

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** TIOXHUA Titanium dioxide(all types)**CAS Number:** 13463-67-7**EC number:** 236-675-5**Registration number :** 01-2119489379-17-xxxx etc**1.2 Relevant identified uses of the substance or mixture and uses advised against****Identified uses of the substance or mixture**

White pigment for application in coating materials, printing inks, man-made fibers, plastics, paper, glass vitreous enamels, ceramic products

Uses advised against: Do not use for food additives, drug additives, feed additives, cosmetics or medical device

1.3 Details of the supplier of the safety data sheet**Manufacturer/Supplier:** Anhui Gold Star Titanium Dioxide (Group) Co., Ltd**Tel.:** +86-0510-85016667**Further information obtainable from:** liangyingjian@sinotio2.com**1.4 EMERGENCY TELEPHONE:** +86-0510-85016667-8231**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

The substance is not classified according to the CLP regulation.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008** Not applicable**Hazard pictograms** Not applicable**Signal word** Not applicable**Hazard statements** Not applicable**2.3 Other hazards** No information available**SECTION 3: Composition/information on ingredients****3.1 Chemical characterization: Substances****CAS No. Designation:** 13463-67-7 titanium dioxide**EC number:** 236-675-5**Additional information:** Standard EN ISO 591-1**SECTION 4: First aid measures****4.1 Description of first aid measures****General advice:**

Remove contaminated clothing and shoes. If symptoms persist, call a physician.



Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, provide oxygen and seek medical advice/attention.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

Rinse mouth and provide symptomatic treatment. Get medical attention. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation of dust can cause irritation of nose, throat, and lungs, leading to coughing, difficulty in breathing and shortness of breath.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device. Avoid high concentration of dust in air.

Wear fully protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Wear protective clothing, air-purifying respirator equipped with filters for protection against dust and mists. Wear cotton or canvas gloves. Wear safety glasses.

6.2 Environmental precautions:

Do not allow to enter sewers/surface or ground water. Isolate leakage polluted area.

6.3 Methods and material for containment and cleaning up:

Approach the release from upwind. Avoid creating dusty conditions and prevent wind dispersal. Vacuum or sweep up material in designated and labeled waste container. Dispose of via qualified contractor. CAUTION: may cause slippery condition when wet.

6.4 Reference to other sections

No dangerous substances are released.



See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust. Ensure adequate ventilation, especially in confined areas. Propose operators to wear self-absorption filter respirators, chemical protective safety glasses, protective clothing and protective gloves.

Light loading, unloading, handling to prevent package breakage.

Equip with spill response equipment.

Avoid contact with eyes.

Avoid generation of dust.

Do not breathe dust/fume/gas/mist/vapors/spray.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Information about fire - and explosion protection: The product is not flammable.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Store only in the original receptacle. Storage area should be equipped with suitable host material spill control.

Information about storage in one common storage facility: Store separately from acids and avoid mixing reservoir.

Further information about storage conditions:

Store in dry conditions, avoid direct sunshine. Pellets of 1 ton weight cannot be stacked more than two layers; Composite bag with 25kg weight cannot be stacked more than 15 layers.

Protect from humidity, water, heat or fire.

7.3 Specific end use(s): There are no further specific end uses than those named in section 1.2

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Components with critical values that require monitoring at the workplace:

CAS: 13463-67-7 titanium dioxide

WEL Long-term value: 10* 4**mg/m³

*total inhalable **respirable

DNELs

Worker



CAS: 13463-67-7 titanium dioxide

Inhalative (Worker): 10 mg/m³ (Local long-term effects)

Professional user

CAS: 13463-67-7 titanium dioxide

Inhalative (Professional user): 10 mg/m³ (Local long-term effects)

Consumer

CAS: 13463-67-7 titanium dioxide

Oral (Consumer): 700 mg/kg/d (Systemic long-term effects)

PNECs

Water

CAS: 13463-67-7 titanium dioxide

PNEC 0.0184 mg/l (marine waters)

0.184 mg/l (freshwater)

0.193 mg/l (intermittent release)

Sewage treatment plants (STP)

CAS: 13463-67-7 titanium dioxide

PNEC 100 mg/l (STP)

Sediment

CAS: 13463-67-7 titanium dioxide

PNEC 100 mg/kg dw [Sediment (marine waters)]

1000 mg/kg dw [Sediment (freshwater)]

Soil

CAS: 13463-67-7 titanium dioxide

PNEC 100 mg/kg dw (soil)

8.2 Exposure controls

Personal protective equipment:

Respiratory: Use an air-purifying equipment with filters for protection against dust and mists. Hand: Use cotton or canvas gloves. Eye: Chemical safety glasses worn must be compatible with respiratory protection system employed. Body: Protective working clothes.

General protective and hygienic measures:

The usual precautionary measures should be adhered to in handling the chemicals.

Avoid contact with the eyes

Do not inhale dust /smoke/mist.

Wash hands before breaks and at the end of work.

Remove contaminated clothing, discard or wash before wearing again.

Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.

Breathing equipment:

If workplace exposure limits are exceeded, use respiration protection according to national regulations.

EN149: FFP2; EN143: P2

**Protection of hands:**

Requirements according to EN 420

Check protective gloves prior to each use for their proper condition.

Preventive skin protection by use of skin-protecting agents is recommended

Material of gloves:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. If the product is used in a preparation of several substances the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Eye protection:

Tightly sealed chemical safety goggles

Body protection:

Protective work clothing

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Form: Powder

Colour: White

Odour: Odourless

Odour threshold: Not determined.

pH-value: 6.5-9.5 (ISO787/9)

Melting point/freezing point: >1800°C

Initial boiling point and boiling range: Not relevant

Flash point: Not applicable

Flammability (solid, gas): Not applicable

Auto-ignition temperature: Product is not self-igniting.

