According to EU regulation 1907/2006 (REACH)

Material Safety Data Sheet

SDS date: 03-10-2017 **SDS version: 1.1**

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

1.1. Product Identifier

Trade Name: Mixtures of gases with hydrogen, compressed
Product- no.: -

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

Recommended uses: Hydrogen gas mixtures is used as a shielding/purge gas in the field of welding and for heat treatment of metals.

1.3. Details of the supplier of the safety data sheet

Company and address
Strandmøllen A/S
Strandvejen 895
DK-2930 Klampenborg
Tlf.: +45 701 02 107
www.strandmollen.dk

Contact person and E-mail:
kundeservice@strandmollen.dk

The Safety data sheet is completed and validated by:
mediator A/S, Centervej 2, DK-6000 Kolding. Consultant: HG

1.4. Emergency telephone number

Use your national or local emergency number - See section 4 “First aid measures”.

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

CLP (1272/2008): Flam. Gas 1;H220, Press. Gas (Compressed);H280.
See full text of H-phrases in section 16.

2.2. Label elements

Signal word:
Danger

Extremely flammable gas. (H220)
Contains gas under pressure; may explode if heated. (H280)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)
Leaking gas fire: Do not extinguish, unless leak can be stopped safely. (P377)
Eliminate all ignition sources if safe to do so. (P381)
Protect from sunlight. Store in a well-ventilated place. (P410+P403)

2.3. Other hazards

-

Additional labelling:

-

Additional warnings:

Careful! Inhalation of a small amount of helium can lead to suffocation.

SSECTION 3: Composition/information on ingredients

3.1./3.2. Substances/Mixtures

Substance	EU-Index no.	CAS / EINECS no.	CLP-classification	w/w %	Note
Hydrogen	001-001-00-9	1333-74-0/ 215-605-7	Flam. Gas 1;H220, Press. Gas;H280	4-100	-
Argon	-	7440-37-1 / 231-147-0	- Press. Gas; H280	0-99,99	-
Helium	-	7440-59-7 / 231-168-5	- Press. Gas; H280	0-99,99	-
Nitrogen	-	7727-37-9 / 231-783-9	- Press. Gas; H280	0-99,99	-
Carbon dioxide	-	124-38-9/ 204-696-9	- Press. Gas; H280	0-99,99	-

See full text of H-phrases in section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation: Seek fresh air. Keep victim under observation. Seek medical advice in case of discomfort.

Ingestion: Not relevant as the product is a gas. Wash out mouth thoroughly and drink 1-2 glasses of water in small sips.

Skin contact: Not relevant as the product is a gas.

Eye contact: Not relevant as the product is a gas.

Burns: Flush with water until pain ceases. Remove clothing that is not stuck to the skin – seek medical advice/transport to hospital. If possible, continue flushing until medical attention is obtained.

Additional information: When obtaining medical advice, show the safety data sheet or label.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation of gases may cause irritation to the upper airways. Risk of suffocation at high concentrations in tight spaces.

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

No special immediate treatment required.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Extinguish with powder, foam or water mist.

5.2. Special hazards arising from the substance or mixture

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Hazardous fumes are formed in fire conditions. Heating will cause a rise in pressure in packaging with a risk of bursting. Use water or water mist to cool non-ignited stock.

5.3. Advice for firefighters

Move containers from danger area if it can be done without risk. Avoid inhalation of vapour and flue gases – seek fresh air.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment – see section 8. Use the product under well-ventilated conditions. Take precautionary measures against static discharges. Use spark-free tools and explosion proof equipment.

6.2. Environmental precautions

Not relevant as the product is a gas.

6.3. Methods and material for containment and cleaning up

Not relevant as the product is a gas.

6.4. Reference to other sections

See above.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

See section 8 for information about precautions for use and personal protective equipment. Smoking and naked flames prohibited. Work under effective process ventilation (e.g. local exhaust ventilation). Protect the flask against the ingress of water. Only use equipment, which is suitable for this product and applied pressure and temperature.

7.2. Conditions for safe storage, including any incompatibilities

Pressurized container: Do not expose to temperatures exceeding 50 °C. The flasks must be stored and utilized in an upright position and must be secured with a chain.

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Substance	Long-term exposure limit	Short-term exposure limit	Note
Carbon dioxide	5000 ppm – 9150 mg/m^3	15000 ppm – 27400 mg/m^3	-

DNEL and PNEC values:
No data.

