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

1.1. Product identifier

SiliXan Cat 150

Product group: delivery product

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

Use of the substance/mixture
ADDITIVE, CATALYST

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
Responsible Department: NANO-X Gmbh

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 respiratory system.
Vapours may cause drowsiness and dizziness.

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

Hazard categories:
Flammable liquid: Flam. Liq. 3
Acute toxicity: Acute Tox. 4
Serious eye damage/eye irritation: Eye Irrit. 2
Specific target organ toxicity - single exposure: STOT SE 3
Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:
Flammable liquid and vapour.
Causes serious eye irritation.
Harmful if inhaled.
May cause respiratory irritation.
May cause drowsiness or dizziness.
2.2. Label elements

Signal word: Warning
Pictograms: GHS02-GHS07

Hazard statements

H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H322 Harmful if inhaled.
H332 May cause respiratory irritation.
H335 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash face thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.
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.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Special labelling of certain mixtures

16 % 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
organo-metallic complex

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></td>
<td></td>
</tr>
<tr>
<td>201-158-5</td>
<td>butan-2-ol</td>
<td>80 - &lt; 85 %</td>
</tr>
<tr>
<td>78-92-2</td>
<td>Xi - Irritant</td>
<td>R10-36/37-67</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>
</tr>
<tr>
<td></td>
<td>complexed alumina, made of educts with EINECS registration</td>
<td>15 - &lt; 20 %</td>
</tr>
<tr>
<td></td>
<td>Xi - Irritant</td>
<td>R10-36/37-67</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. Move victim to fresh air. Instruct person to keep calm and warm. If unconscious place in recovery position and seek medical advice.

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

Consult physician. Induce vomiting when the affected person is not unconscious.

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

Symptoms: Headache, Dizziness, Nausea, Unconsciousness

Other hazards  Do not give fatty oils and milk. Observe risk of aspiration if vomiting occurs.

Gastric lavage after giving liquid paraffin with added animal charcoal.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO2), alcohol resistant foam, Dry extinguishing powder, 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

In case of fire may be liberated: Carbon monoxide.

The thermal decomposition may lead to the formation of irritating vapour or gases and/or fire.

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. 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

Use personal protective equipment as required. 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 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, Skin contact, Eye contact

Advice on protection against fire and explosion

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration. Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges.

Further information on handling

Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Provide earthing of containers, equipment, pumps and ventilation facilities. Protect against: Heat, Frost, flame, Humidity

Advice on storage compatibility

The storage class according to TRGS 510 should be indicated.

Further information on storage conditions

storage temperature: 5 - 25 °C

7.3. Specific end use(s)

No data available

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>
</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, Skin contact, Eye contact. Wash hands before breaks and after work.

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
Use protective skin cream before handling the product. The required protective gloves have to be specified by the glove material and the penetration time of the glove material depending on strength and duration of dermal exposition. Draw up and observe skin protection programme. Suitable materials: NBR (Nitrile rubber), FKM (fluoro rubber) Butyl caoutchouc (butyl 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: | slightly yellow |
| Odour: | characteristic |

Test method
not determined DIN 19261

Changes in the physical state

| Melting point: | not determined |
| Initial boiling point and boiling range: | not determined |
| Flash point: | 23 °C DIN ISO 3679 |
| Lower explosion limits: | not determined |
| Upper explosion limits: | not determined |
| Ignition temperature: | not determined |
| Vapour pressure: | not determined |
| Density: | 0,96 g/cm³ DIN 12791 ISO 649 |
| Viscosity / dynamic: | ~ 59 mPa·s ISO 2555 |
| Flow time: | ~ 52 s (3 mm) 3 DIN 53211 |

9.2. Other information
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
Keep container tightly closed.
Keep only in the original container at a temperature not exceeding 30 °C (to be specified by the manufacturer). Avoid contact with heat sources. Keep away from heat.

10.5. Incompatible materials
Keep away from strong acids, leachates, heavy metal salts and reducing materials.

10.6. Hazardous decomposition products
No data available

Further information
Even after use and until complete evaporation of the flammable components, there is still a danger of an explosive steam-air mixture forming.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution
No data available

Acute toxicity
No data available

<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>78-92-2</td>
<td>butan-2-ol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>oral</td>
<td>LD50</td>
<td>2190 mg/kg</td>
<td>Rat</td>
<td>GESTIS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Kaninchen</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative (4 h) vapour</td>
<td>LC50</td>
<td>48.5 mg/l</td>
<td>Ratte</td>
<td>RTECS</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
Further information
Protective measures vgl. 7, 8

SECTION 12: Ecological information

12.1. Toxicity
No data available

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Aquatic toxicity</th>
<th>Method</th>
<th>Dose</th>
<th>h</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-92-2</td>
<td>butan-2-ol</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>3670 mg/l</td>
<td>96 h</td>
<td>Pimephales promelas</td>
<td>GESTIS</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
No data available

12.3. Bioaccumulative potential
No data available

Partition coefficient n-octanol/water
No data available

<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
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

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)
### SiliXan Cat 150

**Product code:**

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>1120</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>BUTANOLS</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>III</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>3</td>
</tr>
</tbody>
</table>

**Hazard label:**

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

#### Inland waterways transport (ADN)

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>1120</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>BUTANOLS</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>III</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>3</td>
</tr>
</tbody>
</table>

**Hazard label:**

- Classification code: F1
- Limited quantity: 5 L

#### Marine transport (IMDG)

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>1120</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>BUTANOLS</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>III</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>3</td>
</tr>
</tbody>
</table>

**Hazard label:**

Special Provisions: 223
- Limited quantity: 5 L
- EmS: F-E, S-D

#### Air transport (ICAO)

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>1120</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>BUTANOLS</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>III</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>3</td>
</tr>
</tbody>
</table>

**Hazard label:**
**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. Observe employment restrictions for women of child-bearing age.

**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**

**Changes**
13.08.2015 - Umstellung auf CLP-VO

**Abbreviations and acronyms**
www.wikipedia.com

**Relevant R-phrases (Number and full text)**

10 Flammable.
36/37 Irritating to eyes and respiratory system.
67 Vapours may cause drowsiness and dizziness.

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

H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.

**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.)*