

Safety Data Sheet

Helium, Compressed

Issue date: 16/01/2013
Revision date: 03/04/2023

Version: 3.0

SDS reference: MY000480
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SECTION 1: Identification of the hazardous chemical and of the supplier

1.1. Product identifier

Product form

Substance

Trade name

- i. Helium, Compressed (H.P.)
- ii. Helium, Compressed (Balloon Gas)
- iii. Helium, Compressed (HiQ 5.0 Zero)
- iv. Helium, Compressed (Purified)
- v. Balloon Gas (Helium, Compressed)
- vi. Industrial

CAS-No.

7440-59-7

Formula

He

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

Recommended use

Industrial use

Restrictions on use

None.

1.3. Supplier's details

Linde Gas Products Malaysia Sdn Bhd (453560-K)
P.O. Box 10633, GPO Kuala Lumpur, 50670 WPKL.
No. 1, Jalan Graphite 3, Kawasan Perindustrian Bandar Mahkota Banting,
42700 Banting, Kuala Langat, Selangor Darul Ehsan.
Toll Free: 1800 883 888 / +603 5651 7000
csc.lg.my@linde.com

1.4. Emergency telephone number

Emergency phone number (24h): 1800 883 888
Poison center : Unit HAZMAT Malaysia, tel: 999

SECTION 2: Hazards identification

2.1. Classification of the hazardous chemical

Classification according to Industry Code of Practice on chemicals classification and hazard communication (2014)

Press. Gas (Comp.)

H280

2.2. Label elements

Labelling according to Industry Code of Practice on chemicals classification and hazard communication (2014)

Hazard pictograms (GHS MY)

:



GHS04

Signal word (GHS MY)

: Warning

Hazard statements (GHS MY)

: H280 - Contains gas under pressure; may explode if heated

Precautionary statements (GHS MY)

- Storage

: P410+P403 - Protect from sunlight. Store in a well-ventilated place

2.3. Other hazards not contributing to the classification

Other hazards which do not result in classification

Asphyxiant in high concentrations.

SECTION 3: Composition and information of the ingredients of the hazardous chemical

3.1. Substances



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Name	Product identifier	%
Helium, Compressed (Main constituent)	(CAS-No.) 7440-59-7	100

- 3.2. Mixtures
Not applicable

SECTION 4: First aid measures

- 4.1. Description of first aid measures
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.
 - First-aid measures after skin contact : Adverse effects not expected from this product. Wash skin with plenty of water.
 - First-aid measures after eye contact : Adverse effects not expected from this product. Rinse eyes with water as a precaution.
 - First-aid measures after ingestion : Ingestion is not considered a potential route of exposure. Call a poison center or a doctor if you feel unwell.
- 4.2. Most important symptoms and effects, both acute and delayed
- 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. See section 11.
- 4.3. Indication of any immediate medical attention and special treatment needed
- Other medical advice or treatment : None.

SECTION 5: Fire-fighting measures

- 5.1. Extinguishing media
- Suitable extinguishing media : Water spray or fog. Water spray. Dry powder. Foam.
 - Unsuitable extinguishing media : Do not use water jet to extinguish.
- 5.2. Special hazards arising from the substance or mixture
- Reactivity : No reactivity hazard other than the effects described in sub-sections below.
 - Reactivity in case of fire : No reactivity hazard other than the effects described in sub-sections below.
 - Hazardous combustion products : None.
- 5.3. Special protective equipment and precautions for fire-fighters
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
 - Special protective equipment for fire fighters : In confined space 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.
 - 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. 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.
 - EAC code : 2T

SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures
- General measures : Try to stop release. Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. Act in accordance with local emergency plan. Stay upwind. Oxygen detectors should be used when asphyxiating gases may be released.

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- 6.1.1. For non-emergency personnel
Emergency procedures : Ventilate spillage area.
- 6.1.2. For emergency responders
Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
- 6.2. Environmental precautions
Avoid release to the environment. Try to stop release.
- 6.3. Methods and material for containment and cleaning up
Methods and material for containment and cleaning up : Ventilate area.

