SAFETY DATA SHEET
RASCOflex US409 A-Comp
According to WHMIS 2015

1. Identification

Product identifier

Product name RASCOflex US409 A-Comp

Recommended use of the chemical and restrictions on use

Application Semi-flexible silicate polyurethane Injection Resin

Details of the supplier of the safety data sheet

Supplier Rascor Tunnel- und Spezialtiefbau GmbH, Ratsgasse 6, 97688 Bad Kissingen, Germany
Phone: +49 (0) 971 130 2738, Fax: +49 (0) 971 133 6251

Rascor International AG, Gewerbestrasse 4, 8162 Steinmaur, Switzerland
Phone: +41 (0) 44-857 11 11, Fax: +41 (0) 44-857 11 00

Emergency telephone number

Emergency telephone Phone: +41 (0) 44-857 11 11 (8.00h - 17.00h)

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified
Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2A - H319
Environmental hazards Not Classified

Label elements

Pictogram

Signal word Warning

Hazard statements H315 Causes skin irritation.
H319 Causes serious eye irritation.
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Precautionary statements

P264 Wash contaminated skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 If on skin: Wash with plenty of water.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P311+P338 If skin irritation occurs: Get medical advice/attention.
P312+P338 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Silicic acid, sodium salt</th>
<th>EC number: 215-687-4</th>
<th>REACH registration number: 01-2119448725-31-0001</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 1344-09-8</td>
<td>35 - 35 %</td>
<td></td>
</tr>
</tbody>
</table>

Classification

Skin Irrit. 2 - H315
Eye Irrit. 2A - H319

The full text for all hazard statements is displayed in Section 16.

4. First-aid measures

Description of first aid measures

General information
Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention. Treat symptomatically.

Inhalation
IF INHALED: Get medical attention immediately. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Do not induce vomiting.

Ingestion
IF SWALLOWED: Get medical attention immediately. If throat irritation or coughing persists, proceed as follows. Rinse mouth thoroughly with water. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Stop if the affected person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.

Skin Contact
IF ON SKIN: Rinse immediately with plenty of water. Continue to rinse for at least 10 minutes. Get medical attention if irritation persists after washing. Remove contaminated clothing.

Eye contact
IF IN EYES: Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention. Get medical attention if irritation persists after washing.

Protection of first aiders
First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

General information
Treat symptomatically. See Section 11 for additional information on health hazards.

Inhalation
Irritating.

Ingestion
May cause stomach pain or vomiting. May cause irritation. Gastrointestinal symptoms, including upset stomach.

Skin contact
May cause skin irritation.

Eye contact
Causes skin and eye irritation.
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Indication of immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.
Specific treatments Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Use fire-extinguishing media suitable for the surrounding fire. Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.

Special hazards arising from the substance or mixture

Specific hazards The product is not flammable. Irritating gases or vapors.
Hazardous combustion products Harmful gases or vapors.

Advice for firefighters

Protective actions during firefighting No action shall be taken without appropriate training or involving any personal risk. Stop leak if safe to do so. If leakage cannot be stopped, evacuate area. Move containers from fire area if it can be done without risk.

Special protective equipment for firefighters Use air-supplied respirator, gloves and protective goggles.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapors. Follow precautions for safe handling described in this safety data sheet.

Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

Methods and material for containment and cleaning up

Methods for cleaning up If leakage cannot be stopped, evacuate area. Move containers from spillage area. Large Spillages: Absorb spillage with sand or other inert absorbent. Collect and place in suitable waste disposal containers and seal securely. Small Spillages: Absorb small quantities with paper towels and evaporate in a safe place. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards.

7. Handling and storage

Precautions for safe handling

Usage precautions For professional users only. Do not handle until all safety precautions have been read and understood. Use only in well-ventilated areas. Keep container dry. Container must be kept tightly closed when not in use. Do not eat, drink or smoke when using this product.
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Advice on general occupational hygiene
Do not eat, drink or smoke when using this product. Provide eyewash station. Wash promptly with soap and water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated.

