

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING**1.1. Identification of the substance or preparation**

Product name: FINNTi

Product code: S140, S150

1.2. Use of the substance / preparation

Chemicals are used as titanium raw materials for colouring pigments, catalysts and ceramics as well as in the electronics industry.

1.3. Company / undertaking identification

Supplier Kemira Pigments Oy
28840 Pori
FINLAND

Tel. +358 10 86 1415

Fax. +358 10 863 1091

1.4. Emergency telephone

Company contact number +358 10 86 1415

2. COMPOSITION / INFORMATION ON INGREDIENTS**Chemical nature of the preparation**

| CAS-No. | EINECS-No. | Name of the component | Weight-% | R-phrase / Classification |
|------------|------------|-----------------------|----------|---------------------------|
| 20338-08-3 | 2437443 | Titanium hydroxide | 30-45 | none |
| 13463-67-7 | 2366755 | Titanium dioxide | 55-70 | none |

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 directives 67/548/EEC and 1999/45/EC.

4. FIRST AID MEASURES**4.1. Special measures**

No special first aid measures

4.2. Inhalation

Move to fresh air. Consult a physician after significant exposure.

4.3. Skin contact

Wash off with soap and plenty of water.

4.4. Eye contact

Wash off with water or neutral eyewash solution.

4.5. Ingestion

Do not induce vomiting. Drink water as precaution. In case of persistent symptoms, consult a doctor.

5. FIRE-FIGHTING MEASURES

The product itself does not burn.

- 5.1. Suitable extinguishing media**
No special requirements.
- 5.2. Extinguishing media which must not be used for safety reasons**
No special requirements.
- 5.3. Special exposure hazards**
No special exposure hazards.
- 5.4. Special protective equipment for fire-fighters**
No special requirements.

6. ACCIDENTAL RELEASE MEASURES

- 6.1. Personal precautions**
Avoid dust formation. Ensure adequate ventilation. Use personal protective equipment.
- 6.2. Environmental precautions**
Avoid dust dispersion to the environment. Prevent run-off from entering storm sewers and ditches which lead to natural waterways.
- 6.3. Cleaning methods**
Use any feasible mechanical means (e.g. vacuum, sweeping) but avoid dusting during clean-up.

7. HANDLING AND STORAGE

- 7.1 Handling**
Avoid dust formation during handling. Provide appropriate local ventilation at machinery and at places where dust can be generated. In case of insufficient ventilation, wear suitable respiratory equipment.
- 7.2. Storage**
Keep in a dry place.
- 7.3. Specific use(s)**
Not applicable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- 8.1. Exposure limit values**
OEL-values for EU member countries is given in ANNEX 1. For particle size definitions see standard EN 481.

Dust concentration can be determined by collecting representative sample on filter (total dust) or by using cyclone and filter (respirable fraction).
- 8.2. Exposure controls**
 - 8.2.1. Occupational exposure controls**
 - 8.2.1.1. Respiratory protection**
Use filtering half mask according to EN149 equipped with dust filter according to EN143 (P2 or P3).
 - 8.2.1.2. Hand protection**
Wear PVC- or neoprene gloves according to EN374 (protection class 3 or better). Permeation time more than one hour.
 - 8.2.1.3. Eye protection**
Wear dust-proof goggles, frames application area 5 according to EN166.
 - 8.2.1.4. Skin protection**
Use protective suit.

8.2.2. Environmental exposure controls

It is recommended to use bag filters for gases from local ventilation.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1. General information**

| | |
|-------------------|--------|
| Appearance | powder |
| Colour | white |
| Odour | none |

9.2. Important health, safety and environmental information

| | |
|---|--|
| pH | 5-7 (ISO787 Part 9) |
| Boiling point/boiling range | not applicable |
| Flash point | not applicable |
| Flammability (solid, gas) | not flammable |
| Explosive properties | not explosive |
| Oxidising properties | not oxidising |
| Vapour pressure | not applicable |
| Relative density | 500-600 kg/m ³ (bulk density) |
| Solubility | |
| - water solubility | insoluble |
| - fat solubility | not applicable |
| Partition coefficient: n-octanol/water | not applicable |
| Viscosity | not applicable |
| Vapour density | not applicable |
| Evaporation rate | not applicable |

9.3. Other information

| | |
|------------------------------------|----------------|
| Miscibility | not applicable |
| Conductivity | not applicable |
| Melting point/melting range | not applicable |
| Auto-ignition temperature | not applicable |

10. STABILITY AND REACTIVITY

Stable at normal conditions.

10.1. Conditions to avoid

None.

10.2. Materials to avoid

None.

10.3. Hazardous decomposition products

None.

11. TOXICOLOGICAL INFORMATION**11.1. Acute toxicity**Titanium dioxide LD₅₀/oral/rat > 10 000 mg/kg**11.2. Irritiveness and corrosiveness**

None known.

