

## MATERIAL SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### ➤ PRODUCT IDENTIFICATION

Brand Name .....R298  
Chemical Name ..... Titanium dioxide  
Common Name..... Titanium dioxide  
Formula ..... Mixture  
Molecular Weight..... N/A  
Product Use ..... Pigment  
Product Identification Number ..... N/A

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

#### ➤ CHEMICAL NAME CAS NUMBER WEIGHT %

Titanium dioxide 13463-67-7 86 - 97 Aluminum hydroxide 1 21645-51-2 1 - 5 Amorphous silica 2 7631-86-9 0 - 10 Present in all tio<sub>2</sub> pigment type  
See Section 15 of this MSDS for OSHA Regulatory Status.

### 3. HAZARDS IDENTIFICATION

The product contains no substances classified as hazardous to health or environment in concentrations, which should be taken into account according to directive 67/548/EEC.

### 4. FIRST AID MEASURES

Inhalation: Remove from area to fresh air. Seek medical attention if respiratory irritation develops or if breathing becomes difficult.

Eye contact: Rinse eyes with water. Remove any contact lenses, and continue flushing with plenty of water for several minutes. Seek medical attention if irritation develops or persists.

Skin contact: Washing of exposed skin after use is recommended to reduce general chemical contact. Ingestion: Rinse mouth if necessary. Seek medical assistance if necessary.

#### NOTE TO PHYSICIAN

Chemicals of exposure are titanium dioxide and aluminum hydroxide, which are pulmonary irritants.

## 5. FIRE FIGHTING MEASURES

Flash Point and Method..... N/A

➤ **GENERAL HAZARD**

This product is not flammable, but may become involved in a fire with other material

➤ **EXTINGUISHING MEDIA**

Use media suitable for the material that is burning.

➤ **FIREFIGHTING EQUIPMENT**

As in any fire, wear NIOSH approved, positive-pressure, self-contained breathing apparatus and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

Wear appropriate protective equipment (See Section 8).

➤ **ON LAND**

Prevent spread of material and keep dust level down as much as possible. Scoop up material and all contaminated soil for later disposal.

➤ **IN WATER**

Use vacuum techniques and containment devices to prevent spread and remove material from water source for later disposal.

## 7. HANDLING AND STORAGE

Wear appropriate protective equipment (See Section 8). Avoid creating or breathing dust.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

➤ **ENGINEERING CONTROLS**

Provide local exhaust ventilation system to meet exposure limits.

➤ **PERSONAL PROTECTION**

Respirator: In operations where dusts are generated, use a NIOSH approved air purifying respirator with a particulate filter that has been selected by a technically qualified person for the specific work conditions. If respirators are used, OSHA requires compliance with its respiratory protection program (29 CFR 1910.134).

Eye Protection: Wear safety glasses with side shields or vented safety goggles. Gloves: Ordinary work type.

Clothing: Wear easily washable clothing. Wash clothing after each shift. Other: Emergency eye wash and shower.

General: Do not eat, drink, or smoke in work area. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using toilet facilities or applying cosmetics.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

State ..... Powdered solid  
Color ..... White  
Odor ..... None  
Melting Point °C ..... Approx. 1,840  
Boiling Point °C..... 2,500 - 3,000  
Bulk Density, lb/cu. Ft..... 30 - 75  
Specific Gravity @ 20 °C..... 3.8 - 4.2  
Water Solubility ..... Insoluble  
pH ..... 5 - 8.5 (10% slurry)

## 10. STABILITY AND REACTIVITY

- **REACTIVITY**  
Stable.
- **INCOMPATIBILITIES**  
None in normal or expected use.
- **HAZARDOUS DECOMPOSITION PRODUCTS**  
None in normal or expected use.
- **CONDITIONS TO AVOID**  
None known.

## 11. TOXICOLOGICAL INFORMATION

- **ACUTE TOXICITY**  
LD50/oral/rat > 10 000 mg/kg
- **IRRITATIVENESS AND CORROSIVENESS**  
None known
- **SENSITISATION**  
None known
- **LOCAL EFFECTS**  
Skin irritation: Non-irritating. Prolonged skin contact may defat the skin and produce dermatitis.  
Eye irritation: Slight physical irritation.
- **SUB-ACUTE, SUB-CHRONICAL AND LONG-TERM TOXICITY**

Effects of breathing high concentrations of respirable particles may induce a cough. Material is not genotoxic.

➤ **HUMAN EXPERIENCE**

Health injuries are not known or expected under normal use. Tumours produced in rats on inhalation of very high concentrations are believed to be the result of prolonged "lung overload" and are not considered relevant to man.

## 12. ECOLOGICAL INFORMATION

➤ **ECOTOXICITY**

LC0 (Leuciscus idus, 48 h) > 1000 mg/l

➤ **MOBILITY**

Limited (solid particles)

➤ **PERSISTENCE AND DEGRADABILITY**

Material is insoluble in aquatic systems and not biodegradable.

➤ **BIOACCUMULATION**

No information available.

➤ **OTHER ADVERSE EFFECTS**

Not known.

## 13. DISPOSAL CONSIDERATIONS

Waste disposal in accordance with local and national regulations. Not a hazardous waste under 2000/532/EC.

## 14. TRANSPORT INFORMATION

The product is not classified as dangerous in the meaning of transport regulations. **UN-No** not applicable **Packing group** not applicable **ADR/RID** not applicable **HI/UN No:** not applicable **IMO** not applicable **IMDG Page** not applicable **MFAG** not applicable **EMS** not applicable **Marine pollutant** not applicable **ICAO/IATA** not applicable

## 15. REGULATORY INFORMATION

The product does not need to be labelled in accordance with EC directive 67/548/EEC or respective national laws. Titanium dioxide is listed on AICS, DSL, MITI and TSCA.

## 16. OTHER INFORMATION

➤ **R-PHRASES**

None.

➤ **TRAINING ADVICE**

Read the safety data sheet before using the product.

➤ **RECOMMENDED RESTRICTIONS ON USE**

None.

## **Further information**

### **Sources of key data**

The information provided in this Safety Data Sheet is correct to the best of our knowledge at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification, since the conditions of the operations mentioned are beyond our control. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text. Issuer disclaims any liability for loss or damage resulting from the use of these data, information or suggestions.