



CHUNTAI

Suzhou Chuntai New Materials Co., Ltd.

苏州淳泰新材料有限公司

SAFETY DATA SHEET

化学品安全技术说明书 (SDS)

Nano Titanium Dioxide / NRALL

Reference Number

CTSDS010

编号

Company

Suzhou Chuntai New Materials Co., Ltd.

公司

苏州淳泰新材料有限公司

Deliver Department

Technology Quality Development

发行部门

技术质量发展部

Prepared Date

2018.04.18

编制日期

Revision Date

2024.05.28

修订日期

Nano Titanium Dioxide(CTNR-1101)

纳米二氧化钛 (CTNR-1101)

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE SUPPLIER

化学品及企业标识

Chemical formula of main components

主要成分化学式

 TiO_2

Chinese name

中文名称

纳米二氧化钛(CTNR-1101,CTNR-1102,CTNR-1103)

纳米二氧化钛 (CTNR-1101, CTNR-1102, CTNR-1103)

English name

英文名称

nano titanium dioxide(CTNR-1101,CTNR-1102,CTNR-1103)

nano titanium dioxide (CTNR-1101, CTNR-1102, CTNR-1103)

Supplier

供应商

Suzhou Chuntai New Materials Co., Ltd.

苏州淳泰新材料有限公司

Address

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Recommended application: Used as a UV shielding agent and physical masking agent. It has an angular discoloration effect. It is suitable for high-end outdoor coatings such as automotive metal paint, exterior wall paint, wood paint, aircraft skin paint, etc.

推荐用途: 用作紫外线屏蔽剂和物理遮蔽剂. 具有随角异色效应. 适用于汽车金属漆, 外墙涂料, 木器漆, 飞机蒙皮涂料等高档户外涂料.



2. HAZARDS IDENTIFICATION

危险性概述

GHS classification

GHS分类

No acute toxicity

无急性毒性.

Routes of entry

侵入途径

Inhalation or ingestion.

吸入或食入.

Health hazards

健康危害

Eye contact may cause tearing, pain or blurred vision; repeated skin contact may cause dry skin or skin cracking for sensitive individuals; short-term excessive inhalation may irritate the nose, throat, and lungs, causing coughing, difficult breathing or shortness of breath.

眼睛接触可能引起流泪, 疼痛或视力模糊; 反复皮肤接触可能使敏感个体皮肤干燥或开裂; 短期过量吸入可能刺激鼻, 喉和肺, 引起咳嗽, 呼吸困难或呼吸急促.

For workers exposed to titanium oxide dust for a long time, no change to their lungs has been found, nor has any contact dermatitis or allergic reaction happened. Zirconium hydroxide dust may irritate the skin, eyes and lungs. Long-term inhalation of aluminum hydroxide dust may cause alveolar epithelial hyperplasia.

长期接触氧化钛粉尘的工人, 未发现肺部变化, 也未发生接触性皮炎或过敏反应. 氢氧化锆粉尘可能刺激皮肤, 眼睛和肺. 长期吸入氢氧化铝粉尘可能引起肺泡上皮增生.

No content in this product equal to 0.1% or above, is identified as a carcinogen by the International Agency for Research on Cancer (IARC), National Toxicology Program(NTP), National Institute of Occupational Safety and Health (OSHA) or the American Conference of Governmental Industrial Hygienists (ACGIH).

本品中含量大于或等于0.1%成分, 均未被国际癌症研究机构(IARC), NTP, 国家职业安全卫生研究所(OSHA)或美国政府工业卫生专家会议(ACGIH)列为致癌物.

3. COMPOSITION / INFORMATION ON INGREDIENTS

成分/组成信息

This chemical is: mixture

本化学品为: 混合物

Composition 组分	Mass fraction (%) 质量分数 (%)	CAS No. CAS号
Titanium dioxide 二氧化钛	≥80	13463-67-7
Aluminum hydroxide 氢氧化铝	8-16	21645-51-2
Zirconium hydroxide 氢氧化锆	0-5	14475-63-9
Water 水	≤3	57732-18-5

Remarks: % indicates the mass percentage content of each constituent relative to the dry basis.

