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-L/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.

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Trade name: Ti-Nanoxide D-L/SC

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

<table>
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<th>CAS:</th>
<th>64-17-5</th>
<th>ethanol</th>
<th>F R11</th>
<th>GHS 36</th>
<th>Flamm. Liq. 2, H225</th>
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<td>CAS:</td>
<td>78989-43-2</td>
<td>Red fuming nitric acid</td>
<td>C R35; O R8</td>
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</table>

- 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.
- After swallowing: If symptoms persist consult a doctor.
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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.

8 Exposure controls/personal protection

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

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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/m³, 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.
  - 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.
  - Boiling point/Boiling range: 78°C
- Flash point: 50°C
Trade name: Ti-Nanoxide D-L/SC

· 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.
· 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:
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)
  - **Limited quantities (LQ)**: 5L
  - **Transport category**: 3

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Trade name: Ti-Nanoxide D-L/SC

- 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.
**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