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

1.1. Product identifier

SiliXan M 400

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 Telephone: 0049 (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:
Flammable.
IRRITATING TO EYES AND SKIN.
May cause sensitisation by skin contact.

2.2. Label elements

Danger symbols: Xi - Irritant

Xi - Irritant

Hazardous components which must be listed on the label
Methacrylfunctional organic-inorganic polymer, made of silanes with EINECS registration, as well as the hydrolysates and condensates thereof

R phrases
10 Flammable.
36/38 Irritating to eyes and skin.
43 May cause sensitisation by skin contact.

S phrases
23 Do not breathe aerosol/atomised spray.
24 Avoid contact with skin.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37 Wear suitable gloves.
03/07 Keep container tightly closed in a cool place.

Special labelling of certain mixtures
Warning — this preparation contains a substance not yet tested completely.
For use in industrial installations or professional treatment only.

Additional advice on labelling
Spontaneous exothermic polymerisation by storage over 60 °C or direct exposure to sun light.

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

<table>
<thead>
<tr>
<th>EC No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS No</td>
<td>Classification</td>
<td></td>
</tr>
<tr>
<td>Index No</td>
<td>GHS classification</td>
<td></td>
</tr>
<tr>
<td>REACH No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Polymer
Xi - Irritant R36/38-43

<table>
<thead>
<tr>
<th>REACH No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>&lt; 3 %</td>
</tr>
<tr>
<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>
<td>&gt; 85 %</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>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>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>milky</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
<tr>
<td>pH-Value</td>
<td>4</td>
</tr>
<tr>
<td>Changes in the physical state</td>
<td></td>
</tr>
<tr>
<td>Melting point</td>
<td>not determined</td>
</tr>
<tr>
<td>Boiling point</td>
<td>not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>31 °C  DIN ISO 3679</td>
</tr>
<tr>
<td>Lower explosion limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Upper explosion limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>not determined</td>
</tr>
<tr>
<td>Density</td>
<td>1.1 g/cm³  DIN 12791 ISO 649</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Not ascertainable due to hydrolysis.</td>
</tr>
<tr>
<td>Viscosity / dynamic</td>
<td>~ 1290 mPa·s  ISO 2555</td>
</tr>
<tr>
<td>Flow time</td>
<td>~ 55 s  6 DIN 53211</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>~ 85%</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

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

10.6. Hazardous decomposition products

Polymerization. Exothermic reactions with: In case of warming:

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No data available

Acute toxicity

No data available
### Chemical name

<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</td>
<td>methanol</td>
<td>oral</td>
<td>ATE</td>
<td>100 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>ATE</td>
<td>300 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative vapour</td>
<td>ATE</td>
<td>3 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative aerosol</td>
<td>ATE</td>
<td>0.5 mg/l</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

### 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

**12.2. Persistence and degradability**

No data available

**12.3. Bioaccumulative potential**

No data available

**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
Saft Data Sheet
according to Regulation (EC) No 1907/2006

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: 3

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): III
14.4. Packing group: 3
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
Water contaminating class (D): 1 - slightly water contaminating

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.
36/38 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.

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

- **H225** Highly flammable liquid and vapour.
- **H301** Toxic if swallowed.
- **H311** Toxic in contact with skin.
- **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.

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