11.3. Sensitisation

None known.

11.4. Local effects

Health injuries are not known or expected under normal use.

11.5. Sub acute, sub chronic and long term toxicity

Effects of breathing high concentrations of respirable particles may include cough.
Prolonged skin contact may defat the skin and produce dermatitis.

11.6. Human experience

Not known.

12. ECOLOGICAL INFORMATION**12.1. Ecotoxicity**

Ecological injuries are not known.

12.2. Mobility

Titanium dioxide: Solubility in water: insoluble

Titanium hydroxide: Solubility in water: insoluble

12.3. Persistence and degradability

Practically not biodegradable.

12.4. Bioaccumulative potential

No information available.

12.5. 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

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 directives 67/548/EEC and 1999/45/EC or respective national laws.

16. OTHER INFORMATION**16.1. R phrases**

None.

16.2. Training advice

Read the safety data sheet before using the product.

16.3. Recommended restrictions on use

16.4. Further information**16.5. Sources of key data****16.6. Added, deleted or revised information**

This safety data sheet is made in accordance with directive 2001/58/EEC and will replace the previous version 41/4.0/GB/E dated 30.08.2001.

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. Kemira Pigments Oy disclaims

KEMIRA

SAFETY DATA SHEET

According to directive 91/155/EEC (last modified by directive 2001/58/EC)
MSDS/S140/150/GB/001
Date: 01.08.2002

any liability for loss or damage resulting from the use of these data, information or suggestions.

Reg. No. 571.088
Domestic Helsinki, Finland

Page 6(7)

The logo for American International Chemical, Inc. (aic) features the lowercase letters 'aic' in a bold, black, sans-serif font. The letters are closely spaced, with the 'i' and 'c' having a slightly rounded, modern appearance.

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**American
International
Chemical, Inc.**
135 Newbury Street

ANNEX1**OCCUPATIONAL EXPOSURE LIMITS**

| | |
|----|---|
| GB | Titanium dioxide - LTEL : 10 mg/m ³ , total inhalable dust LTEL : 4 mg/m ³ , respirable dust Reference : EH40/2001, Table 2a. |
| IE | Titanium dioxide - 8-hours OEL : 10 mg/m ³ , total inhalable dust 8-hours OEL : 4 mg/m ³ , respirable dust Reference : S.I. No 619, 2001 Schedule I. |
| FR | Titanium dioxide - VME : 10 mg/m ³ Reference : INRS, ND 2098-174-99, 1999. |
| IT | Titanium dioxide - TLV-TWA : 10 mg/m ³ No reference available - U.S.A. ACGIH value. |
| ES | Titanium dioxide - VLA-ED : 10 mg/m ³ Reference : INSHT, 2001-2002. |
| DE | MAK : 10 mg/m ³ , inhalable dust binding limit as from 01.04.2004 MAK : 3 mg/m ³ , respirable dust (6 mg/m ³ under conditions as in § 2.4 (8),(9),(10) of TGRS 900 3/2002) Reference : TGRS 900 3/2002. |
| BE | Titanium dioxide - TWA : 10 mg/m ³ Reference : Belgish Staatsblad - 14.03.2002 Ed.2 - Moniteur Belge. |
| NL | Titanium dioxide - MAC-waarden TGG 8h : 10 mg/m ³ , inhalable dust MAC-waarden TGG 8h : 5 mg/m ³ , respirable dust Reference : Staatscourant 1999, 36, p 12. |
| SE | Titanium dioxide - NGV : 5 mg/m ³ , total dust Reference : AFS 2000:3 & Method Series : Method Nr 1010 |
| AT | Titanium dioxide - MAK : 6 mg/m ³ , respirable dust Reference : BGBl Teil II, 2001, 27.07.2001, p 1469. |
| DK | Titanium dioxide - TWA : 6 mg/m ³ Reference : AT-vejledning Nr.C.0.1, 2000, Grænsevaerdier for stoffer og materialer. |
| FI | HTP-arvot 8h : 10 mg/m ³ , inhalable dust Reference : HTP-arvot 2002, Sosiaali - Ja Terveysministeriö, Työsuo- jeluääöksiä 3. |
| PT | Titanium dioxide - TLV-TWA : 10 mg/m ³ No reference available - U.S.A. ACGIH value. |
| GR | Titanium dioxide - TLV-TWA : 10 mg/m ³ No reference available - U.S.A. ACGIH value. |
| NO | Titanium dioxide - TLV : 5 mg/m ³ Reference : Administrative normer for forurensning I |
| CH | Titanium dioxide - MAK : 6 mg/m ³ , respirable dust Reference : SUVA Grenzwerte am Arbeitsplatz 2001. |