



Safety Data Sheet

According to OSHA HazCom Standard [2024]

Printing date 13.08.2026

Version 1

Revision: 13.08.2026

Trade name: Hydrogen 99.9%-100%

1 Identification

Product identifier

Trade name: Hydrogen 99.9%-100%**CAS Number:** 1333-74-0

Application of the substance / the preparation:

Industrial use.

Professional use

Manufacturer/Supplier:

Dor Chemicals Ltd.

P.O.B 10036 Haifa Israel 2624892

Tel: +972-4-8465043

Email: sales@dorchemicals.com;

Web: www.dorchemicals.com

Further information obtainable from:

B-Lands Consulting

5 Place Robert Schuman, BP 1516

38025 Grenoble, FRANCE

Tel: +33 476 295 869

Fax: +33 476 295 870

Email: clients@reachteam.eu www.reachteam.eu

Emergency telephone number(s):

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

2 Hazard(s) identification

Classification of the substance or mixture

Flammable gases 1A

H220 Extremely flammable gas.

Gases under pressure - Compressed gas H280 Contains gas under pressure;
may explode if heated.

Additional information:

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

Label elements

GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).



GHS02

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.

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Trade name: Hydrogen 99.9%-100%**Additional Information:****Information pertaining to particular dangers for man and environment:****Classification system:****NFPA ratings (scale 0 - 4)****HMIS-ratings (scale 0 - 4)****Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable**vPvB:** Not applicable

3 Composition/information on ingredients

Chemical characterization: Substances**CAS No. Description:** 1333-74-0 Hydrogen**Additional information:** Purity: 99.9%-100%

4 First-aid measures

Description of first aid measures**After inhalation:** Move patient to fresh air, if symptom arise 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.**Most important symptoms and effects, both acute and delayed:**

No further relevant information available.

Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

5 Fire-fighting measures

Extinguishing media**Suitable extinguishing agents:** CO₂, extinguishing powder or water spray. Fight larger fires with water spray.**For safety reasons unsuitable extinguishing agents:** Water with full jet.**Special hazards arising from the substance or mixture:** Can form explosive gas-air mixtures.**Advice for firefighters****Protective equipment:** Wear self-contained respiratory protective device.

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6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

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

Wear protective equipment. Keep unprotected persons away.

Environmental precautions: No special measures required.

Methods and material for containment and cleaning up:

Prevent further leakage or spillage if safe to do so.

Ensure adequate ventilation.

Special spill response procedures:

Protective Action Criteria for Chemicals

PAC-1:		
1333-74-0	hydrogen	65000*** ppm
PAC-2:		
1333-74-0	hydrogen	230000*** ppm
PAC-3:		
1333-74-0	hydrogen	400000*** ppm

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.

7 Handling and storage

Precautions for safe handling

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

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Take precautionary measures against electrostatic discharges. Use explosion-proof apparatus / fittings and spark-proof tools.

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 oxidizing agents.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:	
1333-74-0 hydrogen	
TLV	see App. F Minimal oxygen content (D, EX)

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

Exposure controls

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 for handling chemicals should be followed.

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Breathing equipment:

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).

Protection of hands:



Protective gloves

Eye protection:



Safety glasses

Body protection: Flame retardant and antistatic protective clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Physical state	Gaseous
Color:	Colorless
Odor:	Not determined
Odor threshold:	Not determined
Melting point/Melting range:	-259°C (-434.2 °F)
Boiling point/Boiling range:	-253°C (-423.4 °F)
Flammability:	Not determined
Explosion limits:	
Lower:	4 Vol %
Upper:	75.6 Vol %
Auto-ignition temperature:	560°C (1,040°F) (1013hPa)
Decomposition temperature:	Not determined
pH-value:	Not determined
Viscosity:	
Kinematic:	Not determined
Dynamic:	Not determined
Solubility in / Miscibility with Water:	Not determined
Partition coefficient (n-octanol/water):	Not determined
Vapor pressure:	Not determined
Density at 15 °C (59 °F):	0.0841 g/L (1013hPa)
Relative density	Not determined
Vapor density	Not determined
Particle characteristics	Not applicable

Other information

Appearance:	
Form:	Gaseous
Danger of explosion:	Product is not explosive. However, formation of explosive gas/air mixtures is possible

Flammability Limits:

Upper:	
Oxidizing properties	Not oxidizing
Evaporation rate	Not applicable

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10 Stability and reactivity

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

Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: Avoid all sources of ignition: heat, sparks, open flames.

Incompatible materials: Oxidizing agents.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD₅₀/LC₅₀ values that are relevant for classification: No further relevant information available.

Primary irritant effect:

on the skin: No irritant effect.

on the eye: No irritating effect.

Sensitization: No sensitizing: effects known.

Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer) Substance is not listed.

NTP (National Toxicology Program) Substance is not listed.

OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

Other adverse effects

Additional ecological information

General notes: Not hazardous for water.

13 Disposal considerations

Waste treatment methods

Recommendation:

Recover if possible.

Do not discharge into confined space.

Must be specially treated adhering to official regulations.

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Uncleaned packaging:

Recommendation:

Do not dispose of pressurized cylinders as scrap.
Disposal must be made according to official regulations.

14 Transport information

UN-Number	
DOT, ADR, IMDG, IATA	UN1049
UN proper shipping name	
DOT, ADR	Hydrogen, compressed
IMDG, IATA	HYDROGEN, COMPRESSED
Transport hazard class(es)	
DOT	
Class	2 Gases
Label	2.1
ADR	
Class	2 1 F Gases
Label	2.1
IMDG	
Class	2.1 Gases
Label	2.1
IATA	
Class	2 Gases
Label	2.1
Packing group	
DOT, ADR, IMDG, IATA	Not applicable.
Environmental hazards:	
Not applicable	
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	
Not applicable	

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Transport/Additional information:

DOT

Quantity limitations

On cargo aircraft only: 150 kg

On passenger aircraft/rail: Forbidden

ADR

Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

IMDG

Limited quantities (LQ)

0

Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

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

15 Regulatory information

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

SARA

Section 355 (extremely hazardous substances): Substance is not listed.

Section 313 (Specific toxic chemical listings): Substance is not listed.

Proposition 65

Chemicals known to cause cancer: Substance is not listed.

Chemicals known to cause reproductive toxicity for females: Substance is not listed.

Chemicals known to cause reproductive toxicity for males: Substance is not listed.

Chemicals known to cause developmental toxicity: Substance is not listed.

Carcinogenic categories

EPA (Environmental Protection Agency) Substance is not listed.

TLV (Threshold Limit Value) Substance is not listed.

NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.

GHS label elements

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Hazard pictograms



GHS02

Signal word Danger

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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:

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

DOT: US Department of Transportation

IATA: International Air Transport Association

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC₅₀: Lethal concentration, 50 percent

LD₅₀: Lethal dose, 50 percent

Flammable gases 1A: Flammable gases, Category 1A

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