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

1.1. Product identifier

SiliXan M 640

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

Contact person: Dr. Frank Groß
Telephone: 0151 42551255

Manufacturer:
Company name: NANO-X GMBH
Street: Theodor-Heuss-Str. 11a
Place: D-66130 Saarbrücken
Telephone: +49 (0)68195940 0
Fax: sdb@nano-x.de

Contact person: Cathrin Anne Lang
Telephone: 0049 (0)68195940 45

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: Xn - Harmful, Xi - Irritant, N - Dangerous for the environment
R phrases:
Harmful if swallowed.
Irritating to skin.
Risk of serious damage to eyes.
May cause sensitisation by skin contact.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard categories:
- Acute toxicity: Acute Tox. 4
- Skin corrosion/irritation: Skin Irrit. 2
- Serious eye damage/eye irritation: Eye Dam. 1
- Respiratory/skin sensitization: Skin Sens. 1
- Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:
- Harmful if swallowed.
- Causes serious eye damage.
- Causes skin irritation.
- May cause an allergic skin reaction.
- Toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazardous components which must be listed on the label
mixture of polyole acrylate

Signal word: Danger
Pictograms: GHS05-GHS07-GHS09

Hazard statements

H302 Harmful if swallowed.
H318 Causes serious eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of water.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
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/doctor.

Special labelling of certain mixtures

EUH208 Contains Dibutylzinnlilaurat, Trimethylolpropan-Triacrylat. May produce an allergic reaction.
Caution — 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
Acrylate.

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>CAS No</td>
<td>Classification according to Directive 67/548/EEC</td>
<td></td>
</tr>
<tr>
<td>Index No</td>
<td>Classification according to Regulation (EC) No. 1272/2008 [CLP]</td>
<td></td>
</tr>
<tr>
<td>REACH No</td>
<td>mixture of polyole acrylate</td>
<td>&gt; 95 %</td>
</tr>
<tr>
<td>Trade Secret</td>
<td>2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate</td>
<td>&lt; 0,4 %</td>
</tr>
<tr>
<td>239-701-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15625-89-5</td>
<td>Xi - Irritant</td>
<td></td>
</tr>
<tr>
<td>607-111-00-9</td>
<td>Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1; H319 H315 H317</td>
<td></td>
</tr>
<tr>
<td>201-039-8</td>
<td>Di-n-butyldilaurate</td>
<td>&lt; 0,15 %</td>
</tr>
<tr>
<td>77-58-7</td>
<td>Muta. Cat. 3, Repr. Cat. 1, T - Toxic, Xn - Harmful, Xi - Irritant, N - Dangerous for the environment R50/51/53</td>
<td></td>
</tr>
<tr>
<td>01-2119496068-27</td>
<td></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
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

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
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

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<th>Physical state:</th>
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<tr>
<td>Colour:</td>
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<tr>
<td>Odour:</td>
<td>characteristic</td>
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<tr>
<td>pH-Value:</td>
<td>not determined</td>
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</table>
| Changes in the physical state
| Melting point:  | not determined |
| Initial boiling point and boiling range: | > 35 °C |
| Flash point:    | > 60 °C DIN ISO 3679 |
| Lower explosion limits: | not determined |
| Upper explosion limits: | not determined |
| Ignition temperature: | not determined |
| Vapour pressure: | not determined |
| Density:        | 1,1 g/cm³ DIN 12791 ISO 649 |
| Water solubility: | not miscible |
| Viscosity / dynamic: | ~ 3516 mPa·s ISO 2555 |
| Flow time:      | ~ 120 s (6mm) 3 DIN 53211 |

SECTION 10: Stability and reactivity
10.1. Reactivity
No data available

10.2. Chemical stability
No data available

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
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

<table>
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<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
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<td>Trade Secret mixture of polyole acrylate</td>
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<tr>
<td></td>
<td>oral</td>
<td>LD50</td>
<td>540 - 1350</td>
<td>Ratte</td>
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<td>LD50</td>
<td>&gt; 2000</td>
<td>Kaninchen</td>
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<td>rat</td>
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<td>oral</td>
<td>LD50</td>
<td>175 mg/kg</td>
<td>Ratte</td>
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<td>dermal</td>
<td>LD50</td>
<td>0,15 mg/kg</td>
<td>Maus</td>
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</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