Explosive properties: Product dose not present an explosion hazard.

Explosion limits:

Lower: Not determined.

Upper: Not determined.

Vapour pressure: Not applicable.

Density: Not determined.

Relative density at 20 °C 0.38-0.41 g/cm³

Vapour density Not applicable.

Evaporation rate Not applicable.

Solubility in/Miscibility with water: <10 g/l (practically insoluble).

Partition coefficient: n-octanol/water: Not applicable.

Viscosity:

Dynamic: Not applicable.



Kinematic: Not applicable.

9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity The substance is stable under normal use conditions.

10.2 Chemical stability Stable

Thermal decomposition /Conditions to be avoided:

No decomposition under normal use conditions.

10.3 Possibility of hazardous reactions : No dangerous reactions known.

10.4 Conditions to avoid: No further relevant information available.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

Acute toxicity Based on available data the classification criteria are not met.

LD/LC50 values that are relevant for classification:

CAS: 13463-67-7 titanium dioxide

Oral LD50 > 5000 mg/kg (rat) (OECD 425)

Dermal LD50 > 5000 mg/kg (rabbit)

Inhalative LC50/4h > 6.8 mg/l (rat)

Primary irritant effect:

Skin corrosion/irritation OECD 404: No irritant effect

Serious eye damage/irritation OECD 405: No irritant effect

Like any foreign body, particles (dust) can cause mechanical irritation.

Respiratory or skin sensitization OECD 406, OECD 429 No sensitizing effects

Subacute to chronic toxicity:

CAS: 13463-67-7 titanium dioxide

Oral NOAEL 3500 mg/kg/d (rat) (90 d)

Dermal NOAEL (-) no relevant data available

Inhalative NOAEC 10 mg/m³ (rat) (90 d)

Toxicokinetics, metabolism and distribution

No substantial accumulation of titanium was observed in tissues following oral administration of titanium dioxide.

Dermal absorption can be considered negligible titanium dioxide has been shown not to penetrate human skin to any appreciable degree

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity Based on available data, the classification criteria are not met.



Carcinogenicity	Based on available data , the classification criteria are not met.
Reproductive toxicity	Based on available data , the classification criteria are not met.
STOT-single exposure	Based on available data , the classification criteria are not met.
STOT-repeated exposure	Based on available data , the classification criteria are not met.
Aspiration hazard	Based on available data , the classification criteria are not met.

SECTION 12: Ecological information**12.1 Toxicity****Toxicity to fish** Titanium dioxide

Freshwater fish: Pimephales promelas LC50 (96 h): > 1000 mg/l (static, EPA-540/9-85-006, Acute Toxicity Test for Freshwater Fish)

Marine water fish:

Cyprinodon variegatus LC50 (96 h): > 10000 mg/l (semi-static, OECD 203)

Toxicity to Daphnia and other aquatic invertebrates Titanium dioxide

Freshwater:

Daphnia magna LC50 (48 h): > 1000 mg/l (static, equivalent or similar to OECD 202)

Marine water:

Acartia tonsa LC50 (48 h): > 10000 mg/l (ISO 14669 (1999);ISO 5667-16(1998))

Toxicity to algae and aquatic plants Titanium dioxide

Freshwater:

Pseudokirchnerella subcapitata EC50 (72 h): > 100 mg/l (static, OECD 201))

Marine water:

Skeletonema costatum EC50 (72 h): > 10000 mg/l (ISO 10253)

Toxicity to sediment organisms Titanium dioxide

Freshwater:

Hyalella azteca NOEC(28 d): ≥100000 mg/kg sediment dw (semi-static, ASTM 1706)

Marine water:

Corophium volutator NOEC (10 d): ≥14989 mg/kg sediment dw (semi-static, OSPARCOM guidelines (1995))

12.2 Persistence and degradability Not relevant for inorganic substances.

12.3 Bioaccumulative potential Does not accumulate in organisms

12.4 Mobility in soil The substance is immobile in soil

12.5 Results of PBT and vPvB assessment

The product is an inorganic substance and does not fulfill the criteria for PBZ and vPvB according to Annex XIII of REACH

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods European waste catalogue**



Waste code number according to origin of waste

Uncleaned packaging: Disposal according to official regulations

Recommendation: Packaging can be reused or recycled after cleaning.

SECTION 14: Transport information

14.1 UN-Number

ADR/RID/AND, IMDG, IATA Not applicable

14.2 UN proper shipping name

ADR/RID/ADN, IMDG, IATA Not applicable

14.3 Transport hazard class(es)

ADR/RID/ADN, IMDG, IATA

Class Not applicable

14.4 Packing group

ADR/RID/AND, IMDG, IATA Not applicable

14.5 Environmental hazards Not an environmentally hazardous substance

14.6 Special precautions for user Not applicable

14.7 Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

Water hazard class: Not hazardous for water.

15.2 Chemical Safety Assessment

Substances of very high concern (SVHC) according to REACH Article 57

The product is not listed as SVHC, it does not contain any substances of very high concern.

Chemical safety assessment: A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Carcinogenicity: In February 2006 IARC concluded, "There is inadequate evidence in humans for the carcinogenicity of titanium dioxide." Based on rat inhalation studies IARC concluded that there is "sufficient evidence in experimental animals for the carcinogenicity of titanium dioxide," IARC's



overall evaluation was that "Titanium dioxide is possibly carcinogenic to humans (Group 2b)". This conclusion was based on IARC's guidelines which require such a classification if two or more independent studies in one species carried out at different times or in different laboratories or under different protocols show evidence of tumors.

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Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

version altered. Amended according to Regulation (EU) no 2015/830