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

1.1. Product identifier

SiliXan M 150

Product group: delivery product

Abbreviation: -

REACH Registration Number: -

CAS No: -

Index No: -

EC No: -

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Binding agent.

1.3. Details of the supplier of the safety data sheet

tradeperson

Company name: SiliXan GmbH
Street: Theodor-Heuss-Str. 11a
Place: D-66130 Saarbrücken
Telephone: 0049 681 876105 23
Fax: 0049 681 876105 31
e-mail: info@silixan.de
Contact person: Dr. Frank Groß
Telephone: 0151 42551255
e-mail: frank.gross@silixan.de
Internet: www.silixan.de

@0802.B008248

Company name: NANO-X GMBH
Street: Theodor-Heuss-Str. 11a
Place: D-66130 Saarbrücken
Telephone: +49 (0)68195940 0
Fax: +49 (0)68195940 45
Contact person: Cathrin Anne Lang
Telephone: +49 (0)68195940 45
e-mail: lang@nano-x.de
Internet: www.nano-x.de

1.4. Emergency telephone number:
bei Vergiftung:Giftinformationszentrum Mainz +49 (0)6131 19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Indications of danger: Xi - Irritant
R phrases:
Irritating to eyes and skin.
May cause sensitisation by skin contact.

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard categories:
Serious eye damage/eye irritation: Eye Irrit. 2
Hazard Statements:
Causes serious eye irritation.

2.2. Label elements
Signal word: Warning
Pictograms: GHS07

Hazard statements
H319 Causes serious eye irritation.

Precautionary statements
P264 Wash face thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.

Special labelling of certain mixtures
90 % of the mixture consists of ingredient(s) of unknown acute toxicity.
For use in industrial installations or professional treatment only.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization
Methacrylfunctional organic-inorganic polymer, made of silanes with EINECS registration, as well as the hydrolysates and condensates thereof

Sum formula: -
Molecular weight: -

Hazardous components

<table>
<thead>
<tr>
<th>EC No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>249-698-0</td>
<td>Dipentaerythritolhexaacylate</td>
<td>15 - &lt; 20 %</td>
</tr>
<tr>
<td>29570-58-9</td>
<td>Xi - Irritant R36</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eye Irrit. 2; H319</td>
<td></td>
</tr>
<tr>
<td>262-270-8</td>
<td>Dipentaerythritolpentaacylate</td>
<td>15 - &lt; 20 %</td>
</tr>
<tr>
<td>60506-81-2</td>
<td>Xi - Irritant R36</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eye Irrit. 2; H319</td>
<td></td>
</tr>
<tr>
<td>200-659-6</td>
<td>methanol</td>
<td>1 - &lt; 5 %</td>
</tr>
<tr>
<td>603-001-00-X</td>
<td>Flam. Liq. 2, Acute Tox. 3,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute Tox. 3, Acute Tox. 3,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STOT SE 1; H225 H331 H311</td>
<td></td>
</tr>
<tr>
<td></td>
<td>H301 H370 **</td>
<td></td>
</tr>
</tbody>
</table>

Full text of R-, H- and EUH-phrases: see section 16.

SECTION 4: First aid measures
4.1. Description of first aid measures

General information
Remove contaminated, saturated clothing immediately. Consult physician if problems persist. Do not give anything to unconscious over the mouth.

After inhalation
Provide fresh air. Consult physician if problems persist.

After contact with skin
Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap.

After contact with eyes
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion
Do NOT induce vomiting. Consult physician.

4.2. Most important symptoms and effects, both acute and delayed
No data available

4.3. Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Foam, Dry extinguishing powder, Carbon dioxide (CO2), Water spray jet

Extinguishing media which must not be used for safety reasons
Full water jet,

5.2. Special hazards arising from the substance or mixture
Product may polymerize at high temperature The polymerisation is a highly exothermic reaction and may produce sufficient heat to cause thermal decomposition and/or a damage/rupture of the containers. Exposure to decomposition products may cause health hazard. The thermal decomposition may lead to the formation of irritating vapour or gases and/or fire. In case of fire may be liberated: Carbon monoxide, SiO2. In case of fire cool the containers with water spraying jet.

