



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2023

Version number 1

Revision: 19.04.2023

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

1.1 Product identifier

Trade name: 99.9-100% Hydrogen
Chemical Identification: CAS 1333-74-0
EINECS number: 215-605-7
Index number: 001-001-00-9

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Dor Chemicals Ltd.
P.O.B 10036 Haifa
Israel 2624892
Tel: +972-4-8465043
Fax: 972-4-8415194
Email: sales@dorchemicals.com
Web: www.dorchemicals.com

1.4 Emergency telephone number(s):

Ireland - National Poisons Information Centre: 01 837 9964 or 01 809 2566 (healthcare professionals only).

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flam. Gas 1A H220 Extremely flammable gas.
Press. Gas (Comp.) H280 Contains gas under pressure; may explode if heated.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms:



GHS02 GHS04

Signal word: Danger

Hazard statements:

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

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 In case of leakage, eliminate all ignition sources.
P410+P403 Protect from sunlight. Store in a well-ventilated place.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2023

Version number 1

Revision: 19.04.2023

Trade name: 99.9-100% Hydrogen

SECTION 3: Composition/information on ingredients

3.1 Substances

Description: Mixture consisting of the following components.

Hazardous components:

CAS: 1333-74-0	hydrogen	Flam. Gas 1A, H220; Press. Gas (Comp.), H280	99.9-100%
EINECS: 215-605-7			

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation: Move patient to fresh air, if symptoms persist consult a doctor.**After skin contact:** Generally the product does not irritate the skin.**After eye contact:** Rinse opened eye for several minutes under running water.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Dry chemical, carbon dioxide or alcohol-resistant foam

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

Protective equipment: Wear a positive pressure self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

6.2 Environmental precautions

No special measures required.

6.3 Methods and material for containment and cleaning up

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No special measures required.

No special precautions are necessary if used correctly.

Information about fire - and explosion protection: Keep ignition sources away - Do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles: No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** Keep container tightly closed.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2023

Version number 1

Revision: 19.04.2023

Trade name: 99.9-100% Hydrogen**7.3 Specific end use(s):** No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:
1333-74-0 hydrogen
OEL Asphx

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Individual protection measures, such as personal protective equipment**Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.**Hand protection**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/the preparation/ the chemical mixture.

Select the glove material based on a consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material:

The exact break through time must be determined by the manufacturer of the protective gloves.

Eye/face protection Not required.**Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state	Gaseous
Colour:	Colourless.
Odour:	Odourless.
Odour threshold:	Not determined.
Melting point/freezing point:	-259 °C
Boiling point or initial boiling point and boiling range	-253 °C
Flammability	Not determined.
Lower and upper explosion limit	
Lower:	4 Vol %
Upper:	75.6 Vol %
Flash point:	Not determined.
Auto-ignition temperature:	560 °C
Decomposition temperature:	Not determined.
pH	Not determined.
Kinematic viscosity	
Dynamic:	Not determined.
Solubility	
Partition coefficient n-octanol/water (log value)	Not determined.
Vapour pressure:	Not determined.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2023

Version number 1

Revision: 19.04.2023

Trade name: 99.9-100% Hydrogen**Density and/or relative density**

Density at 20 °C:	0.0827 g/L
Relative density	Not determined.
Vapour density	Not determined.

9.2 Other information**Appearance:****Form:**

Gaseous

Explosive properties:

Product is not explosive. However, formation of explosive air/vapour mixtures is possible.

Molecular weight

2.02 g/mol

Softening point/range**Oxidising properties**

Not determined.

Evaporation rate

Not applicable.

Information with regard to physical hazard classes**Explosives**

Not applicable.

Flammable gases

Extremely flammable gas.

Aerosols

Not applicable.

Oxidising gases

Not applicable.

Gases under pressure

Contains gas under pressure; may explode if heated.

Flammable liquids

Not applicable.

Flammable solids

Not applicable.

Self-reactive substances and mixtures

Not applicable.

Pyrophoric liquids

Not applicable.

Pyrophoric solids

Not applicable.