SECTION 7: Handling and storage

- 7.1. Precautions for safe handling
Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Safe handling of the gas receptacle : Refer to supplier's container handling instructions. Do not allow backfeed into the container. Protect containers from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating valve discontinue use and contact supplier. 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. Open valve slowly to avoid pressure shock.
- Safe use of the product : Do not breathe gas. Avoid release of product into work area. 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. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Avoid suck back of water, acid and alkalis.
- 7.2. Conditions for safe storage, including any incompatibilities
Storage conditions : Protect from sunlight. Store in a well-ventilated place. Keep cool.
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.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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ii.	Helium, Compressed (Balloon Gas)
iii.	Helium, Compressed (HiQ 5.0 Zero)
iv.	Helium, Compressed (Purified)
v.	Balloon Gas (Helium, Compressed)
vi.	Industrial (7440-59-7)
USA - ACGIH	
Remark (ACGIH)	
TLV® Basis: Simple Asphyxiant	

Exposure limit values for the other components

No additional information available

8.2. Monitoring

8.3. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Ensure exposure is below occupational exposure limits (where available). Oxygen detectors should be used when asphyxiating gases may be released. Consider the use of a work permit system e.g. for maintenance activities.

8.4. Personal protective equipment

Wear safety shoes while handling containers.

Wear safety shoes while handling containers. Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

Hand protection:

Wear working gloves when handling gas containers. Standard EN 388 - Protective gloves against mechanical risk, performance level 1 or higher.

Eye protection:

Safety glasses. Wear safety glasses with side shields. Standard EN 166 - Personal eye-protection - specifications

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres. Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known. Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers. Gas filters do not protect against oxygen deficiency. Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks . Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.



Thermal hazard protection : None in addition to the above sections.

Environmental exposure controls : None necessary. Avoid release to the environment.

SECTION 9: Physical and chemical properties

Physical state : Gas
Appearance : No data available
Colour : Colourless.

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Odour	: Odourless. No odour warning properties.
Odour threshold	: Odour threshold is subjective and inadequate to warn of overexposure.
pH	: Not applicable for gases and gas mixtures.
Melting point, Freezing point	: Melting point: -272 °C
Boiling point	: -269 °C
Flash point	: Not applicable for gases and gas mixtures.
Critical temperature	: -268 °C
Auto-ignition temperature	: Non flammable.
Decomposition temperature	: Not applicable.
Flammability	: Non flammable.
Vapour pressure	: Vapour pressure: Not applicable. Vapour pressure at 50°C: Not applicable.
Evaporation rate	: Relative evaporation rate (ether=1): Not applicable for gases and gas mixtures.
Explosive limits	: Non flammable.
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Explosive properties	: Not applicable.
Minimum ignition energy	: No data available
Solubility	: Water: 1.5 mg/l
Density	: Relative density: Not applicable.
Relative density	: Relative vapour density at 20°C: Not applicable. Relative gas density: 0.14
Viscosity	: Viscosity, dynamic: No reliable data available. Viscosity, kinematic: 0.14 No reliable data available.
Critical pressure	: 230 kPa
Gas group	: Compressed gas
Partition coefficient n-octanol/water (Log Pow)	: Not applicable for inorganic products.
Molecular mass	: 4 g/mol
Oxidising properties	: Not applicable.

SECTION 10: Stability and reactivity

Chemical stability	: Stable under normal conditions.
Conditions to avoid	: Avoid moisture in installation systems.
Hazardous decomposition products	: None.
Incompatible materials	: None. For additional information on compatibility refer to ISO 11114.
Possibility of hazardous reactions	: None.
Reactivity	: No reactivity hazard other than the effects described in sub-sections below.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion or irritation	: Not classified
	pH: Not applicable for gases and gas mixtures.

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Serious eye damage or eye irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (STOT) – single exposure : Not classified
Specific target organ toxicity (STOT) – repeated exposure : Not classified
Aspiration hazard : Not classified

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v.	Balloon Gas (Helium, Compressed)
vi.	Industrial (7440-59-7)
Viscosity, kinematic (calculated value) (40 °C)	
No reliable data available.	

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general : No data available.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

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iv.	Helium, Compressed (Purified)
v.	Balloon Gas (Helium, Compressed)
vi.	Industrial (7440-59-7)
Partition coefficient n-octanol/water (Log Kow)	
Not applicable for gas mixtures.	
Partition coefficient n-octanol/water (Log Pow)	
Not applicable for inorganic products.	

