

**Safety data sheet**

according to Regulation (EC) No 1907/2006, Article 31

Printing date 13.08.2026

Version number 1

Revision: 13.08.2026

Trade name: Hydrogen 99.9%-100%**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** Hydrogen 99.9%-100%**CAS Number:**

1333-74-0

EC number:

215-605-7

Index number:

001-001-00-9

1.2 Relevant identified uses of the substance or mixture and uses advised against**Application of the substance / the preparation:**

Industrial use.

Professional use

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

Email: sales@dorchemicals.com

Web: www.dorchemicals.com

1.4 Emergency telephone number(s):

Dor Chemicals Ltd. +972-4-8465043, available 24/7.

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.

Additional information:

The full text of the classification and labelling elements mentioned is given in Section 16.

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

Signal word: Danger

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.

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

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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

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1 Substances

CAS Number. Description.

1333-74-0 hydrogen

Identification number(s)

EC number: 215-605-7**Index number:** 001-001-00-9**Additional information:** Purity: 99.9% - 100% (v/v)

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. If symptoms persist, consult a doctor.

After swallowing: Ingestion is an unlikely route of exposure.

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: CO₂, powder or water spray. Fight larger fires with water spray.**For safety reasons unsuitable extinguishing agents:** Water with full jet.

5.2 Special hazards arising from the substance or mixture

 Can form explosive gas-air mixtures.

5.3 Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Eliminate all sources of ignition, including sparks and static electricity.

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

Prevent further leakage or spillage if safe to do so.

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

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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

Handle in accordance with good industrial hygiene and appropriate safety measures.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Take precautionary measures against electrostatic discharges.

Use explosion-proof apparatus / fittings and spark-proof tools.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:

Store in a cool, dry location in well-sealed receptacles.

Information about storage in one common storage facility: Store away from oxidising agents.

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

8.2 Exposure controls

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

Ensure good ventilation/exhaustion at the workplace.

Minimize source of ignition, such as static build-up, heat, spark or flame.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use gas detection in confined/indoor H₂ systems.

The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection



Protective gloves.

Eye/face protection



Safety glasses with side-shields (EN 166).

Body protection: Flame retardant and antistatic protective clothing.

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Physical state	Gaseous
Colour:	Colourless
Odour:	Not determined
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 %
Auto-ignition temperature:	560°C (1013hPa)
Decomposition temperature:	Not determined
pH	Not determined
VOC (EC):	
Dynamic:	Not determined
Solubility	
Water:	Not determined
Partition coefficient n-octanol/water (log value)	Not determined
Vapour pressure:	Not determined
Density and/or relative density	
Density at 15°C:	0.0841g/L (1013 hPa)
Relative density	Not determined
Vapour density	Not determined
Relative gas density	0.0695

9.2 Other information

Appearance:	
Form:	Gaseous
Explosive properties:	Product is not explosive. However, formation of explosive gas/air mixtures is possible
Softening point/range	
Oxidising properties	Not oxidising
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

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SECTION 10: Stability and reactivity

10.1 Reactivity Stable under normal conditions of use, storage, and transport.

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 Oxidizing agents.

10.6 Hazardous decomposition products No hazardous decomposition products known.

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.

LD₅₀/LC₅₀ values: No further relevant information available.

Potential Health Effects:

Primary irritant effect:

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.

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:

Recover if possible.

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Do not discharge into confined space.
Must be specially treated adhering to official regulations.

Uncleaned packaging:**Recommendation:**

Do not dispose of pressurized cylinders as scrap.
Disposal must be made in accordance with official regulations.

SECTION 14: Transport information**14.1 UN number or ID number**

ADR, IMDG, IATA

UN1049

14.2 UN proper shipping name

ADR

1049 HYDROGEN, COMPRESSED

IMDG, IATA

HYDROGEN, COMPRESSED

14.3 Transport hazard class(es)

ADR



Class

2 1F Gases.

Label

2.1

IMDG



Class

2.1 Gases.

Label

2.1

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

Warning: Gases.

Hazard identification number (Kemler code):

23

EMS Number:

F-D,S-U

Stowage Category

E

Stowage Code

SW2 Clear of living quarters.

Segregation Code

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:

B/D

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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**

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended (including amendments introduced by Regulation (EU) 2020/878).

Directive 2012/18/EU

Named dangerous substances - ANNEX I Substance is listed.

Qualifying quantity (tonnes) for the application of lower-tier requirements 5 t

Qualifying quantity (tonnes) for the application of upper-tier requirements 50 t

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 40

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.

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.

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 Dangerous Goods Code

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial 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