Conditions for safe storage, including any incompatibilities
Storage precautions
Store at temperatures between 4°C and 30°C. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Do not store near heat sources or expose to high temperatures. Store away from the following materials: Acids. Alkalis.

Specific end use(s) 
The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

SODIUM SILICATE (CAS: 1344-09-8)

DNEL
Workers - Inhalation; Long term systemic effects: 5.61 mg/kg/day General population - Inhalation; Long term systemic effects: 1.38 mg/kg/day Workers - Dermal; Long term systemic effects: 1.59 mg/kg/day General population - Oral; Long term local effects: not determined

PNEC
Industry/Professional - Fresh water; 7.5 mg/l Industry/Professional - Marine water; 1 mg/l Industry/Professional - STP; 348 mg/l

Exposure controls

Protective equipment

Appropriate engineering controls
This product is not to be used under conditions of poor ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/face protection
Personal protective equipment for eye and face protection should comply with OSHA 1910.133.

Hand protection
To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Nitrile rubber. Butyl rubber.

Other skin and body protection
Wear appropriate clothing to prevent skin contamination.

Hygiene measures
Wash hands thoroughly after handling. Promptly remove any clothing that becomes contaminated. Do not eat, drink or smoke when using this product.

Respiratory protection
Combination filter, type A2/P3.

Environmental exposure controls
Keep container tightly sealed when not in use. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance
Clear liquid.

Color
Colorless.
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**Odor**
Characteristic.

**Odor threshold**
Not determined.

**pH**
11.5 - 13

**Melting point**
Not applicable.

**Initial boiling point and range**
Not determined.

**Flash point**
Not determined.

**Evaporation rate**
Not determined.

**Evaporation factor**
Not determined.

**Flammability (solid, gas)**
Not applicable.

**Upper/lower flammability or explosive limits**
Not applicable.

**Other flammability**
Not applicable.

**Vapour pressure**
Not determined.

**Vapour density**
Not determined.

**Relative density**
Not applicable.

**Bulk density**
Not applicable.

**Solubility(ies)**
Not determined.

**Partition coefficient**
Not determined.

**Auto-ignition temperature**
Not determined.

**Decomposition Temperature**
Not determined.

**Viscosity**
120 - 300 mPa s @ 25°C

**Explosive properties**
Not applicable.

**Explosive under the influence of a flame**
Not considered to be explosive.

**Oxidising properties**
Not applicable.

**Density**
1.30 - 1.57 g/cm³ @ 25°C

### 10. Stability and reactivity

**Reactivity**
Polymerises exothermically with diisocyanates at ambient temperatures. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of reaction partners is good or is supported by stirring or by the presence of solvents.

**Stability**
Stable at normal ambient temperatures and when used as recommended.

**Possibility of hazardous reactions**
The following materials may react with the product: Acids. Isocyanates.

**Conditions to avoid**
Avoid exposure to high temperatures or direct sunlight.

**Materials to avoid**
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**Hazardous decomposition products**
Carbon dioxide (CO2), Carbon monoxide (CO), Nitrous gases (NOx).

### 11. Toxicological information

#### Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxicological effects</th>
<th>This information has been determined by consideration of the toxicological data for the components and for analogous products.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute toxicity - oral</strong></td>
<td><strong>Notes (oral LD₅₀)</strong> Method(s) - Metodo OCDE 401 Condiciones - rat male/female Results/Conclusions - LD₅₀ &gt; 3400 mg/kg bw.</td>
</tr>
<tr>
<td><strong>Acute toxicity - dermal</strong></td>
<td><strong>Notes (dermal LD₅₀)</strong> Methods(s) - EPA OPPTS 870.1200 Condiciones - rat (Sprague-Dawley) male/female Material: CAS 1312-76-1 Results/Conclusions - LD₅₀ &gt; 5000 mg/kg bw.</td>
</tr>
<tr>
<td><strong>Acute toxicity - inhalation</strong></td>
<td><strong>Notes (inhalation LC₅₀)</strong> Method(s) - EPA OPPTS 870.1300 Condiciones - rat (Sprague-Dawley) male/female Material: CAS 1312-76-1 Results/Conclusions - LC₅₀ (4hr) &gt; 2.06 mg/L air.</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

