硫酸氧钛

英文名：Titanium Oxysulfate

分子式：$TiOSO_4 \cdot 2H_2O$

分子量： 196

CAS： 123334-00-9

物化性质：硫酸氧钛为针状或者柱状结晶性白色粉末。常温下，能够缓慢完全溶于水。温度过高易水解。

用途：硫酸氧钛是一种可以在水中稳定存在的可溶性钛盐 ，使用硫酸氧钛可以制备纳米级二氧化钛、超高纯钛(5N)、钛酸盐、钛分子筛、钛溶胶、钛絮凝剂、高活性含钛催化剂、媒染剂、还原剂、染料退色剂、 陶瓷材料等。

由于其可以在较低的反应温度下制备超细粒度的纳米材料，被广泛用于水热法制备锂电池负极材料(钛酸锂) 、超高纯金属钛、汽车尾气催化净化、燃气脱硝、室内外涂层净化空气、降解水中有机物、杀菌灭菌、 石油化工催化剂、金属表面调整剂、制革的钛鞣剂、高纯无机钛盐、钛表面涂层、无机高分子絮凝剂等场合。行业上应用如下：

1. 污水处理行业
   硫酸氧钛可用于净化水质，去除水中的有害物质。（除水中的重金属离子、氨氮和有机物等有害物）
2. 皮革制造行业
   硫酸氧钛可以用于制造高质量的皮革制品，增强皮革的柔软性和耐用性。
3. 纺织行业
   硫酸氧钛可用于染色和印染过程中的催化剂，可以提高颜色的亮度和均匀度。
4. 玻璃制造业
   硫酸氧钛可以用作玻璃生产过程中的添加剂，可以提高玻璃的透明度和抗磨损性。
5. 金属表面处理行业
   硫酸氧钛可以用于金属表面处理过程中的催化剂和抛光剂，可以提高金属表面的光泽度和防腐性。
6. 印刷工业
   硫酸氧钛可以作为印刷墨水中的添加剂，可以提高墨水的流动性和稳定性，同时还可以提高印刷品的色彩饱和度和光泽度。
7. 建筑材料行业
   硫酸氧钛可用于制造石膏板、人造石材、墙面涂料等建筑材料，可以提高材料的强度、硬度和耐久性。
8. 纸浆和造纸行业
   硫酸氧钛可以作为造纸涂料的成分，可以提高纸张的光泽度和印刷性能，同时还可以提高纸张的机械性能。
9. 汽车制造业
   硫酸氧钛可用于制造汽车部件，如汽车排气系统中的催化剂和氧化物传感器等。
10. 冶金工业
    硫酸氧钛可作为冶金过程中的催化剂和吸附剂使用，可提高冶金过程的效率和产品质量。

11. 化妆品行业

硫酸氧钛具有高的紫外线吸收能力和热稳定性，因此被广泛应用于化妆品中，如日霜、防晒霜、唇膏、粉底等。

12. 农业

硫酸氧钛可作含钛肥料，可以提高土壤肥力、促进植物生长、提高产量和品质，并减少化肥用量，降低生产成本，有助于实现农业的可持续发展。

产品特点：我厂生产的硫酸氧钛的优点在于产品质量稳定，产能充足，水溶性好，金属阳离子杂质含量低，使用方便，是高品质安全的钛源，适合制备高档次和高性能的下游产品。

包装：塑料编织袋内衬聚乙烯塑料袋密封包装，包装尺寸规格：50cm*80cm，每袋净重20kg。

储存：密封保存在阴凉、通风、干燥的库房中，防止潮湿，勿与碱类物质共贮混运。运输时防雨淋，防日光曝晒。装卸时要轻拿轻放，防止包装破损。

安全防护：本品不燃烧，失火时，可用水、砂土和各种灭火器扑救。本产品无毒害作用，与皮肤接触有轻微刺激性，使用操作时应戴胶手套等防护用品。

产品主要技术指标：分为三种规格，详情见下表

高纯级：

检测内容		标准
TiO_2%	≥	38.0
Free SO_4	≤	5
Fe ppm	≤	50
其他杂质	≤	100

高端工业级：

检测内容		标准
TiO_2%	≥	28.0
Free SO_4	≤	15
Fe ppm	≤	100
其他杂质	≤	200

通用工业级：

检测内容		标准
TiO_2%	≥	18.0
Free SO_4	≤	25
Fe ppm	≤	150
其他杂质	≤	300

Titanium Oxysulfate

Product Name: Titanium Oxysulfate
Chemical Formula: $TiOSO_4 \cdot 2H_2O$
Molecular Weight: 196
CAS Number: 123334-00-9

