



# 广州白云信港化工有限公司 MATERIAL SAFETY DATA SHEET

## 物質安全資料表

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### 一. Identifications of Substance and Company

物品與廠商資料

- 1.1 Product Name: Titanium Dioxide  
物品名稱：鈦白粉 CR340
- 1.2 Producer(supplier): GUANZHOU BAIYUN XINGGONG CHEMICAL LTD  
製造商（供應商名稱）：廣州白雲信港化工有限公司
- 1.3 Address: 204,FLOOR 2,BUILDING D, NO.206,YUEXI STREET, TONGDE STREET,BAIYUN DISTRICT,GUANGZHOU  
地址：廣州市白雲區同德街粵溪大街 206 号 D 栋二楼 204
- 1.4 Phone: 020-86488586

### 二. Composition /Information on Ingredients

成份辨識資料

- 2.1 Molecular formula:  
分子式  $\text{TiO}_2$
- 2.2 Titanium Dioxide  
二氧化鈦 90.0-98.0% CAS NO: 13463-67-7
- Aluminum hydroxide  
氫氧化鋁 0-5.0% CAS NO: 21645-51-2
- Zirconium dioxide  
二氧化鋯 0-1.0% CAS NO: 1314-23-4
- Silicon dioxide  
二氧化矽 0-3.0% CAS NO: 7631-86-9
- Trimethylolpropane (TMP)  
三羥甲基丙烷（TMP） 0% CAS NO: 77-99-6
- 2.3 Ingredient note: the listed ingredients make up an indivisible chemical pigment.  
成分备注：列出的组分组成了一种不可分割的化学颜料。

### 三. Hazard overview

危險性概述

- 3.1 Hazard class: No classification is required based on existing information.  
危險性類別：根据现有信息无需进行分类。
- 3.2 Health Hazards: dust or powder may irritate the respiratory tract, skin and eyes. Frequent inhalation of dust or powder over a long period of time may increase the risk of lung disease, and no pathological changes in the lungs have been found.  
健康危害：粉尘或粉末可能会刺激呼吸道、皮肤和眼睛。在一段长时间内经常吸入粉尘或粉末可能会增加肺部疾病的患病风险，未发现肺部病理变化。
- 3.3 Environmental Hazards: products are not classified as environmental hazards. However, this does not rule out the possibility that large and frequent spills may have harmful effects or damage to the environment.  
环境危害：产品未被分类为环境有害物质。然而，这不排除大量的和经常的泄漏物可能对环境产生有害影响或损害。
- 3.4 Explosion Hazard: The product is not flammable.  
燃爆危险：产品不易燃。

## 四. First-aid Measures

## 急救措施

- 4.1 **Inhalation:** If coughing, shortness of breath or other breathing problems occur, move the patient to fresh air. If symptoms persist, seek medical attention.  
吸入：若咳嗽、呼吸急促或其他呼吸问题发生，将患者移至空气新鲜处。若症状持续，就医。
- 4.2 **Skin contact:** Rinse skin with clean water. If skin irritation persists, seek medical attention.  
皮膚接觸：用清水冲洗皮肤。若皮肤刺激持续，请就医。
- 4.3 **Eye contact:** Rinse thoroughly with plenty of running water for at least 15 minutes. If eye irritation persists, seek medical attention.  
眼睛接觸：用大量流动清水彻底冲洗至少 15 分钟。若眼睛刺激持续，请就医。
- 4.4 **Ingestion:** Rinse the mouth thoroughly and do not induce vomiting. If ingested in large quantities, seek medical advice immediately.  
食入：彻底冲洗口腔，不要自行催吐。如大量摄入，请立即就医。