备注: %表示各组分相对于干基的质量百分比含量.



4. FIRST-AID MEASURES

急救措施

Skin contact

皮肤接触

Skin contact is not dangerous, but it is recommended to wash the skin with water after use.

皮肤接触没有危险。但使用后建议用水清洗皮肤。

Eye contact

眼睛接触

Lift eyelids and rinse with running water or saline. Ask for medical assistance.

提起眼睑，用流动清水或生理盐水冲洗。寻求医疗帮助。

Inhalation

吸入

Move from the site to fresh air; if breathing has stopped, perform artificial respiration immediately; In case of difficult breathing, oxygen should be supplied; seek medical attention.

脱离现场至空气新鲜处；若呼吸停止，立即进行人工呼吸；若呼吸困难，给氧气；就医。

Ingestion

食入

Drink plenty of warm water and induce vomiting. Seek medical attention.

饮用大量温水并催吐。就医。

5. FIRE-FIGHTING MEASURES

消防措施

Combustion characteristics

燃烧特性

non-flammable.

不可燃

Extinguishing media

灭火介质

Any substance suitable for extinguishing fire can be used

任何适合灭火的物质均可使用

Fire fighting methods

灭火方法

All kinds of commonly used fire extinguishing methods are applicable.

常用的各种灭火方法均适用

6. ACCIDENTAL RELEASE MEASURES

泄漏应急处理

Personal precautions

个人应注意事项

Refer to fire-fighting and safety disposal measures before clean-up. Use appropriate personal protective equipment when clean-up is carried out. It is recommended that emergency personnel should wear a dust mask (full face mask) and dress in general overalls.

清理前先参照灭火措施及安全处置部分。清理时使用适当的个人防护装备。建议应急处理人员戴防尘面具（全面罩），穿一般作业工作服。

Accidental spill handling

意外泄漏处理

For a dry substance, shovel it into a waste disposal container and flush the residue into the wastewater treatment system. For a slurry substance, rinse it into a wastewater treatment system or a basin, or absorb it with sand and other materials before shoveling it into a waste disposal container.

对于干燥产品，铲进废物处置容器，用水将残留物冲入废水处理系统。对于浆状产品，冲洗进入废水处理系统，设置的盆池，或用沙和其它物质吸收，再铲进废物处置容器。



7. HANDLING AND STORAGE

操作处置与储存

Handling precautions

操作注意事项

The product shall be handled in a closed environment with local exhaust. Operators must be specially trained to strictly follow the operating procedures. Operators are suggested to wear self-absorption filter respirators, chemical safety glasses and general protective gloves. Precautions should be taken not to produce dust or stay contact with acids. Gentle handling is required to prevent breakage. Leakage emergency treatment equipment shall be provided. Harmful residues may be found in an emptied container.

密闭操作，局部排风。操作人员必须经过专门培训，严格遵守操作规程。建议佩戴自吸过滤式呼吸器，化学安全眼镜和一般防护手套。注意避免产生粉尘及接触酸类。轻装轻卸，防止破损。配备泄漏应急处理设备。倒空的容器可能残留有害物。

Storage Precautions

储存注意事项

The product shall be stored in a cool, ventilated warehouse. Keep it away from fire and heat. The storage area should be provided with suitable materials to collect spills.

储存于阴凉，通风的库房。远离火种，热源。储区应备有合适的材料收容泄漏物。

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

接触控制和个体防护

Control parameters

控制参数

PEL (OSHA): 15mg/m³, total dust, 8 hours, TWA; TLV (ACGIH): 15mg/m³, total dust, 8 hours, TWA, A4; AEL (Panzhihua brand): 10mg/m³, total Dust, 8 hours, TWA 5mg/m³, inhalable dust, 8 hours.

