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Dynasty Colourants Co., Ltd.

MATERIAL SAFETY DATA SHEET

Product: Titanium Dioxide R-2296

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1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND COMPANY NAME

Trade name: Titanium Dioxide R-2296
Company identification: Dynasty Colourants Co., Ltd
Address: 18F (1802-1808), King International , No. 345 South HuanCheng West Road, Ningbo China 315000.
Phone number: +86 574 27897999
Fax number: +86 574 27862092
E-mail: info@dynasty-color.com

2.COMPOSITION/INFORMATION ON INGREDIENT

Ingredients	Chemical Name	%	CAS No.	ECS No.
TiO ₂	Titanium Dioxide	≥94	13463-67-7	215-280-1
Zr	Zirconium	0-3	7440-67-7	231-176-9
Al	Aluminium	0-3	7429-90-5	231-072-3

Hazard Symbols: None Listed

Risk Phrases: None Listed

3. HAZARDOUS IDENTIFICATION

- (1) Eye contact may cause eye irritation with tearing, pain or blurred vision.
- (2) Non-corrosive and non-sensing to skin. Repeated skin contact may cause rashes due to drying of the skin or cracking; No absorption to skip.
- (3) Short term overexposure by inhalation to Titanium Dioxide may result in irritation of nose, throat, and lunge with cough, difficult breathing or shortness.
- (4) Long-term will make existing symptom worse.
- (5) No hazard during normal industrial use.

4. FIRST-AID MEASURES

- (1) In case of contact eyes, immediately flush with plenty of water. If irritation persists or worsen, send to hospital.
- (2) If inhaled, remove to fresh air area. If breathing is difficult, give artificial respiration, and immediately send him to hospital.



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(3) In case of contact skin, wash with water and wild soap.

(4) No specific intervention is indicated, as compound is not likely to be hazardous by ingestion.

5. FIRE-FIGHTING MEASURES

(1) Flammable Properties: Will not burn.

(2) Extinguishing Media: Any media as appropriate for combustibles in area.

(3) Fire Fighting Instructions: None.

6. ACCIDENTAL RELEASE MEASURES

(1) Safeguard(Personal):

Wear protective dust respirator during clean-up.

(2) Accident Release Disposal:

For dry product, use any mechanical means (e.g. vacuum or sweeping)

but avoid dusting clean-up. Flush residue with clean water and avoid entering natural waterways.

7. HANDLING AND STORAGE

(1) Handling (Personal)

In the manufacture of Titanium Dioxide, product is packaged at the temperature of approximately to 80-100 centigrade, when the pigment is shipped shortly after manufacture, it may stay hot for a long time depending on the ambient temperature and inventory storage practice. Due to the potential of the elevated pigment temperature, caution should be paid while handling pigment and in solvent applications. Each work environment must be assessed to determine hazards.

Package Caution: Plastic bag material may cause static ignition hazard in the presence of flammable or explosive vapor/air mixtures. Do not handle or use bags in the presence of flammable or explosive vapor/air mixture.

For dry product avoid breathing dust while manufacturing and minimize the contact with skin.

(2) Storage

For dry product, we suggest as following on storage:

1) Store in dry areas.

2) Mid-sized containers (1000 kg/500kg) for all the grades should not be stacked more than two pallets high

3) Product containers of dry product from damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

(1) Exposure Control

Good natural ventilation will be sufficient in most circumstances, Local exhaust ventilation may be necessary if airborne dust concentration approaches the Occupational Exposure Standard.



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(2) Personal Protective Equipment

Respiratory Protection: Use approved dust respiratory if exposure limit is or maybe exceeded.

Hand Protection: Gloves may be worn when prolonged or repeated contact is likely.

Eye Protection: Use safety glasses or goggles to protect against airborne dust.

Skin Protection: Individuals having sensitive skin may find it beneficial to use a barrier cream or moisturizer or prolonged contact with skin is likely.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White powder
Odor:	None
Boiling Point:	N/A
Vapor Pressure:	Not Volatile
Vapor Density:	Not Volatile
Melting Point:	1830°C
Solubility in water:	Insoluble
Specific Gravity:	3.7-4.0 kg/l
PH:	6.5-8.0

10. STABILITY AND REACTIVITY

Chemical Stability: Stable. Incompatibility with other Material:

None reasonably foreseeable

Decomposition:

Polymerization:

Decomposition will not occur.

Polymerization will not occur

11. TOXICOLOGICAL INFORMATION



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Animal testing data: Titanium Dioxide:

ALD for oral: >24.000mg/kg, testing for mouse

ALD for skin: >10.000mg/kg, testing for rabbit

Taking ALC for four hours: >6.82mg/l, testing for mouse

Titanium Dioxide powder has tiny or medium irritant for eyes, tiny irritant for skin, but not causing allergy for animal skin. It doesn't show obvious toxicity effect long-term eating TiO₂. By taking the concentration of 250mg/m³, it does not find any clinical toxicity symptom. By breathing the dust concentration of 50mg/m³ and 250mg/m³, but it does not show in the concentration of 10mg/m³. It does not show any evidence for cancer. It does not find any cancer or side-effect on mouse or white mouse when it is raised in lab with the concentration of 50.000PPM. It shows that it will not destroy heredity when titanium dioxide powder in bacteria or the culture of cell or animal.

12. ECOLOGICAL INFORMATION

Ecological toxicity material

Toxicity in water: LC₅₀ for 96 hours, blackhead fish : >1.000mg/l

13. DISPOSAL CONSIDERATIONS

According to the local laws and regulations, discards the waste to the authorized waste lays aside the region.

14. TRANSPORT INFORMATION

Transporting information: This product should be listed as non-dangerous product.

15. OTHER INFORMATION

Dangerous grade:	III
Acute:	Yes
Chronic:	No
Burning:	No
Reaction:	No
Pressure:	No
Extreme hazardous material:	No
Hazardous material:	No
Toxic chemicals:	No

16. ADDITIONAL INFORMATION



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Personal protective equipment should be used according to different working environment.

Medical Use :Do not use in medical applications involving permanent implantation in the human body.

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