## 五. Fire-fighting Measures

## 灭火措施

- 5.1 **Extinguishing Media:** Suitable for all fire extinguishing materials.  
適用滅火劑：所有灭火材料均适用。  
**Not suitable for fire cutting:** there is no limit to the extinguishing agent applied to this substance or mixture.  
不適用滅火劑：施用于此物质或混合物的灭火剂无限制。
- 5.2 **Firemen should wear fire-resistant or fire-resistant clothing, face mask, helmet and gloves, and positive pressure self-contained breathing equipment (SCBA).**  
灭火注意措施及防护措施：消防人员需穿戴耐火或防火的衣服,同时穿戴面罩,头盔和手套,正压自给式呼吸设备 (SCBA)。
- 5.3 **Others:** Prevent the fire site or diluted water from flowing into rivers, sewers or drinking water sources.  
其它：防止控制火场或稀释的水流进河流、下水道或饮用水源。

## 六. Leak handling method

## 泄漏处理方法

- 6.1 **Worker precautions, protective equipment and emergency procedures:**  
作业人员防护措施、防护装备和应急处置程序：  
**Avoid breathing dust. Avoid eye and skin contact. Wear suitable personal protective equipment.**  
避免吸入粉尘。避免眼睛、皮肤接触。穿戴合适的个人防护设备。
- 6.2 **Environmental precautions:** Take measures to prevent further leakage or overflow under the condition of ensuring safety. Don't pollute the water source.  
环境保护措施：在确保安全的条件下，采取措施防止进一步的泄漏或溢出。不要污染水源。
- 6.3 **Methods of containment and removal of spilled chemicals and disposal materials used:**  
泄露化学品的收容、清除方法及所使用的处置材料：  
**Small amount of leakage:** avoid raising dust, carefully sweep it up, put it in a bag and transfer it to a safe place. **Large amount of leakage:** use a special vacuum cleaner with a particle filter to collect the powder, recycle or transport it to the waste disposal site for disposal. Prevent discharge into sewers, basements or confined spaces.  
小量泄漏：避免扬尘，小心扫起，置于袋中转移至安全场所。大量泄漏：用带有颗粒过滤器的特殊的真空吸尘器收集粉末，回收或运至废物处理场所处置。防止排入下水道、地下室或受限空间。

- 6.4 Precautions to prevent secondary hazards from occurring: Avoid release to the environment.  
防止发生次生危害的预防措施：避免释放到环境中。

七. Safe operation and Storage  
安全操作與儲存方法

- 7.1 Operation precautions: Avoid contact with skin and eyes. Avoid breathing dust. Provide adequate ventilation in the workplace. Wear appropriate protective clothing if required. Clean thoroughly after operation.

操作注意事项：避免接触皮肤和眼睛。避免吸入粉尘。工作场所提供充足的通风。如有需要，穿戴合适的防护衣物。作业后彻底清洗。

- 7.2 Storage Precautions: Titanium dioxide is a stable compound, which will not decompose during storage. However, if it is stored incorrectly, it will be affected by moisture and affect the product performance. It should be stored indoors in a dry place, away from rain and wet floors.

存储注意事项：二氧化钛是一种稳定的化合物，在储存过程中不会分解，但如果不正确存放，会受潮而影响产品性能。应存放在室内干燥的场所，远离雨水和潮湿的地板。

八. Exposure Controls and Personal Protection  
接触控制和个体防护

- 8.1 Occupational exposure limit of titanium dioxide:

二氧化钛职业接触限值：

ACGIH American OSHA Occupational Health Standard:

ACGIH 美国 OSHA 职业健康标准：PC-TWA (10mg/m<sup>3</sup>)

GBZ2.1-2019 Occupational Exposure Limits for Hazardous Agents in the Workplace Part I, Chemical Hazardous Agents:

GBZ2.1-2019 工作场所有害因素职业接触限值第一部分,化学有害因素：PC-TWA (8 mg/m<sup>3</sup>)

European standard EN481: ratio of diameter less than or equal to 10 μ m under aerodynamic environment:

欧盟标准 EN481：空气动力环境下直径小于等于 10μm 的比例：PC-TWA (1%)

- 8.2 Engineering control method:

工程控制方法：

Workplaces should provide adequate ventilation to ensure that on-site concentrations do not exceed occupational exposure limits.