<table>
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<th>CAS No</th>
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<th>Dose</th>
<th>h</th>
<th>Species</th>
<th>Source</th>
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<td>Acute fish toxicity</td>
<td>LC50</td>
<td>3.2 mg/l</td>
<td>96</td>
<td>Cyprinus carpio</td>
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<tr>
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<td>Acute algae toxicity</td>
<td>ErC50</td>
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<td>96</td>
<td>Pseudokirchneriella subcapitata</td>
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<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>13 mg/l</td>
<td>48</td>
<td>Daphnia magna</td>
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<tr>
<td>15625-89-5</td>
<td>2,2-bis(acryloyloxy)methyl)butyl acrylate, trimethylolpropane triacrylate</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>&gt; 100 mg/l</td>
<td>96</td>
<td>fish</td>
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</table>

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

Partition coefficient n-octanol/water

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<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
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</thead>
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<tr>
<td>77-58-7</td>
<td>Di-n-butyltindilaurate</td>
<td>3,12</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

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

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)

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<tr>
<th>14.1. UN number:</th>
<th>3082</th>
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</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ACRYLATES)</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>9</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>III</td>
</tr>
<tr>
<td>Hazard label:</td>
<td>9</td>
</tr>
</tbody>
</table>

- Classification code: M6
- Special Provisions: 274 335 601
- Limited quantity: 5 L
- Transport category: 3
- Hazard No: 90
- Tunnel restriction code: E

### Inland waterways transport (ADN)

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
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</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ACRYLATES)</td>
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<tr>
<td>14.3. Transport hazard class(es):</td>
<td>9</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>III</td>
</tr>
<tr>
<td>Hazard label:</td>
<td>9</td>
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</tbody>
</table>

- Classification code: M6
- Special Provisions: 274 335 601
- Limited quantity: 5 L

### Marine transport (IMDG)

<table>
<thead>
<tr>
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<tbody>
<tr>
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<tr>
<td>14.3. Transport hazard class(es):</td>
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</tr>
<tr>
<td>14.4. Packing group:</td>
<td>III</td>
</tr>
<tr>
<td>Hazard label:</td>
<td>9</td>
</tr>
</tbody>
</table>
Marine pollutant: YES
Special Provisions: 274, 335
Limited quantity: 5 L
EmS: F-A, S-F

Air transport (ICAO)
14.1. UN number: 3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.3. Transport hazard class(es): III
14.4. Packing group: 9

Hazard label: A97 A158
Limited quantity Passenger: 30 kg G
IATA-packing instructions - Passenger: 964
IATA-max. quantity - Passenger: 450 L
IATA-packing instructions - Cargo: 964
IATA-max. quantity - Cargo: 450 L

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

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

Relevant R-phrases (Number and full text)
22 Harmful if swallowed.
25 Toxic if swallowed.
36/38 Irritating to eyes and skin.
38 Irritating to skin.
41 Risk of serious damage to eyes.
43 May cause sensitisation by skin contact.
48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
50 Very toxic to aquatic organisms.
51 Toxic to aquatic organisms.
53 May cause long-term adverse effects in the aquatic environment.
60 May impair fertility.
61 May cause harm to the unborn child.
68 Possible risks of irreversible effects.

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

<table>
<thead>
<tr>
<th>Number</th>
<th>Full Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H341</td>
<td>Suspected of causing genetic defects.</td>
</tr>
<tr>
<td>H360Df</td>
<td>May damage the unborn child. Suspected of damaging fertility.</td>
</tr>
<tr>
<td>H370</td>
<td>Causes damage to organs.</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>EUH208</td>
<td>Contains Dibutylzinnlaurat, Trimethylolpropan-Triacrylat. May produce an allergic reaction.</td>
</tr>
</tbody>
</table>

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.)