PEL (OSHA) : 15mg/m³, 总尘, 8小时, TWA; TLV (ACGIH) : 15mg/m³, 总尘, 8小时, TWA, A4; AEL (攀枝花牌) : 10mg/m³, 总尘, 8小时, TWA; 5mg/m³, 可吸入粉尘, 8小时。

Engineering Control

工程控制

An appropriate ventilation system shall be used to keep the dust concentration under the exposure limit.

使用适当的通风系统，保持空气中的粉尘浓度低于职业接触限值。

Personal protection

个人防护

When dust concentration in the air is high, it is recommended to provide self-absorption filter respirators, chemical safety glasses, general protective clothes and gloves. After operation, work clothes shall be changed in time with due attention given to personal hygiene.

空气中粉尘浓度较高时，建议配备自吸过滤式呼吸器，化学安全眼镜，一般防护服和手套。操作后应及时更换工作服，注意个人卫生。



9. PHYSICAL AND CHEMICAL PROPERTIES		理化特性
Appearance and physical state 外观与性状	white solid powder 白色固体粉末	
Melting point (°C) 熔点 (°C)	not applicable 不适用	
Vapor pressure 蒸汽压	less volatile 不易挥发	
Vapor density 蒸汽密度	less volatile 不易挥发	
Melting point 熔点	not applicable 不适用	
Evaporation rate 蒸发率	less volatile 不易挥发	
Water soluble 水溶性	insoluble in water 不溶于水	
pH	6.0-10.0	
Bulk density 松装密度	160~500g/L 160g/L~500g/L	
Smell 气味	No 无	

10. STABILITY AND REACTIVITY		稳定性和反应性
Chemical stability 化学稳定性	stable 稳定	
Incompatibility 禁配物	unforeseen 未有预见	
Polymerizability 聚合性	not polymerizable 不发生聚合	
Decomposability 分解性	not decomposable 不分解	



11. TOXICOLOGICAL INFORMATION

毒理学信息

ALD (tested animal, exposure route) >24,000 mg/kg (mice, feeding)
>24,000mg/kg (老鼠, 喂食)

ALD (测试动物, 暴露途径)

ALD (tested animal, exposure route) >10,000 mg/m³, (rabbits, skin absorption)
>10,000mg/m³, (兔子, 皮肤吸收)

ALD (测试动物, 暴露途径)

ALC (tested animal, exposure route) >6.82 mg/L (mice, inhalation for 4 hours)
>6.82mg/L (老鼠, 吸入4小时)

ALC (测试动物, 暴露途径)

This product shows a mild irritation to the eyes and skin. No skin allergenicity was observed in animal experiments. The dust was titanium dioxide containing 6% Al(OH)₃ at a concentration of 1,300 mg/m³, and a mild fibrosis occurred on the animal after 4 weeks. Long-term inhalation may cause lung changes, including reversible inflammation, vascular obstruction and emphysema. Inhalation tests on the guinea pig exposed to aluminum hydroxide dust suggested that no damage had been caused to the guinea pig, and no aluminum hydroxide had accumulated in its lung. Repeated and long-term inhalation of titanium dioxide reports no significant toxicological reaction while inhalation of aluminum hydroxide records a slowdown in growth.

本品对眼睛和皮肤有轻微刺激。在动物实验中未见皮肤致敏性。粉尘为含Al(OH)₃量为6%的二氧化钛,浓度为1,300mg/m³,4周后在动物身上发生轻微的纤维化反应。长期吸入可能引起肺部变化,包括可逆性炎症,血管阻塞,肺气肿。通过暴露于氢氧化铝粉尘的豚鼠吸入粉尘试验结果表明,豚鼠没有表现出受害现象,氢氧化铝亦未在肺中累积。反复和长期吸入二氧化钛,无明显毒理性反应。吸入氢氧化铝引起增长减缓。

For animals exposed to titanium dioxide dust at a concentration up to 250 mg/m³, no clinical toxicity arising from compound reaction has been reported. For animals exposed to dust at a concentrations of 50-250 mg/m³, mild pulmonary fibrosis has been found. For animals exposed to dust at a concentration of 10-50 mg/m³, no carcinogenicity has been documented. 17% of mice exposed to titanium dioxide dust at a concentration of 250 mg/m³ have been found to develop a microwave lung tumor.

