

# MATERIAL SAFETY DATA SHEET

## AEROXIDE® TiO2 P 25



Material no.		Version	2.4 / US
Specification	132843	Revision date	06/26/2013
Order Number		Print Date	12/06/2013
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### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

#### Product information

Trade name : AEROXIDE® TiO2 P 25  
Use of the Substance / Preparation : Catalyst support  
Stabilizer

Company : Evonik Corporation USA  
299 Jefferson Road  
Parsippany, NJ 07054-0677  
USA

Telephone : 973-929-8000

Telefax : 973-929-8040

**US: CHEMTREC EMERGENCY NUMBER** : 800-424-9300

**CANADA: CANUTEC EMERGENCY NUMBER** : 613-996-6666

Product Regulatory Services : 973-929-8060

### 2. HAZARDS IDENTIFICATION

#### \*\*\* EMERGENCY OVERVIEW \*\*\*

*Form-powder Color-white Odor-odorless*

Low hazard for usual industrial handling.

#### POTENTIAL HEALTH EFFECTS

##### Eye contact

Non-irritating.

##### Skin Contact

Non-irritating.

##### Inhalation

Dust may cause irritation.

##### Ingestion

No hazard expected in normal use.

##### Chronic Health Hazard

IARC Category 2B (possibly carcinogenic to human).

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Information on ingredients / Hazardous components

Titanium dioxide			
CAS-No.	13463-67-7	Percent (Wt./ Wt.)	100 %

#### Other information

This material is classified as hazardous under OSHA regulations.

### 4. FIRST AID MEASURES

#### Inhalation

In case product dust is released: Possible discomfort: cough, sneezing  
Move victims into fresh air.

#### Skin contact

Wash off with soap and plenty of water.

#### Eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes or until all material has been removed. Obtain medical attention.

#### Ingestion

If accidentally swallowed, rinse mouth thoroughly with water and afterwards, drink plenty of water. In case of discomfort, obtain medical attention.

### 5. FIRE-FIGHTING MEASURES

Flash point	not applicable
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Autoignition temperature	not applicable

#### Suitable extinguishing media

All extinguishing substances suitable.

#### Specific hazards during fire fighting

None known.  
This material has an exceptional tendency to accumulate static charge.

#### Special protective equipment for fire-fighters

As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Wear personal protective equipment.

#### Environmental precautions

Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

#### Methods for cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal.  
Avoid dust formation.

### 7. HANDLING AND STORAGE

#### Handling

##### Safe handling advice

Use with adequate ventilation.

##### Advice on protection against fire and explosion

Take precautionary measures against static discharges.

#### Storage

##### Requirements for storage areas and containers

Keep containers tightly closed in a dry, cool place.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Component occupational exposure guidelines

- **Titanium dioxide**

CAS-No. 13463-67-7  
Control parameters 10 mg/m<sup>3</sup>  
15 mg/m<sup>3</sup>  
Total dust.

Time Weighted Average (TWA):(ACGIH)  
PEL:(OSHA Z1)

#### Personal protective equipment

##### Respiratory protection

A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

##### Hand protection

Use impermeable gloves.

##### Eye protection

Wear safety glasses with side shields. In case dusts are formed, wear close fitting protective goggles.

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### Skin and body protection

A safety shower and eye wash fountain should be readily available.

To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.

### Hygiene measures

When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. Avoid clothing from being contaminated with the product. Wash contaminated clothing after use.

### Protective measures

Handle in accordance with good industrial hygiene and safety practices.

If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used.

If the workplace threshold limit value is exceeded and/or the substance is released, use appropriate respiratory protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	powder
Color	white
Odor	odorless
physical state	solid

### Safety data

pH	3.5 - 4.5	(40 g / l)	(20 °C)
Melting point/range	ca. 1840 °C		
Boiling point/range	not applicable		
Flash point	not applicable		
Flammability	not applicable		
Autoignition temperature:	not applicable		
Autoinflammability	not applicable		
Lower explosion limit	not applicable		
Upper explosion limit	not applicable		
Minimum ignition energy	not applicable		
Vapor pressure	not applicable		
Density	ca. 4.1 g/cm <sup>3</sup>	(20 °C)	
Tapped density	ca. 130 g / l		
	Method: DIN / ISO 787/11		

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Water solubility	insoluble
Partition coefficient (n-octanol/water)	not applicable
Viscosity, dynamic	not applicable

### 10. STABILITY AND REACTIVITY

Hazardous decomposition products	None known.
Thermal decomposition	> 2000 °C

### 11. TOXICOLOGICAL INFORMATION

Product Acute oral toxicity	LD50 Rat: > 10000 mg/kg Method: literature (limit test)
Product Acute dermal toxicity	LD50 Rabbit: >= 10000 mg/kg Method: literature
Product Skin irritation	Rabbit Not irritating. Method: literature
Product Eye irritation	Rabbit Not irritating. Method: literature
Product Sensitization	Optimizations-test guinea pig: not sensitizing Method: literature  Patch test : not sensitizing Method: literature
Product Gentoxicity in vitro	Microorganisms, cell cultures Method: literature Shown no mutagenic/genotoxic effect.
Product Gentoxicity in vivo	Microorganisms, cell cultures Method: literature Shown no mutagenic/genotoxic effect.
Product Carcinogenicity	High concentrations of titanium dioxide dust caused microscopic lung tumors in rats in lifetime inhalation studies. However, DuPont, the primary US manufacturer, based on a review of the test data and based on an epidemiological study of employees, concludes that titanium dioxide pigment will not cause chronic respiratory disease in humans at concentrations experienced in the workplace.

