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

- Product identifier
- Trade name: **Ti-Nanoxide T/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)
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 T/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.

Dangerous components:

<table>
<thead>
<tr>
<th>CAS: 64-17-5</th>
<th>Ethanol</th>
<th>Fl. Liq. 2, H225</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 200-578-6</td>
<td>F R11</td>
<td>25-50%</td>
</tr>
<tr>
<td>CAS: 78989-43-2</td>
<td>Red fuming nitric acid</td>
<td>Ox. Liq. 2, H272; Skin Corr. 1A, H314</td>
</tr>
<tr>
<td>EINECS: 251-934-8</td>
<td>C R35; O R8</td>
<td>2.5-10%</td>
</tr>
</tbody>
</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.

(Contd. on page 3)
Trade name: Ti-Nanoxide T/SC

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.
Trade name: Ti-Nanoxide T/SC

### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Information</td>
</tr>
<tr>
<td>Appearance:</td>
</tr>
<tr>
<td>Form: Liquid</td>
</tr>
<tr>
<td>Colour: According to product specification</td>
</tr>
<tr>
<td>Odour: Characteristic</td>
</tr>
<tr>
<td>Odour threshold: Not determined.</td>
</tr>
<tr>
<td>pH-value: Not determined.</td>
</tr>
<tr>
<td>Change in condition</td>
</tr>
<tr>
<td>Melting point/Melting range: Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range: 78°C</td>
</tr>
<tr>
<td>Flash point: 50°C</td>
</tr>
</tbody>
</table>
Trade name: Ti-Nanoxide T/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 eyes: Irritating effects.
- 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:
### 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.

### 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.

### 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
Trade name: Ti-Nanoxide T/SC

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.
### Trade name: Ti-Nanoxide T/SC

<table>
<thead>
<tr>
<th>Abbreviations and acronyms:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)</td>
</tr>
<tr>
<td>IMDG: International Maritime Code for Dangerous Goods</td>
</tr>
<tr>
<td>IATA: International Air Transport Association</td>
</tr>
<tr>
<td>IATA-DGR: Dangerous Goods Regulations by the &quot;International Air Transport Association&quot; (IATA)</td>
</tr>
<tr>
<td>ICAO: International Civil Aviation Organization</td>
</tr>
<tr>
<td>ICAO-TI: Technical Instructions by the &quot;International Civil Aviation Organization&quot; (ICAO)</td>
</tr>
<tr>
<td>GHS: Globally Harmonized System of Classification and Labelling of Chemicals</td>
</tr>
</tbody>
</table>