



Material Safety Data Sheet Hydrogen, Compressed

AXCEL GASES

Creation Date: 28.01.2008

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name: Hydrogen Compressed
Chemical formula: H₂
Known uses: Not known
Company: Axcel Gases
Head Office:
1K/49, NIT, Faridabad, 121001, India
Email: info@axcelgases.com
Works:
80 KM Delhi-Jaipur Highway, Distt. Rewari, 123106
Haryana, India
Email: info@axcelgases.com

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification acc. to Regulation (EC) No 1272/2008/EC (CLP/GHS)

Press. Gas (Compressed gas) - Contains gas under pressure; may explode if heated.
Flam. Gas 1 - Extremely flammable gas.

Classification acc. to Directive 67/548/EEC & 1999/45/EC

F+; R12
Extremely flammable.

Risk advice to man and the environment

In high concentrations may cause asphyxiation. Compressed gas.

Label Elements

- Labelling Pictograms



-Signal word

Danger

- Hazard Statements

H280 Contains gas under pressure; may explode if heated.

H220 Extremely flammable gas.

- Precautionary Statements

Precautionary Statement Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Precautionary Statement Reaction

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

P381 Eliminate all ignition sources if safe to do so.

Precautionary Statement Storage

P403 Store in a well-ventilated place.

Precautionary Statement Disposal

None.



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3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation: Substance.

Components/Impurities

Hydrogen, Compressed

CAS No.: 1333-74-0

Index-Nr.: 001-001-00-9

EEC Nr (from EINECS) : 215-605-

7 REACH Registration number:

Listed in Annex IV/V of Regulation (EC) No 1907/2006 (REACH), exempted from registration.

Contains no other components or impurities which will influence the classification of the product.

4. FIRST AID MEASURES

Inhalation:

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Ingestion:

Ingestion is not considered a potential route of exposure

5. FIRE FIGHTING MEASURES

Specific hazards : Exposure to fire may cause containers to rupture/explode.

Hazardous combustion products : None.

Suitable extinguishing media : All known extinguishants can be used.

Specific methods : If possible, stop flow of product. Move container away or cool with water from a protected position. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur.

Special protective equipment for fire fighters : In confined space use self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. Eliminate ignition sources.

Environmental precautions: Try to stop release.

Clean up methods : Ventilate area.

7. HANDLING AND STORAGE

Handling

Ensure equipment is adequately earthed. Suck back of water into the container must be prevented. Purge air from system before introducing gas. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Keep away from ignition sources (including static discharges). Refer to supplier's handling instructions. This gas is not intended for filling balloons for play and advertising purposes because of the danger of explosion. With hydrogen balloons for transportation of human beings sufficient distance to transmitting plant is to be kept.

Storage

Segregate from oxidant gases and other oxidants in store. Keep container below 50°C in a well ventilated place. Observe "Technische Regeln Druckgase (TRG) 280 Ziffer 5"

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection: Ensure adequate ventilation. Do not smoke while handling product.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance/Colour: Colourless gas.

Odour: None

Important information on environment, health and safety Molecular weight: 2 g/mol

Melting point: -259 °C

Boiling point: -253 °C

Critical temperature: -240 °C

Autoignition temperature: 560 °C

Flammability range: 4 %(V) - 75 %(V)

Relative density, gas: 0,07

Relative density, liquid: Not applicable.

Solubility mg/l water: 1,6 mg/l

Other data

Burns with a colourless invisible flame.



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10. STABILITY AND REACTIVITY

Stability and reactivity : Can form explosive mixture with air. May react violently with oxidants.

11. TOXICOLOGICAL INFORMATION

General: No known toxicological effects from this product.

12. ECOLOGICAL INFORMATION

General: No known ecological damage caused by this product.

13. DISPOSAL CONSIDERATIONS

General : Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor. Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required.

EWC Nr. 16 05 04*

14. TRANSPORT INFORMATION

ADR/RID

Class: 2

Classification Code: 1F

UN number and proper shipping name

UN 1049 Hydrogen, compressed

UN 1049 Hydrogen, compressed

Labels: 2.1

Hazard number: 23

Packing Instruction: P200

IMDG

Class : 2.1

UN number and proper shipping name

UN 1049 Hydrogen, Compressed

Labels : 2.1

Packing Instruction : P200

EmS: FD,SU

IATA

Class : 2.1

UN number and proper shipping name

UN 1049 Hydrogen, Compressed

Labels : 2.1

Packing Instruction: P200

Other transport information

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 that they are firmly secured. Ensure that the cylinder valve is closed and not leaking. Ensure that the valve outlet cap nut or plug (where provided) is correctly fitted. Ensure that the valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

15. REGULATORY INFORMATION

Further national regulations :-

Regulations for the prevention of industrial accidents

Pressure Vessel Regulation

Technische Regeln für Gefahrstoffe (TRGS)

Water pollution class

Not polluting to waters according to VwVwS from 27.07.2005.



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16. OTHER INFORMATION

Ensure operators understand the flammability hazard. The hazard of asphyxiation is often overlooked and must be stressed during operator training. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

Advice

To prepare this document, help of various source of information available over electronic media has been taken for the sake of safety of the mankind and the environment. Whilst proper care has been taken during preparation of this document, no legal liability of any kind is accepted for any Injury or Damage resulting from the use of the product or information. We do not claim any type of ownership/correctness of this document or the information contained in it.

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