QINGDAO SANHUAN COLORCHEM CO., LTD.

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MATERIAL SAFETY DATA SHEET

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Titanium Dioxide Rutile, SHR-288
Chemical Formula: TiO2
Molecular Weight: 79.90
CAS No.: 13463-67-7
HS Number :320611.1000
Company Identification:
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Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS

Component	TiO2	ZrO2	Al2O3	SiO2
CAS number	13463-67-7	1314-23-4		
HS Number	32061110			
Percentage	≥92.0%	0-4%	0-8%	0-6%
Hazardous	No	No	No	No

Section 3 - HAZARDS IDENTIFICATION

Emergency Overview

Color: white
Form: Powder
Odor: Odorless
Chemically stability: stable
Product is non-combustible, Does not present a fire hazard or other immediate concern for emergency responders, except of a slippery condition if product gets wet.

Potential Health Effects

Eye contact: It (in powder) may cause mechanical eye irritation.
Skin contact: Powder may irritate skin if not wash off from skin promptly.
Skin absorption: Not expected to be absorbed through intact skin.
Ingestion: No adverse health effects anticipated by this route.
Inhalation:
a. Acute effects: Exposure to dust may cause temporary drying effect and/or mild irritation of nose, throat
and lungs, and may aggravate pre-existing respiratory conditions.
b. Chronic effects/Carcinogenicity: Titanium dioxide has been characterized by IARC as possibly

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carcinogenic to humans(group 2B) through inhalation. This classification is based on upon animal
inhalation studies. Epidemiology studies do not suggest an increase risk of cancer in humans from
occupational exposure to titanium dioxide.

Section 4 : First Aid Measures

Inhalation: Remove to fresh air.
Ingestion: If swallowed, give several glasses of water to drink. Vomiting may occur spontaneously, but DO
NOT INDUCE! Never give anything by mouth to an unconscious person. Get medical attention.
Skin Contact: Wipe off excess material from skin then flush skin with plenty of water. Remove contaminated
clothing and shoes.
Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper
eyelids occasionally.
.
NOTE TO PHYSICIAN: For inhalation, consider oxygen.

Section 5 : Fire Fighting Measures

Flash point: N.A. Method: N.A. LEL: N.A UEL:N.A
Unusual fire hazards: None
Fire: Not considered to be a fire hazard. Will not burn
Explosion: Sealed containers may rupture when heated.
Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire. Water spray may be
used to keep fire exposed containers cool.
Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode..
Sealed containers of this material may rupture at moderate temperatures (release of water vapor).

Section 6 : Accidental Release Measures

Soil Release:Dig holding area such as lagoon, pond or pit for containment. Cover with plastic sheet or tarp
to minimize spreading and protect from contact with water.
Water Release: just wash out
Occupational Release:Ventilate area of leak or spill. Keep unnecessary and unprotected people away from
area of spill. Wear appropriate personal protective equipment as

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specified in Section 8. Spills: Pick up and
place in a suitable container for reclamation or disposal, using a method that does not generate dust.

Section 7 : Handling and Storage
Handing:
a. Avoid contact with eyes.
b. Do not breathe dust or mist.
c. Avoid high concentrations of dust or mist air through the use of ventilation or other suitable controls.
Storage
Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage;
observe all warnings and precautions listed for the product.

Section 8 : Exposure Controls/Personal Protection
Airborne Exposure Limits: None established.
Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures
as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of
the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the
ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for
details.
Personal Respirators (NIOSH Approved): For conditions of use where exposure to the dust or mist is
apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure
levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying
respirators do not protect workers in oxygen-deficient atmospheres.
Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls.
Eye Protection: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work
area.
Clothing: Wear appropriate clothing.
Gloves: impervious gloves or specified by manufacturer

Section 9 : Physical and Chemical Properties
Appearance: white powder
Odor: Odorless.
Color: white

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Solubility: InSoluble in water.
Molecular Weight: 79.90
Molecular Formula: TiO2
Specific Gravity: 3.9-4.2
pH: neutral
% Volatiles by volume @ 21C (70F): 0
Vapor Density (Air=1): No information found.
Vapor Pressure (mm Hg): No information found.
Evaporation Rate (BuAc=1): No information founded
Coefficient of Water/Oil Distribution: Not available

Section 10 : Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.
Reactivity:. Stable at normal temperatures and pressure
Conditions to Avoid: Stable at normal temperatures and pressure
Polymerization: Will not polymerize.
Hazardous Decomposition Products: not occur
Hazardous Polymerization: Will not occur.

Section 11 : Toxicological Information

Irritation: Inhalation of dust or mist can cause irritation of eyes, nose, throat and lungs.
Eye contact: Powder/particle can cause mechanical irritation.
Skin contact: Can cause irritation if not wash off from skin promptly.
Skin absorption: Not expected to be absorbed through intact skin.
Ingestion:
Not expected to produce adverse effects.
Effects of Chronic exposure
Titanium Dioxide: In lifetime inhalation studies of rats, airborne, respirable –size titanium dioxide particles
have been shown to cause an increase in lungs tumors at concentrations associated with substantial particle
lungs burdens and consequential pulmonary overload and inflammation. The potential for these adverse
health effects appears to be closely related the particle size and the amount of exposed surface area that
comes into contact with the lung. However, test with other laboratory such as mice and hamsters, indicate
that rats are significantly more susceptible to the pulmonary overload and inflammation that causes lung
cancer. Epidemiology studies do not suggest an increase risk of cancer in humans from occupational
exposure to titanium dioxide.
Titanium dioxide has been characterized by IARC as possible

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carcinogenic to humans (Group 2B) through
inhalation(Not ingestion) It has not been characterized as potential carcinogen by either NTP or OSHA.
Alumina oxide, Zirconium oxide, Silicon oxide: Inhalation of dust particles composed of these material may
cause drying of mucous membranes and irritation of nose, throat and lungs with nosebleeds, cough,
difficulty breath or shortness of breath. Based on animal studies, long time inhalation exposure to high
doses of ultrafine particles could lead pulmonary and inflammation and could be a factor in subsequent
development of chronic lung disease. Silicon oxide does not induce the lung effects associated with
crystalline silica.
Medical conditions Aggravated: Respiratory disorder
Toxicity: Titanium dioxide
Oral LD 50 >10,000 mg/kg (rate)
Dermal LD 50 >10,000 mg/kg (rabbit)
Inhalation LD (4 hr) >6.8 mg/l (rat)

SECTION 12: ECOLOGICAL INFORMATION

No data available.

Section 13 : Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved
waste disposal facility. Dispose of container and unused contents in accordance with federal, state and localrequirements.

Section 14 : Transport Information

No regulated in Hazard class
IMO/IMDG regulation information: not under IMO/IMDG

SECTION 15 REGULATORY INFORMATION

United States Regulatory Information
SARA Listed: No
TSCA Inventory Item: Yes
Canada Regulatory Information
DSL: Yes
NDSL: No

SECTION 16 OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used
only as a guide. We make no warranty of merchantability or any other

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warranty, express or implied, with
respect to such information, and we assume no liability resulting from its use. Users should make their own
investigations to determine the suitability of the information for their particular purposes. In no way shall we
be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect,
incidental, consequential or exemplary damages, howsoever arising from using the above information
Filling Date:2016..7.25