5.3. Advice for firefighters
In case of fire: Wear self-contained breathing apparatus. Full protective suit.

Additional information
Use water spray jet to protect personnel and to cool endangered containers. Vapours are heavier than air, spread along floors and form explosive mixtures with air. In case of fire and/or explosion do not breathe fumes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Keep away from unprotected people. Keep upwind. Provide adequate ventilation. Remove all sources of ignition. Avoid contact with skin and eyes. Do not breathe gas/fumes/vapour/spray.

6.2. Environmental precautions
Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Ventilate affected area.

6.3. Methods and material for containment and cleaning up
Clean contaminated articles and floor according to the environmental legislation. Suitable material for taking up: Universal binder, Sand, Earth
Ventilate affected area.
SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling
If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means. Handle and open container with care. It is recommended to design all work processes always so that the following is excluded: Inhalation Eye contact Skin contact Keep container tightly closed. Not inhale aerosole.

Advice on protection against fire and explosion
Keep away from: Heat spark. flame.
Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges.When using do not eat, drink or smoke.

Further information on handling
Do not breathe gas/fumes/vapour/spray. Keep in a cool, well-ventilated place.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep only in the original container. Keep container tightly closed in a cool, well-ventilated place.
Provide earthing of containers, equipment, pumps and ventilation facilities.

Advice on storage compatibility
The storage class according to TRGS 510 should be indicated.

Further information on storage conditions
storage temperature 5 - 25 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>200</td>
<td>266</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>250</td>
<td>333</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

Additional advice on limit values
No data available

8.2. Exposure controls

Occupational exposure controls
If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. In the immediate working surroundings there must be: Emergency shower installed, Provide eye shower and label its location conspicuously

Protective and hygiene measures
It is recommended to design all work processes always so that the following is excluded: Inhalation, Eye contact, Skin contact. Wash hands and face before breaks and after work and take a shower if necessary.

Respiratory protection
Wear breathing apparatus if exposed to vapours/dusts/aerosols. Filtering device (full mask or mouthpiece) with filter: Manufacturer 3M Art. Nr. 6800S (special filter for organic and inorganic gases and aerosols, 3M Art. Nr. ABEK1, particle filter for fine dust or dangerous aerosols 3M P3 Art.Nr. 5935)

Hand protection
Draw up and observe skin protection programme.
Tested protective gloves must be worn.
Suitable material: NBR (Nitrile rubber) Butyl caoutchouc (butyl rubber) FKM (fluoro rubber)

**Eye protection**
Wear eye/face protection.

**Skin protection**
lab coat

**Environmental exposure controls**
refer to Chap. 5 and 6

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

- **Physical state:** liquid
- **Colour:** milky cloudy
- **Odour:** characteristic

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH-Value (at 24 °C)</td>
<td>~ 3.5</td>
<td>DIN 19261</td>
</tr>
<tr>
<td>Changes in the physical state</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>&gt; 35 °C</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 110 °C</td>
<td>DIN ISO 3679</td>
</tr>
<tr>
<td>Lower explosion limits</td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>Upper explosion limits</td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>1.2 g/cm³</td>
<td>DIN 12791</td>
</tr>
<tr>
<td>Water solubility</td>
<td>not miscible</td>
<td></td>
</tr>
<tr>
<td>Viscosity / dynamic</td>
<td>800 – 3000 mPa·s</td>
<td>ISO 2555</td>
</tr>
<tr>
<td>Flow time</td>
<td>30 - 60s (6mm)</td>
<td>6 DIN 53211</td>
</tr>
<tr>
<td>Solvent content</td>
<td>&lt; 4 %</td>
<td></td>
</tr>
</tbody>
</table>

#### 9.2. Other information

- Solid content: 90 - 92 %

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
No data available

#### 10.2. Chemical stability
stable at room temperature

#### 10.3. Possibility of hazardous reactions
Spontaneous exothermic polymerisation by storage over 60 °C or direct exposure to sun light.