工作场所应提供充足的通风以保证现场浓度不超过职业接触限值。

- 8.3 Personal Protective Equipment:

个体防护设备：

Respiratory Protection: Conduct risk assessment and use breathing equipment with particulate filter if necessary.

呼吸系统防护：进行风险评估，如有必要时使用带颗粒过滤器的呼吸设备。

Eye Protection: Wear eye/face protection such as safety goggles with side shields.

眼睛防护：佩戴眼睛/面部防护，如边上带有防护的安全护目镜。

Skin and Body Protection: Wear appropriate protective clothing.

皮肤和身体防护：穿合适的防护服。

Hand Protection: Wear protective gloves.

手防护：戴防护手套。

Other Precautions: Wash your hands after handling materials and before eating, and clean your work clothes regularly.

其他防护：操作物料后且饮食前洗手，定期清洗工作服。

#### 九. Physical and chemical properties

理化特性

- 9.1 Exterior: White Mealy.  
外观：白色粉末。
- 9.2 Odor: None.  
气味：无。
- 9.3 PH:5.0-8.5 (10%Slurry Body)  
PH 值：5-8.5 (10%浆体)
- 9.4 Melting point:  
熔点 (°C): 1830-1850°C
- 9.5 Boiling point:  
沸点(°C): 2500-3000°C
- 9.6 Flash point: No data  
闪点(°C): 无资料
- 9.7 Relative density: About4.1 (at 20°C)  
相对密度：约 4.1 (20°C 时)
- 9.8 Volume density: About 600 kg/m3(at 20°C)  
容积密度：600kg/m<sup>3</sup>大约 (20°C 时)
- 9.9 Vapor pressure:No data  
蒸汽压：无资料
- 9.10 Vapor density:No data  
蒸汽密度：无资料
- 9.11 Solubility: Insoluble in water  
溶解性：不溶于水
- 9.12 Natural temperature: No data  
自燃温度(°C): 无资料
- 9.13 Flammability: Not flammable  
易燃性：不燃
- 9.14 Explosive: Not explosive  
爆炸性：不具有爆炸性。
- 9.15 Oxidizing property: No oxidizing property  
氧化性质：没有氧化性
- 9.16 Partition coefficient (octanol/water): N/A  
分配系数 (辛醇/水)：不适用
- 9.17 Viscosity: Not applicable.  
黏度：不适用。

#### 十. Stability and reactivity

稳定性和反应活性

- 10.1 Stability: Stable under normal operating and storage conditions. The material is stable under normal inactive conditions.  
稳定性: 正常操作和储存条件下稳定, 非活性的正常条件下物料稳定。
- 10.2 Hazardous reactions: No hazardous reactions. No hazardous polymerization.  
危险反应: 无危险反应。无危险聚合反应。
- 10.3 Conditions to Avoid: Moisture.  
应避免的条件: 潮湿。
- 10.4 Incompatible materials: No data.  
不相容物质: 无相关资料。
- 10.5 Hazardous Decomposition Products: No known hazardous decomposition products.  
危险分解产物: 没有已知的危险分解产物。

