheet has been revised to comply with Commission Delegated Regulation (EU) 2023/707. The following sections have been updated with new regulatory statements regarding Endocrine Disrupting properties, PBT/vPvB, and PMT/vPvM criteria: - Section 2 (Other hazards) - Section 11 (Information on other hazards) - Section 12 (Results of PBT/vPvB assessment, Endocrine disrupting properties)

Abbreviations and acronyms ATE - Acute Toxicity Estimate. CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008. REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006. EINECS - European Inventory of Existing Commercial Chemical Substances. CAS# - Chemical Abstract Service number. PPE - Personal Protection Equipment. LC50 - Lethal Concentration to 50 % of a test population. RMM - Risk Management Measures. PBT - Persistent, Bioaccumulative and Toxic. vPvB - Very Persistent and Very Bioaccumulative.

STOT- SE

Specific Target Organ Toxicity - Single Exposure. CSA - Chemical Safety Assessment. EN - European Standard. UN - United Nations. ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road. IATA - International Air Transport Association. IMDG code - International Maritime Dangerous Goods. RID - Regulations concerning the International Carriage of Dangerous Goods by Rail. WGK - Water Hazard Class.

STOT - RE

Specific Target Organ Toxicity - Repeated Exposure.

UFI

Unique Formula Identifier.

Training advice

The hazard of asphyxiation is often overlooked and must be stressed during operator training. Ensure operators are trained to handle cryogenic liquids and refrigerated liquefied gases safely. Users must wear appropriate cryogenic personal protective equipment (PPE). Understand risks of asphyxiation and severe cold burns.

Further information

This Safety Data Sheet has been established in accordance with the applicable European Union legislation.

Full text of H- and EUH-statements H281 Contains refrigerated gas; may cause cryogenic burns or injury.

Press. Gas (Ref. Liq.) Gases under pressure

Refrigerated liquefied gas

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