

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.05.2011

Version number 1

Revision: 01.05.2011

1 Identification of the substance/mixture and of the company/undertaking

- Product identifier
- Trade name: **Ti-Nanoxide D/SC**
- Relevant identified uses of the substance or mixture and uses advised against
- Application of the substance / the preparation
Suspension containing about 3% wt. of titanium dioxide (TiO₂) anatase particles CAS 1317-70-0
- Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
SOLARONIX SA
Rue de l'Ouriette 129, CH-1170 Aubonne, Switzerland
info@solaronix.com
T +41 21 821 22 80
www.solaronix.com
F +41 21 821 22 89
info@solaronix.com
- Emergency telephone number: Swiss Toxicological Information Center: +41 44 251 51 51

2 Hazards identification

- Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xi; Irritant

R36/38: Irritating to eyes and skin.

R10: Flammable.

- Information concerning particular hazards for human and environment:

The product has to be labelled in the latest valid version according to the calculation procedure of the "General Classification guideline for preparations of the EU".

- Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- Label elements

- Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.05.2011

Version number 1

Revision: 01.05.2011

Trade name: Ti-Nanoxide D/SC

(Contd. of page 1)

Hazard pictograms


GHS02 GHS05

Signal word Danger

Hazard statements

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H318 Causes serious eye damage.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.







3 Composition/information on ingredients

Chemical characterization: Mixtures
Description:

Mixture: consisting of the following components.

 Suspension containing about 3% wt. of titanium dioxide (TiO₂) anatase particles CAS 1317-70-0

Dangerous components:

| | | |
|-----------------------------------|--|---------|
| CAS: 64-17-5 EINECS: 200-578-6 | ethanol  F R11  Flam. Liq. 2, H225 | 25-50% |
| CAS: 78989-43-2 | Red fuming nitric acid  C R35;  O R8  Ox. Liq. 2, H272;  Skin Corr. 1A, H314 | 2.5-10% |

Additional information: For the wording of the listed risk phrases, refer to section 16.

4 First aid measures

Description of first aid measures
After excessive inhalation:

In case of unconsciousness place patient in a stable laying down side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.05.2011

Version number 1

Revision: 01.05.2011

Trade name: **Ti-Nanoxide D/SC**

(Contd. of page 2)

- **After swallowing:** If symptoms persist consult a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protective equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**



Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

GB

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.05.2011

Version number 1

Revision: 01.05.2011

Trade name: Ti-Nanoxide D/SC

(Contd. of page 3)

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see section 7.

- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

| |
|---------------------------------|
| 64-17-5 ethanol (25-50%) |
|---------------------------------|

| |
|--|
| WEL (Great Britain) Long-term value: 1920 mg/m ³ , 1000 ppm |
|--|

- **Additional information:**

As a basis for the production of this document, the most current valid lists were used.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:** Keep away from food, beverages and petfood. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

- **Respiratory protection:** Not required.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- **Gloves material :**

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which may vary from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked before use.

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Liquid

Colour: According to product specification

- **Odour:** Characteristic

- **Odour threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range: Undetermined.

(Contd. on page 5)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 01.05.2011

Version number 1

Revision: 01.05.2011

 Trade name: **Ti-Nanoxide D/SC**

(Contd. of page 4)

| | |
|---|---|
| Boiling point/Boiling range: | 78°C |
| · Flash point: | 50°C |
| · Flammability (solid, gaseous): | Not applicable. |
| · Ignition temperature: | 425°C |
| · Decomposition temperature: | Not determined. |
| · Self-igniting: | Product is not self igniting. |
| · Danger of explosion: | Product is not explosive. However, formation of explosive air/vapour mixtures are possible. |
| · Explosion limits: | |
| Lower: | 3.5 Vol % |
| Upper: | 15.0 Vol % |
| · Vapour pressure at 20°C: | 59 hPa |
| · Density: | Not determined. |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with water: | Not miscible or difficult to mix. |
| · Segregation coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.05.2011

Version number 1

Revision: 01.05.2011

Trade name: Ti-Nanoxide D/SC

(Contd. of page 5)

Additional toxicological information:

The product shows the following hazards according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological information

Toxicity

· **Acquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

Behaviour in environmental systems:

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

Additional ecological information:
General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation


Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

Land transport ADR/RID (cross-border) :


· **ADR/RID class:** 3 (FC) Flammable liquids.

· **Danger code (Kemler):** 38

· **UN-Number:** 2924

· **Packaging group:** III

· **Hazard label:** 3+8

· **UN proper shipping name:** 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), NITRATING ACID MIXTURE)

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.05.2011

Version number 1

Revision: 01.05.2011

Trade name: Ti-Nanoxide D/SC

(Contd. of page 6)

- Limited quantities (LQ) 5L
- Transport category 3
- Tunnel restriction code D/E

Maritime transport IMDG:


- IMDG Class: 3
- UN Number: 2924
- Label 3+8
- Packaging group: III
- EMS Number: F-E,S-C
- Marine pollutant: No
- Segregation groups: Acids
- Proper shipping name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), NITRATING ACID MIXTURE)

Air transport ICAO-TI and IATA-DGR:


- ICAO/IATA Class: 3
- UN/ID Number: 2924
- Label 3+8
- Packaging group: III
- Proper shipping name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL, NITRATING ACID MIXTURE)

- UN "Model Regulation": UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., 3 (8), III
- Special precautions for user Warning: Flammable liquids.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

15 Regulatory information

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

- H225 Highly flammable liquid and vapour.
- H272 May intensify fire; oxidiser.
- H314 Causes severe skin burns and eye damage.
- R11 Highly flammable.
- R35 Causes severe burns.
- R8 Contact with combustible material may cause fire.

(Contd. on page 8)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 01.05.2011

Version number 1

Revision: 01.05.2011

Trade name: Ti-Nanoxide D/SC

(Contd. of page 7)

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GB