

高纯氢 High Pure Hydrogen

1、产品介绍 Product introduction

高纯氢（H₂）是一种无色无臭的可燃气体，在空气中的可燃极限为4.1%~74.1%(体积浓度)，其自燃温度为571.2℃，沸点为-252.8℃，熔点为-259.2℃。常温下，氢气的性质很稳定，不容易跟其它物质发生化学反应。高纯氢在电子微芯片等行业中有着非常重要的应用，在一些电子材料的生长与衬底的制备、氧化工艺、外延工艺以及化学气相沉积技术中，均采用氢气作为反应气、还原气或保护气。

High pure hydrogen (H₂) is a kind of colorless, odorless combustible gas with flammability limit in the air of 4.1% ~ 74.1% (volume concentration), its autoignition temperature is 571.2℃, boiling point is 252.8℃, melting point is 259.2℃. Hydrogen is stable at room temperature, and it is not easy to react with other substances. High purity hydrogen has a very important application in electronic microchip and other industries. Hydrogen is used as reaction gas, reduction gas or protective gas during the oxidation process, epitaxy process and chemical vapor deposition (CVD) technology of some electronic materials.

2、产品指标 Quality specification

项目 Items	单位 Units	指标 Indexs		
		超纯氢 Ultra pure hydrogen	高纯氢 High pure hydrogen	纯氢 Pure hydrogen
氢 Hydrogen (H ₂) ≥	Vol.%	99.9999	99.999	99.99
氧、氩 Oxygen, Argon (O ₂ , Ar) ≤	Vol.ppm	0.2	1	5
氮气 Nitrogen (N ₂) ≤	Vol.ppm	0.4	5	60
一氧化碳 Carbon monoxide (CO) ≤	Vol.ppm	0.1	1	5
二氧化碳 Carbon dioxide (CO ₂) ≤	Vol.ppm	0.1	1	5

甲烷 Methane (CH ₄) ≤	Vol.ppm	0.2	1	10
水分 Moisture (H ₂ O) ≤	Vol.ppm	1.0	3	30

3、产品用途 Application

氢是主要的工业原料，也是重要的工业气体和特种气体。在电子微芯片的制造中，需要采用氢气作为反应气、还原气或保护气。除此之外，氢气在石油化工、冶金工业、食品加工、浮法玻璃、精细有机合成、航空航天等方面有着广泛的应用。同时，氢也是一种理想清洁的二次能源，航天工业中更是使用液氢作为燃料。

Hydrogen is a kind of main industrial raw material, and also an important industrial gas and special gas. In the manufacture of electronic microchips, hydrogen gas is used as reaction gas, reduction gas or protection gas. In addition, hydrogen is widely used in petrochemical industry, metallurgical industry, food processing, float glass, minute organic synthesis, aerospace and other fields. At the same time, hydrogen is also an ideal and clean secondary energy, and liquid hydrogen is used as fuel in the aerospace industry.

4、包装、贮藏 Packaging and storage

高纯氢充装在钢质无缝气瓶中，钢瓶规格为 10L、40L。具体包装规格可根据客户需求定制更改。高纯氢储存于阴凉、通风的库房中，远离火种、热源。库房采用防爆型照明、通风设施，库温不超过 30 °C，相对湿度不超过 80%。

The high pure hydrogen is stored in standard seamless cylinders, the packing specifications include 10L and 40L. Specific packaging specifications can be customized according to user requirements. High pure hydrogen is stored in a shady and ventilated storeroom away from fire and heat sources. Storeroom uses explosion-proof lighting, ventilation, temperature of storeroom is lower than 30°C, and relative humidity of storeroom is less than 80%.