

五氟化钽 Tantalum Pentafluoride

1、产品介绍 Product introduction

五氟化钽 (TaF_5)，相对分子量为 276，熔点为 96.8°C ，沸点为 229.5°C ，是一种白色结晶，折光能力强。五氟化钽微溶于热的二硫化碳和四氯化碳溶液中，溶于水和乙醚、氢氟酸、硝酸、发烟硝酸，在空气中吸湿而不水解。高纯五氟化钽在微电子工业中用作化学气相淀积硅化钽或钽膜，制作低电阻、高熔点的电路互连线和栅极。五氟化钽在电子元器件表面、半导体器件表面、钛及金属氮化物电极表面、金属钨表面上，可形成附着力极强、厚度为 $0.1\mu\text{m}$ 级的绝缘薄膜，具有高的介电率。

Tantalum pentafluoride (TaF_5) is a white crystal with strong refractive ability at room temperature, its relative molecular mass is 276, melting point is 96.8°C , boiling point is 229.5°C . Tantalum pentafluoride is slightly soluble in hot solution of carbon disulfide and carbon tetrachloride, it is soluble in water and ether, hydrofluoric acid, nitric acid, it is hygroscopic in air without hydrolysis. High pure tantalum pentafluoride is used in the microelectronics industry for chemical vapor deposition of tantalum silicide or tantalum film, in order to produce interconnects and grid electrode with low resistance and high melting point. Tantalum pentafluoride can form insulation film with strong adhesion, thickness of $0.1\ \mu\text{m}$, and a high dielectric constant on the surface of the electronic components, semiconductor devices, titanium, metallic nitride electrode and metal tungsten.

2、产品指标 Quality specification

项目 Items	单位 Units	指标 Index
五氟化钽 Tantalum pentafluoride \geq	Vol.%	99.9
四氟化碳 Carbon tetrafluoride (CF ₄) \leq	Vol.ppm	10
氮气 Nitrogen (N ₂) \leq	Vol.ppm	50
(氧+氩) Oxygen+Argon (O ₂ +Ar) \leq	Vol.ppm	50
六氟化硫 Sulfur hexafluoride (SF ₆) \leq	Vol.ppm	10
四氟化硅 Silicon tetrafluoride (SiF ₄) \leq	Vol.ppm	10
氟化氢 Hydrogen fluoride (HF) \leq	Vol.ppm	800

3、产品用途 Application

五氟化钽在电子工业中用作化学气相淀积硅化钽或钽膜，制作低电阻、高熔点的电路互连线和栅极。

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4、包装、贮藏 Packaging and storage

五氟化钽储存于 4.64L、10.2L、44L 钢瓶中，具体包装规格可根据用户需求定制更改。五氟化钽贮存于阴凉、干燥的库房中，确保有良好的通风。

Tantalum pentafluoride is stored in steel cylinders with packing specifications of 4.64L/10.2L/44L, the specific packaging specifications can be customized according to user requirements. Tantalum pentafluoride is stored in a shady and dry storeroom.