Self-heating substances and mixtures

Not applicable.

Substances and mixtures, which emit flammable gases in contact with water

Not applicable.

Oxidising liquids

Not applicable.

Oxidising solids

Not applicable.

Organic peroxides

Not applicable.

Corrosive to metals

Not applicable.

Desensitised explosives

Not applicable.

SECTION 10: Stability and reactivity**10.1 Reactivity** No further relevant information available.**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions No dangerous reactions known.**10.4 Conditions to avoid** Avoid all sources of ignition: heat, sparks, open flames.**10.5 Incompatible materials** No further relevant information available.**10.6 Hazardous decomposition products** No further relevant information available.**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity** Based on available data, the classification criteria are not met.**LD/LC50 values:** No further relevant information available.**Skin corrosion/irritation:** Based on available data, the classification criteria are not met.**Serious eye damage/irritation:** Based on available data, the classification criteria are not met.**Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2023

Version number 1

Revision: 19.04.2023

Trade name: 99.9-100% Hydrogen**Carcinogenicity:** Based on available data, the classification criteria are not met.**Reproductive toxicity:** Based on available data, the classification criteria are not met.**STOT-single exposure:** Based on available data, the classification criteria are not met.**STOT-repeated exposure:** Based on available data, the classification criteria are not met.**Aspiration hazard:** Based on available data, the classification criteria are not met.**11.2 Information on other hazards****11.2.1 Endocrine disrupting properties**

Substance is not listed.

SECTION 12: Ecological information**12.1 Toxicity****Aquatic toxicity:** No further relevant information available.**12.2 Persistence and degradability** No further relevant information available.**12.3 Bioaccumulative potential** No further relevant information available.**12.4 Mobility in soil** No further relevant information available.**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects**Additional environmental information:****General notes:** Not hazardous for water.**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Recommendation:** Do not allow product to reach sewage system.**Uncleaned packaging:****Recommendation:**

Disposal must be made in accordance with official regulations.

Packaging that may not be cleansed must be disposed of in the same manner as the product.

SECTION 14: Transport information**14.1 UN number or ID number****ADR, IMDG, IATA**

UN1049

14.2 UN proper shipping name**ADR****IMDG, IATA**1049 HYDROGEN, COMPRESSED
HYDROGEN, COMPRESSED**14.3 Transport hazard class(es)****ADR****Class**

2 1F Gases.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2023

Version number 1

Revision: 19.04.2023

Trade name: 99.9-100% Hydrogen**Label** 2.1**IMDG, IATA**

Class 2 Gases.
Label 2.1

14.4 Packing group**ADR, IMDG, IATA** Not applicable.**14.5 Environmental hazards**

Not applicable.

14.6 Special precautions for user**Hazard identification number (Kemler code):** Warning: Gases.**EMS Number:** 23**Stowage Category** F-D,S-U**Stowage Code** E**Segregation Code** SW2 Clear of living quarters.

SG46 Stow "separated from" chlorine.

14.7 Maritime transport in bulk according to**IMO instruments**

Not applicable.

Transport/Additional information:**ADR****Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

Tunnel restriction code:**IMDG**

B/D

Limited quantities (LQ)

0

Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Directive 2012/18/EU****Named dangerous substances - ANNEX I** None of the ingredients are listed.**Seveso category** P2 FLAMMABLE GASES**Qualifying quantity (tonnes) for the application of lower-tier requirements** 10 t**Qualifying quantity (tonnes) for the application of upper-tier requirements** 50 t**DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

Substance is not listed.

REGULATION (EU) 2019/1148**Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

Substance is not listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

Substance is not listed.

Regulation (EC) No 273/2004 on drug precursors

Substance is not listed.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2023

Version number 1

Revision: 19.04.2023

Trade name: 99.9-100% Hydrogen

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

Substance is not listed.

15.2 Chemical safety assessment A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

Date of previous version: 17.04.2023

Abbreviations and acronyms:

WEL: Workplace Exposure Limits

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Gas 1A: Flammable gases – Category 1A

Press. Gas (Comp.): Gases under pressure – Compressed gas