Physical and Chemical Properties: Titanium Oxysulfate is a white crystalline powder with a needle-like or columnar structure. It slowly dissolves in water at room temperature and readily hydrolyzes at high temperatures.

Applications: Titanium Oxysulfate is a soluble titanium salt that finds wide-ranging applications in various industries. It is used for the production of nano-sized titanium dioxide, ultra-high purity titanium (5N), titanium compounds, titanium molecular sieves, titanium sols, titanium flocculants, high-activity titanium-containing catalysts, dyeing and reducing agents, dye decolorizing agents, ceramic materials, and more. It is extensively utilized in the following industries:

1. Wastewater treatment: Used for water purification to remove harmful substances such as heavy metal ions, ammonia nitrogen, and organic compounds.
Leather manufacturing: Enhances the softness and durability of leather products.
Textile industry: Serves as a catalyst in dyeing and printing processes to improve color brightness and uniformity.
2. Glass manufacturing: Used as an additive in glass production to enhance transparency and abrasion resistance.
3. Metal surface treatment: Acts as a catalyst and polishing agent in metal surface treatment, enhancing glossiness and corrosion resistance.
4. Printing industry: Functions as an additive in printing inks, improving ink flow and stability, as well as enhancing color saturation and glossiness of printed materials.
5. Building materials industry: Used in the manufacturing of gypsum boards, artificial stones, and wall coatings to improve strength, hardness, and durability.
6. Pulp and paper industry: Used as a component in coating formulations to enhance glossiness, printability, and mechanical properties of paper.
7. Automotive manufacturing: Applied in the production of automotive components such as catalysts for exhaust systems and oxide sensors.
8. Metallurgical industry: Utilized as a catalyst and adsorbent to improve efficiency and product quality in metallurgical processes.
9. Cosmetics industry: With its high UV absorption capacity and thermal stability, it is widely used in cosmetics such as day creams, sunscreens, lipsticks, and foundations.
10. Agriculture: Employed as a titanium-containing fertilizer to improve soil fertility, promote plant growth, increase yield and quality, reduce the use of chemical fertilizers, and contribute to sustainable agriculture.

Product Features: Our Titanium Oxysulfate stands out for its stable quality, ample production capacity, good water solubility, low content of metallic cations impurities, and ease of use. It serves as a high-quality and safe source of titanium, suitable for the production of high-grade and high-performance downstream products.

Packaging: Sealed packaging in plastic woven bags with inner polyethylene liners. Package dimensions: 50cm * 80cm, net weight per bag: 20kg.

Storage: Store in a sealed container in a cool, well-ventilated, and dry warehouse to prevent moisture. Avoid storage and transportation with alkaline substances. Protect from rain and sunlight during transportation. Handle with care to prevent package damage.

Safety Precautions: The product is non-combustible. In case of fire, use water, sand, or appropriate fire extinguishers. It is non-toxic but may cause slight skin irritation upon contact. Use protective equipment such as gloves when handling.

Main Technical Specifications: Available in three grades, as detailed in the table below:

High Purity Grade:

Components		Standard
TiO_2%	≥	38.0
Free SO_4	≤	5
Fe ppm	≤	50
Others	≤	100

High-end Industrial Grade:

Components		Standard
TiO_2%	≥	28.0
Free SO_4	≤	15
Fe ppm	≤	100
Others	≤	200

General Industrial Grade:

Components		Standard
TiO_2%	≥	18.0
Free SO_4	≤	25
Fe ppm	≤	150
Others	≤	300

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