

Renewable hydrogen 3.7



1 General

Renewable hydrogen 3.7 fuel cell grade D type I, RFNBO (Renewable Fuel of Non Biological Origin) compliant, is a gas produced by electrolysis of water from a 100% renewable energy source and with a purity > 99.97%.

2 Uses

Renewable hydrogen 3.7 can be used in a wide range of applications and is particularly suitable as an energy source for fuel cells. Used to produce electricity without greenhouse gas emissions, these cells have applications in the transport sector and in stationary energy needs.

3 Physical properties

Under normal conditions of temperature and pressure, hydrogen is a flammable, colourless and odourless gas, which is lighter than air. It is soluble in water up to 1.6 mg/L at 21°C.

Chemical formula

H₂

Gas density relative to air (1013hpa/15°C)

0.0695

Physical state

Gas

Melting point (1013hpa)

-259.2°C

Molar mass

2.02g/mol

Boiling point (1013hpa)

-253°C

Density (1013hpa/15°C)

0.084kg/m³

Self-ignition point (1013hpa)

560°C

Flammability limits

4 %-77%

4 Chemical properties

Hydrogen is a powerful reducing agent, which ignites very easily when mixed with oxygen. Under unsafe conditions, it can cause violent reactions or even explosions to occur, or react to form flammable mixtures that can ignite with heat and/or shock, or in contact with oxidants, halogens (bromine, chlorine, fluorine, iodine) or gas (acetylene, carbon monoxide). Metal catalysts, such as platinum and nickel, intensify these reactions.

5 Specifications

- ▶ **H₂ Purity**
> 99.97 %
- ▶ **O₂ impurities**
< 5 ppm
- ▶ **H₂O impurities**
< 5 ppm
- ▶ **N₂ Impurities**
< 300 ppm
- ▶ **Compliance with norms**
ISO 14687 / EN 17124 / SAE J 27 19 (current standards)
- ▶ **Lhyfe reference**
HY0001

6 Safety data sheet

Available at www.lhyfe.com

The manufacturer reserves the right to make changes to this datasheet at any time without notice. The user assumes all responsibility for the suitability of this product for their particular purpose responsibility and the compliance with all applicable laws and regulations.