



**Titanium, Mineral & Chemicals**

Tel 82-2-2675-5700 Fax 82-2- 2675-0576

E-Mail : [tmc@tmc.co.kr](mailto:tmc@tmc.co.kr)

Homepage : <http://tmc.co.kr/>

---

## MSDS (Material Safety Data Sheet)

### Titanium Dioxide (TiO<sub>2</sub>)

---

#### **Section 1 : Product and Company Identification**

**Synonyms:** Titanium Dioxide, Anatase, Tioxide.

**CAS No.:** 13463-67-7

**Molecular Weight:** 79.90

**Chemical Formula:** TiO<sub>2</sub>

**HS Number :** 2823-00-1000

**TMC Co., Ltd**

Tel 82-2-2675-5700 Fax 82-2-2675-0576

e-mail : [tmc@tmc.co.kr](mailto:tmc@tmc.co.kr)

Home page : <http://tmc.co.kr>

Creation date : Feb. 15. 2002

#### **Section 2 : Composition/Information on Ingredients**

**Component :** Titanium Dioxide

**CAS number :** 13463-67-7

**HS Number :** 2823-00-1000

**Percentage :** 98.5 %

**Hazardous :** No

## **Section 3 : Hazards Identification**

### **EMERGENCY OVERVIEW**

#### **CAUSES IRRITATION TO EYES**

**NFPA Ratings (Scale 0-4):** HEALTH=0 FIRE=0 REACTIVITY=0

#### **EC Classification (Assigned):**

R 36/38, EC Classification may be inconsistent with independently-researched data.

**Color :** white

**Physical Form:** powder

**Odor:** odorless

**Major Health Hazards:** respiratory irritation, eye irritation, mucous membrane irritation

### **POTENTIAL HEALTH EFFECTS:**

#### **INHALATION:**

**Short Term Exposure:** no.

**Long Term Exposure:** same as effects reported in short term exposure.

#### **SKIN CONTACT:**

**Short Term Exposure :** no.

**Long Term Exposure :** same as effects reported in short term exposure.

#### **EYE CONTACT:**

**Short Term Exposure :** irritation.

**Long Term Exposure :** same as effects reported in short term exposure.

#### **INGESTION:**

**Short Term Exposure :** no.

**Long Term Exposure :** same as effects reported in short term exposure.

**CHRONIC EXPOSURE :** RESULTS OF EPIDEMIOLOGY STUDY SHOWED THAT EMPLOYEES WHO HAD BEEN EXPOSED TO TITANIUM DIOXIDE PIGMENTS WERE AT NO GREATER RISK OF DEVELOPING LUNG CANCER THAN WERE EMPLOYEES WHO NOT BEEN EXPOSED TO TITANIUM DIOXIDE

#### **CARCINOGEN STATUS:N**

**OSHA:** N

**NTP:** N

**IARC:** N

## **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**

**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 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**

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 none specified by manufacturer

## **Section 9 : Physical and Chemical Properties**

**Appearance:** white powder

**Odor:** Odorless.

**Color:** white

**Solubility:** Insoluble in water.

**Molecular Weight:** 79.90

**Molecular Formula:** TiO<sub>2</sub>

**Specific Gravity:** 3.82-4.2

**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 Data:** ND

**Toxicity Data:** ND.

**Local Effects:** irritation eye

**Tumorigenic Data:** ND

**Mutagenic Data:** ND

**Reproductive Effects Data:** ND

## **Section 12 : Disposal Considerations**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## **Section 13 : Transport Information**

No hazard class in the world