8.2. Exposure controls

There are no exposure scenarios for this product.

Appropriate engineering controls:
Wash hands before breaks, before using restroom facilities, and at the end of the work. Wear personal protective equipment specified in below section.

Personal protective equipment:

Breathing equipment:	In case of insufficient ventilation, wear respiratory protective equipment. Use air-supplying respiratory protective equipment.
Hand protection:	Recommended: Leather gloves.
Eye protection:	Wear safety googles/ face protection when cutting and welding.
Body and skin protection:	Use safety shoes when handling flask and antistatic work clothes.

Environmental exposure controls:
Ensure compliance with local regulations for emissions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form:	Gas
Colour:	Colourless
Odor:	Odourless
pH:	-
Melting point/ Freezing Point (°C):	-
Initial boiling point(°C):	-
Decomposition temperature (°C):	-
Flash point (°C):	-
Evaporation speed:	-
Ignition (°C):	-
Upper / lower Flammability or Explosion limits (vol-%):	-
Vapour pressure (bar, 20 °C):	-
Vapour density (air=1)	-
Density (g/ml):	-
Solubility in water (mg/l):	-
Partition coefficient [n-octanol/water], Log K_{OW}:	-
Critical temperature (°C):	-
Evaporation rate (nBuAc=1):	-
Viscosity:	-
Flammability:	-
Oxidizing properties:	-

9.2. Other information

Molecular weight:	-
Surface tension (mN/m, 25 °C):	-

SECTION 10: Stability and reactivity

10.1. Reactivity
Non-reactive.
10.2. Chemical stability
Extremely flammable gas. The product is stable when used in accordance with the supplier's directions.
10.3. Possibility of hazardous reactions
Vapours may form explosive mixtures with air.
10.4. Conditions to avoid
Avoid heating and contact with ignition sources.
10.5. Incompatible materials
None known.
10.6. Hazardous decomposition products
No special precautions regarding contact with other materials at the recommended storage conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Substance	Route of exposure	Species	Test	Result
No data	-	-	-	-

Symptoms:
Inhalation: In severe cases, the gas can replace the atmospheric air, so there can be a choking hazard. Symptoms may include rapid pulse, deep breathing and slight dizziness and at higher concentrations loss of mobility and loss of consciousness. The exposed person may not notice suffocation.
Skin contact: Not relevant as the product is a gas.
Eye contact: Not relevant as the product is a gas.
Ingestion: During normal handling gases can not be consumed.
Long term effects:
None known.

SECTION 12: Ecological information

12.1. Toxicity

Substance	Test duration	Species	Test	Result
No data	-	-	-	-

12.2. Persistence and degradability

Substance	Biodegradability	Test	Result
No data	-	-	-

12.3. Bioaccumulative potential

Substance	Potential bioaccumulation	LogPow	BCF
No data	-	-	-

12.4. Mobility in soil

-

12.5. Results of PBT and vPvB assessment

No data.

12.6. Other adverse effects

None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

The product should be treated as dangerous waste.

EWC Code

16 05 04

Rented flasks should be disposed of via supplier.

Specific labelling

-

Contaminated packaging:

Uncleansed packaging is to be disposed of via the local waste-removal scheme.

SECTION 14: Transport information

This product is included in the regulation of dangerous goods.

14.1 -14.4.

ADR

UN number.:	UN proper shipping name	Transport hazard class(es)	Packing group
1954	COMPRESSED GAS, FLAMMABLE, N.O.S. (Hydrogen)	2.1 	-

IMDG

UN-no.:	Proper shipping name	Transport hazard class(es)	Packing group
1954	COMPRESSED GAS, FLAMMABLE, N.O.S. (Hydrogen)	2.1 	-

14.5. Environmental hazards

-

14.6. Special precautions for user

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

Not relevant.

SECTION 15: Regulatory information

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

Large stock of this product is regulated by the Seveso directive (2012/18).

Restrictions for application:

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Demands for specific education:

-

15.2. Chemical safety assessment

Chemical safety assessment has not been performed.

SECTION 16: Other information

Other information:

Sources:

EC regulation 1907/2006 (REACH).
Directive 2000/532/EC.
EC Regulation 1272/2008 (CLP).
EH40/2005 WELs (United Kingdom (UK), 8/2007).

Full text of H-phrases as mentioned in section 2+3:

H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.

Other

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Minor changes have been made in following sections:

1 – 16.

This material safety data sheet replaces version:

1.0 (25-02-2015)