**Animal data**
Primary dermal irritation index: 0.4

**Serious eye damage/irritation**
Slightly irritating.

**Respiratory sensitization**
Based on available data the classification criteria are not met.

**Skin sensitization**
Based on available data the classification criteria are not met.

**Germ cell mutagenicity**
Conclusive data but not sufficient for classification.

**Genotoxicity - in vitro**
Conclusive data but not sufficient for classification.

**Carcinogenicity**
Based on available data the classification criteria are not met. Conclusive data but not sufficient for classification.

**Reproductive toxicity**
Based on available data the classification criteria are not met.

**Reproductive toxicity - fertility**
This substance has no evidence of toxicity to reproduction.

**Specific target organ toxicity - single exposure**
STOT - single exposure
Not determined.

**Specific target organ toxicity - repeated exposure**
STOT - repeated exposure
NOAEL =159 mg/kg bw/day, Oral, (rat Sprague-Dawley male/female), NOAEL =2400 mg/kg bw/day, Oral, (rat Charles River Cesarean-derived male/female).

**Aspiration hazard**
Not anticipated to present an aspiration hazard, based on chemical structure.
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12. Ecological Information

Ecotoxicity
Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Toxicity

Toxicity
No information available.

Acute toxicity - fish
LC₅₀, 96 hours: 3185 mg/l, Brachydanio rerio (Zebra Fish)
EC₅₀, (96 hours: Mortality) = 348 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates
EC₅₀ 48 hours: 4857 mg/l, Daphnia magna
EC₅₀ 48 hours: > 1000 mg/l, bacteria (pseudomonas putida)

Acute toxicity - microorganisms
Scientifically unjustified.

Persistence and degradability

Persistence and degradability
The product is degraded completely by abiotic reduction.

Phototransformation
Scientifically unjustified.

Biodegradation
Scientifically unjustified.

Bioaccumulative potential

Bio-Accumulative Potential
Bioaccumulation is unlikely.

Partition coefficient
Not determined.

Mobility in soil

Mobility
The product is soluble in water. The product is non-volatile.

Results of PBT and vPvB assessment

Results of PBT and vPvB assessment
This product does not contain any substances classified as PBT or vPvB.

Other adverse effects

Other adverse effects
None known.

13. Disposal considerations

Waste treatment methods

General information
Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Waste should be treated as controlled waste.

Disposal methods
Dispose of contents/container in accordance with national regulations. Waste should be treated as controlled waste.

14. Transport information

General
The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DoT).

UN Number
Not applicable.
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UN proper shipping name
Not applicable.

Transport hazard class(es)
No transport warning sign required.

Packing group
Not applicable.

Environmental hazards
No environmentally hazardous substance

Special precautions for user
No data available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

15. Regulatory information

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

National regulations
Control of Substances Hazardous to Health Regulations 2002 (as amended).
EH40/2005 Workplace exposure limits.
Health and Safety at Work etc. Act 1974 (as amended).

EU legislation

Guidance
Workplace Exposure Limits EH40.

Restrictions (Title VIII Regulation 1907/2006)
No specific restrictions on use are known for this product.
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15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

Inventories
EU - EINECS/ELINCS
All the ingredients are listed or exempt.

16. Other information

<table>
<thead>
<tr>
<th>General information</th>
<th>Only trained personnel should use this material.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision date</td>
<td>1/11/2016</td>
</tr>
<tr>
<td>Revision</td>
<td>1</td>
</tr>
<tr>
<td>SDS No.</td>
<td>5300</td>
</tr>
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<td>Hazard statements in full</td>
<td>H315 Causes skin irritation.</td>
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This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.