## 十一. Toxicological Information

## 毒理学信息

- 11.1 Acute toxicity: Ingestion may cause discomfort.  
急性毒性: 食入会引起不适。  
Titanium dioxide (CAS: 13463-67-7): Oral LD50 rats  
二氧化钛(CAS:13463-67-7): 口服 LD50 大鼠: >25g/kg;  
Intradermal injection of LD50 rabbit  
皮注 LD50 兔子: >10g/kg;  
Rats with LD50 inhalation:  
吸入 LD50 大鼠: >6.82mg/L(4hr).  
[Trochmowicz, etl., J. Appl. Tox., 8.383-385(1988)]
- 11.2 Skin corrosion/irritation: Touching wet skin can cause irritation.  
皮肤腐蚀/刺激性: 触及潮湿肌肤会引起刺激。
- 11.3 Eye Damage/Irritation: Dust contact with eyes can cause mechanical irritation.  
眼睛损伤/刺激性: 粉尘与眼睛接触会导致机械性刺激。
- 11.4 Respiratory irritability: Irritating respiratory tract and coughing. Long term and regular inhalation of dust will increase the risk of lung disease.  
呼吸过敏性: 刺激呼吸道, 咳嗽。长期经常性的吸入粉尘会增加患肺病的危险。
- 11.5 Skin allergy: Not a skin allergen  
皮肤过敏性: 不是皮肤致敏物。
- 11.6 Germ cell mutagenicity: There is no data indicating that this product or any component containing more than 0.1% of it is mutagenic or genotoxic.  
生殖细胞突变性: 无数据表明本产品或其含量超过 0.1% 的任何组分具有致变性或基因毒性。
- 11.7 Carcinogenicity: Carcinogenicity: suspected carcinogenicity to humans (G2b) according to the international cancer organization (IARC) classification see GBZ 2.1-2019 "Occupational exposure limits for hazardous factors in the workplace" table 2 remarks. In accordance with En 481, the titanium dioxide diameter is less than or equal to 10 um and the concentration is greater than 1% in an aerodynamic environment. 11.7 Specific target organ  
致癌性: 对人可疑致癌 (为 G2B 类) 按国际癌症组织 (IARC) 分级见 GBZ 2.1—2019《工作场所所有害因素职业接触限值》表 2 备注。按照 EN481, 在空气动力环境下二氧化钛直径小于等于 10μm, 浓度大于 1% 的条件。
- 11.8 Specific target organ toxicity: No data.

特异性靶器官系统毒性：无相关信息。

- 11.9 Inhalation Hazard: under aerodynamic conditions, inhalation of a powder containing  $\geq 1\%$  TiO<sub>2</sub>, or a dust particle size  $\leq 10 \mu\text{m}$ , is required to display a cancer warning.

吸入性危害：在空气动力条件下，吸入含有 TiO<sub>2</sub>  $\geq 1\%$  的粉末，或粉末尘粒径  $\leq 10\mu\text{m}$ ，才能显示癌症警告。

- 11.9 Chronic or long-term toxicity: frequent inhalation or exposure to dust over a long period of time may increase the risk of chronic lung disease and skin irritation.

慢毒性或长期毒性：在一段长时间内经常吸入或接触粉尘可能会增加慢性肺部疾病和皮肤刺激的患病风险。

## 十二. Ecological information

### 生态学信息

- 12.1 Ecotoxicity: the product is expected to be environmentally friendly.

生态毒性：预期本产品对环境无害。

- 12.2 Persistence and Degradability: The degradability of the product was not stated.

持久性和降解性：产品的降解性没有说明。

- 12.3 Bioaccumulative potential: Because of its low solubility in water, the bioaccumulation is not significant.

潜在生物累积性：因本品在水中的溶解度较低，生物富集作用不显著。

- 12.4 Mobility in Soil: Unknown

土壤中的迁移性：未知

## 十三. Disposal

### 废弃处置

- 13.1 Disposal method:

废弃处置方法：

Waste products: Waste products can be disposed of in landfill, and should be disposed of in accordance with relevant national and local waste regulations. Contaminated packaging and containers should be treated in the same way.

废弃产品：废弃产品可选择填埋处理，处置时应遵循国家和地方相关废弃物法规处置。受污染的包装和容器也应作同样处理。

- 13.2 Waste disposal method: Dispose, bury, burn or recycle according to the requirements of relevant national and local laws and regulations.

废弃处理方法：根据国家和地方有关法规的要求处置，掩埋、焚烧或回收处理。

- 13.3 Disposal Precautions: Please refer to relevant national and local regulations before disposal. Environmental pollution should be avoided during disposal.

废弃注意事项：处置前应参阅国家和地方有关法规。处置过程中应避免污染环境。

## 十四. Transport Information

### 运输信息

- 14.1 ADR/ RID: Not dangerous to transport, No control. Please comply with national and international transport regulations when transporting.