The scientific discussion of the tumorigenic effect of sparingly soluble

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inorganic particles (fine dusts)- such as titanium dioxide - is ongoing. It is the opinion of many inhalation toxicologists that the tumor formation observed in rats results from a species-specific mechanism involving overloading of the rat lung (overload phenomenon). Corresponding findings resulting from exposure of humans have not been observed to date. On the other hand, the International Agency for Research on Cancer (IARC) assessed, in February of 2006, the available rat model studies as constituting sufficient proof of the carcinogenicity of titanium dioxide in animal models. For humans, the IARC does not see sufficient evidence of a carcinogenic effect of titanium dioxide. However, the IARC evaluation scheme results in an overall assessment of titanium dioxide as "possibly carcinogenic to humans" (Group 2B).

Oral rat, mouse: 103 weeks  
Method: literature  
No evidence that cancer may be caused.

Inhalative Rat: 2 years  
Method: literature  
Increased incidence of lung tumors.  
According to many inhalation toxicologists the tumor response observed in the rat studies is species specific.

Inhalative (mouse): 2 years  
Method: literature  
No evidence that cancer may be caused.

Component carcinogenicity assessment      Titanium dioxide  
13463-67-7  
Contains a component which is classified as an IARC 2B carcinogen (possibly carcinogenic to humans).

Component Human experience      Titanium dioxide  
13463-67-7  
Epidemiological studies to date have not revealed any evidence of a relation between exposure to titanium dioxide and diseases of the respiratory tract beyond general effects of dust.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity effects

Toxicity to fish      LC50 Fundulus heteroclitus: > 1000 mg/l / 96 h  
Method: literature

Toxicity to daphnia      EC0 Daphnia magna: 1000 mg/l / 48 h  
Method: literature

Toxicity to bacteria      EC0 Pseudomonas fluorescens: 10000 mg/l / 24 h  
Method: DEV, DIN 38412, T. 8 (modified).

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### 13. DISPOSAL CONSIDERATIONS

#### WASTE DISPOSAL

Advice on disposal

Waste must be disposed of in accordance with federal, state and local regulations. Incineration is the preferred method.

### 14. TRANSPORT INFORMATION

#### Transport/further information

Not dangerous according to transport regulations.

### 15. REGULATORY INFORMATION

#### US Federal Regulations

##### OSHA

If listed below, chemical specific standards apply to the product or components:

- None listed

##### Clean Air Act Section (112)

If listed below, components present at or above the de minimus level are hazardous air pollutants:

- None listed

##### CERCLA Reportable Quantities

If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- None listed

##### SARA Title III Section 311/312 Hazard Categories

The product meets the criteria only for the listed hazard classes:

- Acute Health Hazard
- Chronic Health Hazard

##### SARA Title III Section 313 Reportable Substances

If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- None listed

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### Toxic Substances Control Act (TSCA)

If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

- None listed

### State Regulations

The Listing requirements of the Right to Know (RTK) legislation varies by state. All information for NJ, PA, MA and other states can be derived from the listing of hazardous and non-hazardous components in section 2 and 15 of this MSDS.

### California Proposition 65

A warning under the California Drinking Water Act is required only if listed below:

- None listed

Evonik's titanium dioxide products are fumed materials that are very small particles but they are not provided in a way where they are airborne. The conditions where labeling under Prop 65 is required is when the TiO<sub>2</sub> particle are airborne, respirable and not bound in a matrix. Since the product is not airborne, additional Prop 65 labeling is not required.

### International Chemical Inventory Status

Unless otherwise noted, this product is in compliance with the inventory listing of the countries shown below. For information on listing for countries not shown, contact the Product Regulatory Services Department.

• Europe (EINECS/ELINCS)	Listed/registered
• USA (TSCA)	Listed/registered
• Canada (DSL)	Listed/registered
• Australia (AICS)	Listed/registered
• Japan (MITI)	Listed/registered
• Korea (TCCL)	Listed/registered
• Philippines (PICCS)	Listed/registered
• China	Listed/registered

## 16. OTHER INFORMATION

### HMIS Ratings

Health :	1*
Flammability :	0
Physical Hazard :	0

### NFPA Ratings

Health :	1
Flammability :	0



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Reactivity : 0

### Further information

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief 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. 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.