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

1.1. Product identifier

SiliXan M 300

Product group: Zulieferprodukt

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

Manufacturer

Company name: NANO-X GMBH

Street: Theodor-Heuss-Str. 11a

Place: D-66130 Saarbrücken

Telephone: +49 (0)68195940 0

e-mail: sdb@nano-x.de

Contact person: Cathrin Anne Lang

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:

Flammable.

Irritating to eyes and skin.

May cause sensitisation by skin contact.

Vapours may cause drowsiness and dizziness.

2.2. Label elements

Danger symbols: Xi - Irritant

Xi - Irritant

R phrases:

10 Flammable.

36/38 Irritating to eyes and skin.

43 May cause sensitisation by skin contact.

67 Vapours may cause drowsiness and dizziness.
SilliXan M 300
Safety Data Sheet
according to Regulation (EC) No 1907/2006

Product code: 10091308
Print date: 25.10.2013
Page 2 of 9

S phrases
23 Do not breathe aerosol/atomised spray.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37 Wear suitable gloves.
41 In case of fire and/or explosion do not breathe fumes.
51 Use only in well-ventilated areas.
24/25 Avoid contact with skin and eyes.

Special labelling of certain mixtures
Warning — this preparation contains a substance not yet tested completely.
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>
<th>CAS No</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>201-158-5</td>
<td>butan-2-ol</td>
<td>5 - &lt; 10 %</td>
<td>78-92-2</td>
<td>Xi - Irritant</td>
</tr>
<tr>
<td>603-127-00-5</td>
<td>Flam. Liq. 3, Eye Irrit. 2, STOT SE 3, STOT SE 3; H226 H319 H335 H336</td>
<td></td>
<td>603-001-00-X</td>
<td>Flam. Liq. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, STOT SE 1; H225 H331 H311 H301 H370 **</td>
</tr>
</tbody>
</table>

Full text of R and H phrases: see Section 16.

Further Information
The components in this formulation do not meet the criteria for classification as PBT or vPvB.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Take off immediately all contaminated clothing. 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
Take off immediately all contaminated clothing. After contact with skin, wash immediately with: Water and soap.

After contact with eyes
If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently 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. Water spray. dry extinguishing powder. Carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons
High power 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. Can be released in case of fire: 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/stream to protect personnel and to cool endangered containers. Vapours are heavier than air and will spread at floor level. 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

6.2. Environmental precautions
Do not empty into drains or the aquatic environment. In case of gas being released or leakage into waters, ground or the drainage system, the appropriate authorities must be informed. Ventilate affected area. Water (with cleaning agent).

6.3. Methods and material for containment and cleaning up
Clean contaminated articles and floor according to the environmental legislation. Suitable absorbing material: Universal binding agent. sand sawdust. earth. Ventilate affected area.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling
If suction of the immediate vicinity is impossible or insufficient, the entire working place must be sufficiently ventilated using appropriate machines. Handle and open container with care. It is recommended to organize all working processes in order to exclude the following: inhalation. skin contact. Eye 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
In case of inhalation of aerosols/spray mist/splash spots: Consult physician. 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. Ensure the grounding of containers, apparatus, pumps and suction equipment.

Advice on storage compatibility
No data available

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>78-92-2</td>
<td>Butan-2-ol</td>
<td>100</td>
<td>308</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150</td>
<td>462</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
<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 suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn. In the immediate working surroundings there must be: Emergency spray installed. provide eye wash and label its location conspicuously.

Protective and hygiene measures
It is recommended to organize all working processes in order to exclude the following: inhalation. skin contact. Eye contact. After work, wash hands and face.

Respiratory protection
Wear respiratory protection when in the presence of vapour, dust, and aerosols. Filter respirator (full mask or mouth-piece) 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
Protect skin by using skin protective cream. Tested protective gloves are to be worn: Suitable material: NBR (Nitrile rubber). Butyl rubber. FKM (fluororubber).

Eye protection
Tightly sealed safety glasses.

Skin protection
Lab apron.

