

四氟化硫 Sulfur Tetrafluoride

1、产品介绍 Product introduction

四氟化硫（SF₄），分子量为 108.05，熔点为-124℃，沸点为-38℃，是一种选择性有机氟化剂。四氟化硫为强烈刺激臭味的无色气体，有毒，在空气中不燃烧，不爆炸，在 600℃时仍很稳定。四氟化硫遇到有水分的环境会引起类似氢氟酸的腐蚀，完全水解变成二氧化硫和氢氟酸，部分水解时生成有毒的亚硫酸氟。SF₄在氟化学上是很重要的一种氟代试剂，其能把羟基化合物转化为单氟代化合物，醛和酮转化为二氟代化合物，还能把羧基转化为三氟甲基，是合成三氟甲基化合物的一种重要原料。

Sulfur tetrafluoride(SF₄) is a selective organic fluoridizer with molecular weight of 108.05, melting point of -124℃ and boiling point of -38℃. Sulfur tetrafluoride is a kind of colorless gas with strong irritating odor, it is toxic but incombustible and inexplosive in the air, it is still very stable even at 600℃. Sulfur tetrafluoride will cause corrosion which is similar to hydrofluoric acid in the environment with moisture, SF₄ completely hydrolyzes into sulfur dioxide and hydrofluoric acid and partially hydrolyzes into toxic thionyl chloride. SF₄ is an important fluoridizer in fluorine chemistry, which can convert hydroxyl compounds into monofluorinated compounds, convert aldehydes and ketones into difluorinated compounds, and convert carboxyl into trifluoromethyl, it is an important raw material for the synthesis of trifluoromethyl compounds.

2、产品指标 Quality specification

项目 Items	单位 Units	指标 Index
四氟化硫 Sulfur tetrafluoride (SF ₄) ≥	Vol.%	99.0
六氟化硫 Sulfur hexafluoride (SF ₆) ≤	Vol.%	0.2
空气 (Air) ≤	Vol.%	0.1
二氧化碳 Carbon dioxide (CO ₂) ≤	Vol.%	0.05
四氟化碳 Carbon tetrafluoride (CF ₄) ≤	Vol.%	0.1
其他氟硫化合物 Other fluorosulfur compounds (S _x F _y) ≤	Vol.%	0.5

3、产品用途 Application

四氟化硫是具有高效选择性的氟化剂，广泛应用于高档液晶材料和含氟农药、医药及其中间体的合成，还在电子气、化学气相淀积、表面处理剂、等离子蚀刻等诸多领域有着重要的应用。

Sulfur tetrafluoride is the most efficient and selective fluoridizer, which is widely used in the synthesis of high-grade liquid crystal material, fluorine-containing pesticide, medicine and medical intermediate, sulfur tetrafluoride also is used in many fields such as electronic gas, chemical vapor deposition, surface treatment agent and plasma etching.

4、包装、贮藏 Packaging and storage

四氟化硫充装于标准无缝钢质气瓶中，钢瓶规格分别为 4L、10L。具体包装规格可根据用户要求定制更改。四氟化硫储存于阴凉、通风的库房，应与氧化剂、食用化学品、碱金属分开存放，远离火种、热源。

Sulfur tetrafluoride is stored in standard seamless cylinders, the packing specifications include 4L and 10L. Specific packaging specifications can be customized according to users' requirements. Sulfur tetrafluoride shall be stored in a

shady and ventilated storeroom, and it should separate from oxidants, chemicals and alkali metals and keep away from fire and heat sources.