Material Safety Data Sheets (MSDS)

TiO_2 Pigment

Issue Date: 2016-01-06

1. Product and Manufacture Description

Chinese and English Name:	二氧化钛（Titanium Dioxide）	**CAS No.:**	13463-67-7
Synonymous Name:	TiO_2 pigment	**EINECS:**	236-675-5
Molecular formula:	TiO_2	**Molecular Weight**	79.87
Appearance and Character：	White powder	**Usage:**	important white pigment
Cover Brands:	SHR-280		
Manufacturer Description:			
Manufacture or Supplier:	QINGDAO SANHUAN COLORCHEM Co., Ltd.		
Manufacture or Supplier Address:	RM 2301 NO.4 BUILDING,PENGLINANHUA BUSINESS PLAZA,NO.12 LIAOYANG EAST ROAD,QINGDAO,CHINA.		
Consultant's Name and Telephone Number:	+86-532-88978177		
Emergency Contact Number:	+86-532-88979188	**Fax Number:**	+86-532-88967877

2. Component Identification Data

English and Chinese Name of the Hazard Elements:	Chemical Formula	%)Concentration /Concentration Range (quality percentage/%)	Hazardous substance classification and Schema
Titanium Dioxide	TiO_2	90-95	None
Silicon Dioxide	SiO_2	0-0.7	None
Aluminum Hydroxide	$Al(OH)_3$	0-4	None
Zirconium Dioxide	ZrO_2	0-0.5	None

3. Hazard Identification Data

Potential Health Effects	**Health Hazard Effect:**	The workers after long-term inhalation titanium dust, lung without any changes, contact dermatitis and allergic reaction.
	Environmental Impact:	None
	Physical/chemical hazards:	Eye contact may irritate eyes, with tears, pain or visual fuzzy symptoms. Skin exposure in titanium pigment, for sensitive physical person, many cause dry skin.
	Special Hazards:	None
Main symptoms:		Short inhalation may irritate nose, throat, and lungs, causing coughing, breathing difficulty or ecphysesis symptoms.

Cancer information:	under the condition that the concentration equal or higher than 0.1%, there is no components in this material classified in the IARC、NTP、OSHA 或 ACGIH carcinogens.

4. First Aid Measures

First aid method of different exposure pathways:	1. skin contact	No harm for skin contact, take off the contaminated clothing, flushing with flowing water
	2. eye contact	Filed eyelid, flushing with flowing water or saline, seek medical advice
	3. breathing in	Off-site to fresh air place.
	4. ingestion	There is no harm, if occurs, drink enough warm water, vomiting, seek medical advice
The most important symptoms and hazard measures:	None	
Protection for the emergency personnel:	None	
Prompt to doctor:	None	

5. Fire-Fighting Measures

fire-extinguishing agent could apply	Any extinguishing media suitable for combustible material in the field area
Special hazards that may be encountered when extinguishing	No special combustion explosion characteristics
Special procedure of fire-extinguishing	None
Special protecting equipment for firefighter	None

6. Accidental Release Measures

Personal precautions	Suggested that emergency treatment personnel wear dust mask (full face mask), wear general work clothes
Environmental Precautions	Isolate leaks contaminated areas, restricted on access.
Methods for cleaning up	When leakage should clean the site avoid raising the dust, sweeps carefully, and puts in the bag to move to a safe place. If a large number of leakage, cover with plastic cloth, canvas. Collect for recycling or transport to the waste disposal sites.

7. Handling and Storage

Handing	1. With sealing operation, local exhaust 2. Operators must receive special training, strict compliance with operating procedures 3. Suggested that the operating personnel wear self-inhalation filter type dust respirator, wear chemical safety protective glasses and general protective gloves 4. Avoid producing dust, avoid contact with acids 5. Moving light pack light when unloaded to prevent damage to packaging 6. Equipped with leak emergency treatment equipment
Storage	1. The storage area should be dry, well ventilated and out of direct sun 2. waterproofing and damp proofing 3. Far from fire and heat source 4. Should be divided with acid class, avoid mixing storage 5. Storage area should be equipped with appropriate materials to accommodate leakage

8. Exposure Preventive Measures

Engineering control	With sealing operation, local exhaust	
Control factor	Time-weighted average eight hours	8mg/m^3
	Short Term Exposure Limit	10mg/m^3
	Maximum allowable concentration	1.5mg/m^3
	Biological indicators	None
Personal protective equipment	Respiratory protection 1. Mask 2.\When the concentration of dust in air is too high, suggested that the operating personnel wear self-inhalation filter type dust respirator Eye protection: Wearing chemical safety protective glasses Hand protection: Protective gloves Skin and body protection: Wearing general work clothes	
Health measures	1.After work take off the contaminated clothing as soon as possible, discarded or wash before they can be worn 2.Smoking or eating is prohibited in the workplace 3.Wash hands thoroughly after handling this substance 4.To maintain clean workplace	

9. Physical and Chemical Properties

Material state:	Powder	**Shape:**	Shapeless
Color：	White	**Odor:**	Odorless
pH：	6.0～8.5	**Boiling point/ Boiling spread:**	insignificant
Decomposition temperature：	insignificant	**Flash point:**	insignificant
Auto ignition temperature：	insignificant	**Explosion limit:**	insignificant
Vapor pressure：	insignificant	**Vapor density:**	insignificant
Density：	3.9～4.3g/cm^3	**Solubility：**	A low solubility in the water, it can be dissolved in acid may also be dissolved in alkali

10. Stability and Reactivity

Stability：	Stable
Possible dangerous reaction under special conditions：	none
Conditions to avoid：	none
Materials to avoid：	none
Harmful resolvent：	none

11. Toxicity Information

Acute Toxicity:	Short-term suction may stimulate the nose，throat and lungs, it may cause cough，difficult breathing and polypnea

Partial effect:	none
Sensitive:	none
Slow toxicity and long term toxicity:	none
Special effects:	none

12. Ecological Information

Possible environmental impact/environment spread: none

13. Disposal Information

Disposal Information:	1. Put it into appropriate containers then throw to legitimate garbage collection field; 2. Burn it in the incinerator which in accordance with the regulations; 3. Processing it in accordance with the current laws and regulations.

14. Transportation Information

Int'l transportation regulations:	none
UN No.:	none
Domestic transportation regulations:	none
Special delivery methods and announcements:	Shipping packing should be complete, loading should be safe. Transport process should be ensuring that containers not leak, not collapse, don't fall and don't damage. With no acid material when mixed loading and transport. Transport should prevent exposure, rain and anti high temperature.

15. Laws and Regulations Information

Applicable laws and regulations:	Chemical dangerous goods safety management ordinance (February 17, 1987 promulgated by the state council), chemical dangerous goods safety management regulations and rules (Hua Lao Fa [1992] #677), the workplace safety regulation for chemical usage ([1996] Lao Bu Fa #423) and other, laws and regulations for the safe use of the hazardous chemicals production, storage transportation loading and unloading, etc for the corresponding provisions; Titanium dioxide dust in the air of workplace health standard (GB 11522-89), the provisions in the air of workplace the substance of the maximum allowable concentration and detection method.

16. Other Information

References:	none	
NPCA-HMIS grade	Healthy	1
	Flammability;	0
	Reactivity:	0

Personal protective measures depending on the user use different conditions
Additional information: Medical application： Shall not be used for human permanent implanted medical equipment and other medical fields

The data in this MSDS are only designated brand relevant; and has nothing to do with any other material or any process combined application.