Environmental exposure controls
refer to Chap. 5 and 6
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td>slightly yellow</td>
<td></td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
<td></td>
</tr>
<tr>
<td>pH-Value</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Changes in the physical state</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point</td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>Boiling point</td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>38 °C DIN ISO 3679</td>
<td></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 DIN 12791 ISO 649</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>not miscible</td>
<td></td>
</tr>
<tr>
<td>Viscosity / dynamic</td>
<td>920 - 1180 mPa·s ISO 2555</td>
<td></td>
</tr>
<tr>
<td>Flow time</td>
<td>40s - 70s (6mm) 6 DIN 53211</td>
<td></td>
</tr>
</tbody>
</table>

9.2. Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid content</td>
<td>~ 80%</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1. Reactivity
Exothermic reactions with: In case of warming: Polymerization.

10.2. Chemical stability
No data available

10.3. Possibility of hazardous reactions
No data available

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 produceing free radicals. Avoid the exposition with alkali and acids.

10.6. Hazardous decomposition products
Hydrolysis. (Methanol.)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicocinetics, metabolism and distribution
No data available

Acute toxicity
No data available
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>
</tr>
</thead>
<tbody>
<tr>
<td>78-92-2</td>
<td>butan-2-ol</td>
</tr>
<tr>
<td>67-56-1</td>
<td>methanol</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

- Formation of: Methanol. (Hydrolysis.)

### Carcinogenic/mutagenic/toxic effects for reproduction

- No data available

### Empirical data on effects on humans

- Inhalation causes narcotic effects/intoxication. Frequently or prolonged contact with skin may cause dermal irritation.

### Further information

See protective measures under point 7 and 8.

### SECTION 12: Ecological information

12.1. Toxicity

- No data available

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-92-2</td>
<td>butan-2-ol</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

- No data available

12.3. Bioaccumulative potential

- No data available

### Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-92-2</td>
<td>butan-2-ol</td>
<td>0.65</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

- No data available
12.5. Results of PBT and vPvB assessment
No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal number of waste from residues/unused products
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.

Waste disposal number of used product
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.

Waste disposal number of contaminated packaging
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.

Contaminated packaging
Completely emptied packings can be re-cycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: 1866
14.2. UN proper shipping name: Resin solution
14.3. Transport hazard class(es): III
14.4. Packing group: 3
Hazard label:

Classification code: F1
Special Provisions: 640E
Limited quantity: 5 L
Transport category: 3
Hazard No: 30
Tunnel restriction code: D/E

Other applicable information (land transport)
E1

Inland waterways transport (ADN)

14.1. UN number: 1866
14.2. UN proper shipping name: Resin solution
14.3. Transport hazard class(es): 3
### 14.4. Packing group:

<table>
<thead>
<tr>
<th>III</th>
</tr>
</thead>
</table>

**Hazard label:**

| 3 |

**Classification code:**

| F1 |

**Special Provisions:**

| 640E |

**Limited quantity:**

| 5 L |

**Other applicable information (inland waterways transport)**

| E1 |

---

**Marine transport (IMDG)**

14.1. **UN number:**

| 1866 |

14.2. **UN proper shipping name:**

| Resin solution |

14.3. **Transport hazard class(es):**

| 3 |

14.4. **Packing group:**

| III |

**Hazard label:**

| 3 |

**Special Provisions:**

| 223, 955 |

**Limited quantity:**

| 5 L |

**EmS:**

| F-E, S-E |

**Other applicable information (marine transport)**

| E1 |

---

**Air transport (ICAO)**

14.1. **UN number:**

| 1866 |

14.2. **UN proper shipping name:**

| Resin solution |

14.3. **Transport hazard class(es):**

| 3 |

14.4. **Packing group:**

| III |

**Hazard label:**

| 3 |

**Special Provisions:**

| A3 |

**Limited quantity Passenger:**

| 10 L |

| IATA-packing instructions - Passenger: 355 |

| IATA-max. quantity - Passenger: 60 L |

| IATA-packing instructions - Cargo: 366 |

| IATA-max. quantity - Cargo: 220 L |

**Other applicable information (air transport)**

| E1 |

: Y344

---

### SECTION 15: Regulatory information

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

**National regulatory information**
15.2. Chemical safety assessment

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

SECTION 16: Other information

Abbreviations and acronyms

www.wikipedia.com

Full text of R phrases referred to under Sections 2 and 3

10 Flammable.
11 Highly flammable.
23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
36/37 Irritating to eyes and respiratory system.
36/38 Irritating to eyes and skin.
39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
43 May cause sensitisation by skin contact.
67 Vapours may cause drowsiness and dizziness.

Full text of H statements referred to under Sections 2 and 3

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
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.)