#### 10.4. Conditions to avoid
Avoid temperatures over 60°C Avoid direct sun exposure. Avoid contact with heat sources.

#### 10.5. Incompatible materials
Avoid initiators which are producing free radicals. Avoid the exposition with alkali and acids.

#### 10.6. Hazardous decomposition products
In case of warming: Polymerisation
SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution
No data available

Acute toxicity
If there are no test datas available, the formulation have to be evaluated according to the conventional method of the preparing guideline 1999/45/EG and classified after toxicological dangers. See to chapter 2 and 15.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure routes</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1 methanol</td>
<td>oral</td>
<td>LD50</td>
<td>5628 mg/kg</td>
<td>Ratte</td>
<td>IUCLID</td>
<td></td>
</tr>
<tr>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>17100 mg/kg</td>
<td>Kaninchen</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>inhalative (4 h) vapour</td>
<td>LC50</td>
<td>85.26 mg/l</td>
<td>Ratte</td>
<td>IUCLID</td>
<td></td>
</tr>
<tr>
<td></td>
<td>inhalative aerosol</td>
<td>ATE</td>
<td>0.5 mg/l</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specific effects in experiment on an animal
No data available

Irritation and corrosivity
No data available

Sensitising effects
No data available

Severe effects after repeated or prolonged exposure
No data available

Carcinogenic/mutagenic/toxic effects for reproduction
No data available

Additional information on tests
No data available

Empirical data on effects on humans
No data available
No data available

Further information
No data available

SECTION 12: Ecological information

12.1. Toxicity
No data available
12.2. Persistence and degradability
No data available

12.3. Bioaccumulative potential
No data available

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1</td>
<td>methanol</td>
<td>-0,77</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment
The mixture contains the following substances fulfilling the PBT-/vPvB criteria according to REACH Annex XIII

12.6. Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

<table>
<thead>
<tr>
<th>Waste disposal number of waste from residues/unused products</th>
</tr>
</thead>
<tbody>
<tr>
<td>080111 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other dangerous substances Classified as hazardous waste.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Waste disposal number of used product</th>
</tr>
</thead>
<tbody>
<tr>
<td>080111 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other dangerous substances Classified as hazardous waste.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Waste disposal number of contaminated packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by dangerous substances Classified as hazardous waste.</td>
</tr>
</tbody>
</table>

Contaminated packaging
Completely emptied packings can be re-cycled.

SECTION 14: Transport information

Land transport (ADR/RID)

Revision No: 1,03  GB - EN  Revision date: 03.08.2015
14.2. UN proper shipping name: No dangerous good in sense of these transport regulations.

Inland waterways transport (ADN) No dangerous good in sense of these transport regulations.

Marine transport (IMDG) No dangerous good in sense of these transport regulations.

Air transport (ICAO) No dangerous good in sense of these transport regulations.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.

Water contaminating class (D): 2 - water contaminating

Additional information

VOC (CH) < 4 %

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes
03.08.2015 -. Umstellung auf CLP-VO
25.11.2013 - Änderungen in den Abschnitten 1, 2, 9, 10 und 15
12.04.2013 - Änderungen in den Abschnitten 3, 7, 9, 11, 15

Abbreviations and acronyms

www.wikipedia.com

Relevant R-phrases (Number and full text)

11 Highly flammable.
23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
36 Irritating to eyes.
39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Relevant H- and EUH-phrases (Number and full text)

H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H370 Causes damage to organs.

Further Information

The information contained herein is based on the present state of our knowledge. It characterizes the product/composition with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product. Any liability for damages, which occur in case of improper use or contact with the product/composition is excluded.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)