陆运：非危险运输品，无管制。运输时请遵守国家和国际运输规则。

UN No: None

UN 编码：无

14.2 IMDG-code/ IMO: Not dangerous to transport, No control. Please comply with national and international transport regulations when transporting.

海运: 非危险运输品, 无管制。运输时请遵守国家和国际运输规则。

UN No: None

UN 编码: 无

14.3. ICAO-TI/ IATA-DGR: Not dangerous to transport, No control. Please comply with national and international transport regulations when transporting.

空运: 非危险运输品, 无管制。运输时请遵守国家和国际运输规则。

UN No: None

UN 编码: 无

## 十五. Regulatory Information

### 法规信息

15.1 This product is listed in "China's existing chemical substances list (IECSC)"; according to GB13690 and GB6944, this product is not classified as dangerous goods.

本产品列入了《中国现有化学物质名录 (IECSC)》; 根据 GB13690 和 GB6944, 本产品未被划分为危险品。

15.2 Suitable for regulation

适合法规

Guidelines for the preparation of technical specifications for chemical safety (GB/T 171519-2013)

化学品安全技术说明书编写指南 (GB/T 171519-2013)

List of existing chemical substances in China

中国现有化学物质名录

Regulations on the safety management of hazardous chemicals

危险化学品安全管理条例

Regulations on Labor Protection in workplaces where toxic substances are used

使用有毒物品作业场所劳动保护条例

Provisions for the safe use of chemicals in the workplace Contents and project sequence of the Chemical Safety Data Sheet (GB16483-2008)

工作场所安全使用化学品的规定 化学品安全技术说明书 内容和项目顺序 (GB16483-2008)

Code for preparation of chemical safety labels (GB15258-2009)

化学品安全标签编写规定 (GB15258-2009)

Packaging marks for dangerous goods (GB190-2009)

危险货物包装标志 (GB190-2009)

Pictorial marks for packing, storage and transportation (GB/T191-2009)

包装储运图示标志 (GB/T191-2009)

Method for classification of transport packages of dangerous goods (GB/T15098 -2008)

危险货物运输包装类别划分方法 (GB/T15098-2008)

General Technical Requirements for transport packaging of dangerous goods (GB 12463-2009)

危险货物运输包装通用技术条件 (GB 12463-2009)

List of hazardous chemicals

危险化学品名录

List of highly toxic chemicals

剧毒化学品目录

List of high toxic substances

高毒物品目录

Regulations on the control of precursor chemicals

易制毒化学品管理条例

Monitoring of chemicals management regulations

监控化学品管理条例

List of hazardous chemicals easily explosive

易制爆危险化学品名录

List of controlled ozone-depleting substances in China

中国受控消耗臭氧层物质清单

Occupational exposure limits for hazardous factors in the workplace (GBZ 2.1-2019)

工作场所有害因素职业接触限值 (GBZ 2.1-2019)

Dangerous Goods List (GB12268-2012)

危险货物物品名表 (GB12268-2012)

Classification and article number of dangerous goods (Gb6944-2012)

危险货物分类和品名编号 (GB6944-2012)

Identification of major hazards of hazardous chemicals (GB18218-2018)

危险化学品重大危险源辨识 (GB18218-2018)

Provisions on the administration of transportation of dangerous goods by road

道路危险货物运输管理规定

Rules for the administration of the transport of dangerous goods by rail

铁路危险货物运输管理规则

United Nations recommendations on the transport of dangerous goods

联合国关于危险货物运输的建议书

National List of hazardous wastes

国家危险废物名录

National List of Hazardous Wastes, Appendix AEN481

国家危险废物名录, 附录 AEN481

15.2 Occupational exposure limits for hazardous factors in the workplace (GBZ 2.1-2019):Titanium dioxide (CAS 13463-67-7)

工作场所有害因素职业接触限值 (GBZ 2.1-2019): 二氧化钛 (CAS 13463-67-7)

15.3 "List of toxic chemicals subject to strict import and export restrictions in China"-LRB-joint announcemNo. no. 66 of 2008, revised joint announcemNo. no. 85 of 20Decembermber 30,2013) :Not regulated.