12.2. Persistence and degradability

i.	Helium, Compressed (H.P.)
ii.	Helium, Compressed (Balloon Gas)
iii.	Helium, Compressed (HiQ 5.0 Zero)
iv.	Helium, Compressed (Purified)
v.	Balloon Gas (Helium, Compressed)
vi.	Industrial (7440-59-7)
Persistence and degradability	
No data available.	

12.3. Bioaccumulative potential

i.	Helium, Compressed (H.P.)
ii.	Helium, Compressed (Balloon Gas)
iii.	Helium, Compressed (HiQ 5.0 Zero)
iv.	Helium, Compressed (Purified)
v.	Balloon Gas (Helium, Compressed)
vi.	Industrial (7440-59-7)
Partition coefficient n-octanol/water (Log Pow)	
See section 12.1 on ecotoxicology	
Partition coefficient n-octanol/water (Log Kow)	
See section 12.1 on ecotoxicology	
Bioaccumulative potential	
No data available.	

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12.4. Mobility in soil

i.	Helium, Compressed (H.P.)
ii.	Helium, Compressed (Balloon Gas)
iii.	Helium, Compressed (HiQ 5.0 Zero)
iv.	Helium, Compressed (Purified)
v.	Balloon Gas (Helium, Compressed)
vi.	Industrial (7440-59-7)
Mobility in soil	No additional information available
Partition coefficient n-octanol/water (Log Pow)	See section 12.1 on ecotoxicology
Partition coefficient n-octanol/water (Log Kow)	See section 12.1 on ecotoxicology
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

12.5. Other adverse effects

Ozone	: Not classified
Effect on global warming	: None.
Effect on the ozone layer	: None.
Other adverse effects	: No known effects from this product.

SECTION 13: Disposal information

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions. Do not discharge into any place where its accumulation could be dangerous. May be vented to atmosphere in a well ventilated place. Return unused product in original container to supplier.
Additional information	: External treatment and disposal of waste should comply with applicable local and/or national regulations. { 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. Dispose of container via supplier only. Discharge, treatment, or disposal may be subject to national, state, or local laws.

SECTION 14: Transportation information

14.1. UN number

UN-No.(UN RTDG)	: 1046
UN-No. (IMDG)	: 1046
UN-No. (IATA)	: 1046

14.2. Proper Shipping Name

Proper Shipping Name (UN RTDG)	: HELIUM, COMPRESSED
Proper Shipping Name (IMDG)	: HELIUM, COMPRESSED
Proper Shipping Name (IATA)	: Helium, compressed

14.3. Transport hazard class(es)

UN RTDG	
Transport hazard class(es) (UN RTDG)	: 2.2
Danger labels (UN RTDG)	: 2.2



IMDG

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Transport hazard class(es) (IMDG) : 2.2
Danger labels (IMDG) : 2.2



IATA
Transport hazard class(es) (IATA) : 2.2
Danger labels (IATA) : 2.2



14.4. Packing group

Packing group (UN RTDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

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.

- UN RTDG

Special provisions (UN RTDG) : 274
Limited quantities (UN RTDG) : 120 ml

Excepted quantities (UN RTDG) : E1
Packing instruction (UN RTDG) : P200

- IMDG

Special provisions (IMDG) : 274
Limited quantities (IMDG) : 120 ml
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P200

EmS-No. (Fire) : F-C - FIRE SCHEDULE Charlie - NON-FLAMMABLE GASES

EmS-No. (Spillage) : S-V - SPILLAGE SCHEDULE Victor - GASES (NON-FLAMMABLE, NON-TOXIC)

Stowage category (IMDG) : A



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Properties and observations (IMDG) : Inert gas. Much lighter than air (0.14).
MFAG-No : 121

- IATA
PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : 200
PCA max net quantity (IATA) : 75kg
CAO packing instructions (IATA) : 200
CAO max net quantity (IATA) : 150kg
ERG code (IATA) : 2L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

14.8. 14.8. Hazchem or Emergency Action Code

EAC code : 2T.

SECTION 15: Regulatory information

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

Occupational Safety and Health Act 1994 and relevant regulations:

Occupational Safety and Health (Classification, Labeling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.
Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

Environment Quality Act 1974 & regulations:

Environment Quality (Clean Air) Regulations 2014.
Environmental Quality (Scheduled Wastes) Regulations 2005.

15.2. 15.2. Chemical safety assessment

SECTION 16: Other information

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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

Training advice

: The hazard of asphyxiation is often overlooked and must be stressed during operator training.

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.