

乙硼 11 烷 Diborane11

1、产品介绍 Product introduction

乙硼 11 烷，又称六氢化二硼、硼乙烷，分子式为 B_2H_6 ，相对分子量为 27.67。乙硼烷在正常条件下（ $15^{\circ}C$ ， $101.325kPa$ ）是一种无色、易燃、易分解、具有令人恶心的烟火气味和微甜味道的高毒气体。乙硼烷是一种非常活泼的化合物，常温下就不很稳定，会缓慢地分解生成各种不同含量的硼氢化合物，同时会放出氢气。乙硼烷遇水立即水解，最终得到硼酸和大量的氢气。乙硼 11 烷在电子工业中作为气态杂质源、离子注入和硼掺杂氧化扩散的掺杂剂使用。

Diborane has a molecular formula of B_2H_6 and a relative molecular weight of 27.67. Diborane is a kind of colorless, flammable, labile and high toxic gas with disgusting fireworks smell and sweet taste at normal conditions ($15^{\circ}C$, $101.325kPa$). Diborane is a very reactive compound that is unstable at room temperature and decomposes slowly to form a variety of borohydrides in different contents, hydrogen is generated at same time. Diborane hydrolyzes immediately encountering with water, generating boric acid and a large amount of hydrogen. Diborane11 is used as dopant for gaseous impurity source, ion implantation and boron doped oxide diffusion in the electronic industry.

2、产品指标 Quality specification

项目 Items	单位 Units	指标 Index
乙硼 11 烷, Diborane11 \geq	Vol. %	99.99
$CH_4+C_2H_6$, \leq	ppm	80
氮气, Nitrogen \leq	ppm	10

3、产品用途 Application

乙硼 11 烷可在微电子、平板显示、太阳能电池、LED、光纤、医药、核电等领域应用，也可用作聚合催化剂。乙硼 11 烷在半导体制造中用作硅材料的 p 型掺杂源，用于半导体生产，硅和锗的外延生长、钝化、扩散和离子注入。

Diborane can be used in microelectronics, flat panel display, solar cells, LED, optical fiber, medicine, nuclear power and other fields, also can be used as polymerization catalyst. Diborane11 is a p-doped source of silicon used in semiconductor manufacturing, epitaxial growth, passivation, diffusion, and ion implantation of silicon and germanium.

4、包装、贮藏 Packaging and storage

乙硼 11 烷存放于不锈钢钢瓶中，在室温条件下，钢瓶内纯乙硼 11 烷每月要分解 10%~20%，在低温下乙硼 11 烷可以贮存几个月且分解速度低得多，但乙硼 11 烷储存温度不应低于-80°C。储存区应远离明火、火花、热源，并应备有泄漏应急处理设备。

Diborane11 is stored in stainless steel cylinders, pure diborane11 in the cylinder decomposes 10%~20% a month at room temperature, diborane11 can be stored a few months and the decomposition rate is much lower in low temperature, but storage temperature of diborane11 should not be lower than -80°C. Storage area shall be away from open flame, spark and heat source, and shall be equipped with equipment for emergency.