在二氧化钛粉尘浓度达到250mg/m³环境下生活的动物,未发现有关化合反应相关的毒性临床表现。在浓度为50-250mg/m³的粉尘环境下生活的动物,发现有轻微的肺纤维化。在10-50mg/m³粉尘环境下生活的动物,未发现致癌现象。生活在二氧化钛粉尘浓度为250mg/m³环境下,17%的老鼠出现微波肺肿瘤。

Test results of the mice consuming titanium dioxide at an amount of 50,000 ppm suggest that no carcinogenic or other adverse reactions have been observed. Bacterial or mammalian cell culture or animal testing shows that titanium dioxide will not cause genetic damage.

老鼠二氧化钛食用量为50,000ppm的试验结果表明,未发现有关致癌或其它不良反应现象。细菌或哺乳动物细胞培养或动物测试表明,二氧化钛不会造成遗传伤害。

Zirconium hydroxide dust may irritate the skin, eyes and lungs. Long-term inhalation of aluminum hydroxide dust may cause alveolar epithelial hyperplasia.

氢氧化锆粉尘会刺激皮肤,眼睛和肺。长期吸入氢氧化铝粉尘会引起肺泡上皮增生。

12. ECOLOGICAL INFORMATION

生态学信息

High toxicity of aquatic organisms 96 hours, LC50 (minnow): >1000 mg/L.
96小时, LC50 (鲦鱼): >1000mg/L.

水生生物高致毒性

13. DISPOSAL CONSIDERATIONS

废弃处置

Disposal methods Refer to national and local regulations before disposal. Wastes shall be disposed by a secure land filling process.

废弃处置方法

处置前应参阅国家和地方有关法规。用安全掩埋法处置。



14. TRANSPORT INFORMATION

运输信息

The product is not classified as a hazardous substance by the US Department of Transportation (DOT) or the International Maritime Organization (IMO).

不被美国交通部 (DOT) 或国际海运组织 (IMO) 规范列为危害性物质。

Containers used for transportation

运输容器

oil carriers, tanker trucks, flexible freight bags, buckets, boxes, paper-plastic composite bag, etc.

油船, 罐车, 柔性集装袋, 桶, 箱子, 纸塑复合袋等。

15. REGULATORY INFORMATION

法规信息

The following regulations are applicable to the safe use, production, storage, transportation, loading and unloading of hazardous chemicals. They are Regulations on the safety administration of hazardous chemicals (issued by the State Council on February 17, 1987), and Detailed rules for the implementation of regulations on the safety management of hazardous chemicals (HLF [1992] No. 677), and Regulations on the safe use of chemicals in the workplace ([1996] LBF No. 423) and other regulations.

以下法规适用于危险化学品的安全使用, 生产, 储存, 运输, 装卸: 化学危险物品安全管理条例 (1987年2月17日国务院发布), 化学危险物品安全管理条例实施细则 (化劳发[1992]677号), 工作场所安全使用化学品规定 ([1996]劳部发423号) 及其他法规。

16. OTHER INFORMATION

其他信息

The level of personal protection shall be provided by the user depending on the case.

个人防护等级, 依使用情况由使用者提供。

The data contained in this MSDS is applicable only to the specific material stated in this manual and can not be applied to any product or any process resulting from its combination with any other substance.

本MSDS中的数据仅用于此处指定的具体材料, 不可应用于与其它物质化合得到的产品或任何过程。

This information is based on reliable technical data. It can be updated based on the knowledge and experience available.

本信息是基于可靠的技术信息。根据获得的知识和经验可以对其进行修改。