《中国严格限制进出口的有毒化学品目录》(环境保护部海关总署联合公告 2008 年第 66 号, 修订联合公告 2013 年第 85 号, 2013 年 12 月 30 日): 未受管制。

15.4 Classification and article number of dangerous goods (GB 6944-2012):Not regulated.

危险货物分类和品名编号 (GB 6944-2012): 未受管制。

15.5 United Nations recommendations on the transport of dangerous goods:Not regulated.

联合国关于危险货物运输的建议书: 未受管制。



## 十六. Other Information

其他信息

## 16.1 References

参考文献

Acgih American Association for the promotion of occupational and environmental health

ACGIH 美国职业与环境健康促进协会标准

Hsdb-hazardous substances database

HSDB® - 危险物质数据库

Monograph of IARC International Agency for research on cancer

IARC 国际癌症研究机构专著

[1] cosmeticsandtoiletries. EU Classifies TiO<sub>2</sub> as 'Suspected' Carcinogen by Inhalation[EB/OL].

[https://www.cosmeticsandtoiletries.com/regulatory/region/europe/EU-to-Classify-TiO<sub>2</sub>-as-Supected-Carcinogen-by-Inhalation-566102761.html](https://www.cosmeticsandtoiletries.com/regulatory/region/europe/EU-to-Classify-TiO2-as-Supected-Carcinogen-by-Inhalation-566102761.html). Accessed on Feb.23,2020.

[2] EUR-Lex.COMMISSION DELEGATED REGULATION(EU)2020/217 of 4 October 2019[EB/OL].[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2020.044.01.0001.01.ENG&toc=OJ:L:2020:044:TOC](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2020.044.01.0001.01.ENG&toc=OJ:L:2020:044:TOC). Accessed on Feb.23,2020.

## 16.2 Abbreviations explained:

缩略语解释:

PC-TWA: time-weighted average allowable concentration.

PC-TWA: 时间加权平均容许浓度。

PC-STEL: allowable concentration for short exposure.

PC-STEL: 短时间接触容许浓度。

## 16.3 Disclaimer:

免责声明:

All relevant information is fully and truthfully provided in this SDS, but we cannot guarantee its absolute breadth and accuracy. This SDS only provides safety precautions for this product to those who have received appropriate professional training and use the product. Individual users who obtain this SDS must make independent judgments on the applicability of this SDS under special conditions of use. In special occasions, the company does not take any responsibility for the damage caused by the use of this SDS.

本 SDS 中全面真实地提供了所有相关的资料,但我们并不能保证其绝对的广泛性和精确性。本 SDS 只为那些受过适当专业培训并使用该产品的有关人员提供对该产品的安全预防资料。获取该 SDS 的个人使用者,在特殊的使用条件下,必须对本 SDS 的适用性做出独立的判断。在特殊的使用场合下,对由于使用本 SDS 所导致的伤害,本企业不负任何责任。

## 16.4 Details

详细情况

Nanoparticle statement-the principal mean particle size of this product is greater than that described by ISO/TC 229 and should not be considered manufactured nanoparticles or nanomaterials. As with other granular materials, there is a range of particle size distribution around the mean particle size, with less falling into the definition of nanoparticles. The primary particle size of this product is in the range of 200-300 nm. However, the primary particle size does not represent the size of the product provided because these particles tend to coalesce or coalesce into larger particles.

纳米粒子声明—本品的主要平均粒径大于 ISO/TC 229 描述的纳米粒子的粒径，因而不应被视为制造的纳米颗粒或纳米材料。与其他颗粒材料一样，围绕平均粒径有一个粒径分布范围，其中有较少的部分落入纳米颗粒的定义。本品的主要粒度在 200-300nm 范围内，然而，主要粒径并不代表本品提供时的粒径，是因为这些颗粒往往会合并或凝聚成较大的颗粒。

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