

# 六氟化硫 Sulfur Hexafluoride

## 1、产品介绍 Product introduction

六氟化硫是一种无色、无臭、无毒、不燃的惰性气体，分子量为 146.07，熔点为-51℃，沸点为-64℃。六氟化硫分子结构呈八面体排布，键合距离小、键合能高，因此其稳定性很高。电子级高纯六氟化硫是一种理想的蚀刻剂，可用六氟化硫蚀刻硅表面并去除半导体材料上的有机或无机膜状物，并可在光导纤维的制造过程中，作为掺杂剂使用。

Sulfur hexafluoride is a kind of colorless, odorless, non-toxic, non-combustible inert gas with molecular weight of 146.07, melting point of -51℃, boiling point of 64℃. Molecular structure of sulfur hexafluoride is octahedron configuration, its bond distance is small, bonding energy is high, so its stability is high. Electronic grade high pure sulfur hexafluoride is an ideal etching agent, which can be used to etch surface of silicon and remove organic or inorganic films on semiconductor materials, and can be used as dopant in the manufacturing process of optical fiber.

## 2、产品指标 Quality specification

项目 Items	单位 Units	指标 Index
六氟化硫 (SF <sub>6</sub> ) Sulfur hexafluoride	Vol./%	≥99.999%
(氧+氩含量) Oxygen+Argon (O <sub>2</sub> +Ar) ≤	Vol.ppm	≤2
氮 Nitrogen (N <sub>2</sub> ) ≤	Vol.ppm	≤2
四氟化碳 Carbon tetrafluoride (CF <sub>4</sub> ) ≤	Vol.ppm	≤1
一氧化碳 Carbon monoxide (CO) ≤	Vol.ppm	≤0.5
二氧化碳 Carbon dioxide (CO <sub>2</sub> ) ≤	Vol.ppm	≤0.5
甲烷 Methane (CH <sub>4</sub> ) ≤	Vol.ppm	≤0.5
水分 Moisture (H <sub>2</sub> O) ≤	Vol.ppm	≤3
酸度 Acidity (以 HF 计) ≤	μg	≤0.1
可水解氟化物 Hydrolytic fluoride (以 HF 计) ≤	μg	≤0.8
总杂质含量 Total impurity content≤	μg	≤10
颗粒 Particle	μg	供需双方协商 Supply and demand agreement

### 3、产品用途 Application

电子级高纯六氟化硫是一种理想的电子蚀刻剂，广泛应用于微电子技术领域，用作电脑芯片、液晶屏等大型集成电路制造中的等离子刻蚀及清洗剂。在光纤制备中六氟化硫用作生产掺氟玻璃的氟源。此外，六氟化硫还可作为绝缘气体、示踪剂、冷冻剂使用。

Electronic grade high pure sulfur hexafluoride is an ideal electronic etching agent, which is widely used in the field of microelectronics technology, it is used as a plasma etching and cleaning agent in the manufacture of large integrated circuits such as computer chips and LCD. Sulfur hexafluoride is used as a fluorine source to produce fluorine-doped glass in the preparation of optical fiber. In addition, sulfur hexafluoride can also be used as insulating gas, tracer agent and refrigerant.

### 4、包装、贮藏 Packaging and storage

六氟化硫充装在钢质无缝气瓶中，钢瓶一般容积为 40L。具体包装规格可根据用户要求定制更改。六氟化硫储存于阴凉、通风的库房，远离火种、热源，库温不宜超过 30℃，应与易（可）燃物、氧化剂分开存放，切忌混储，储区应备有泄漏应急处理设备。

Sulfur hexafluoride is stored in standard seamless cylinders, generally cylinder volume is 40L. Specific packaging specifications can be customized according to user requirements. Sulfur hexafluoride is stored in a shady and ventilated storeroom away from fire and heat source, temperature of storeroom does not exceed 30℃. It should be separately stored with inflammable (combustible) and oxidizing agent. The storage area shall be equipped with emergency equipment for emergency.