

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 31.01.2011



Vers.No.: 4

Revision: 31.01.2011

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

- **Product identifier**
- **Trade name:** SILIKAL R 51 (-25°C)
- **Article number:** R 51 (-25°C)
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation:** Reaction resin
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Silikal GmbH
Ostring 23
D-63533 Mainhausen
Tel.: +49-6182/9235-0
Fax.: +49-6182/9235-40
e-mail: mail@silikal.de
- **Further information obtainable from:** Environmental department
- **Emergency telephone number:** +49 6182 / 9235-0

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Xn; Harmful
R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.
Xi; Irritant
R37/38: Irritating to respiratory system and skin.
Xi; Sensitising
R43: May cause sensitisation by skin contact.
F; Highly flammable
R11: Highly flammable.
R33: Danger of cumulative effects.
- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.
- **Code letter and hazard designation of product:**
 Xn Harmful
F Highly flammable
- **Hazard-determining components of labelling:**
methyl methacrylate
N,N-dimethyl-p-toluidine
- **Risk phrases:**
11 Highly flammable.

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20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

33 Danger of cumulative effects.

37/38 Irritating to respiratory system and skin.

43 May cause sensitisation by skin contact.

• Safety phrases:

3/7 Keep container tightly closed in a cool place.

9 Keep container in a well-ventilated place.

16 Keep away from sources of ignition - No smoking.

23 Do not breathe fumes/aerosol.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

60 This material and its container must be disposed of as hazardous waste.





• Other hazards
• Results of PBT and vPvB assessment
• PBT: Not applicable.

• vPvB: Not applicable.

3 Composition/information on ingredients

• Description: Mixture of substances listed below with nonhazardous additions.

• Dangerous components:

CAS: 80-62-6 EINECS: 201-297-1	methyl methacrylate  Xi R37/38;  Xi R43;  F R11	50-100%
CAS: 99-97-8 EINECS: 202-805-4	N,N-dimethyl-p-toluidine  T R23/24/25 R33-52/53	0.5-2.5%

• Additional information: For the wording of the listed risk phrases refer to section 16.

4 First aid measures

• Description of first aid measures
• General information: Immediately remove any clothing soiled by the product.

• After inhalation: Supply fresh air and to be sure call for a doctor.

• After skin contact: Immediately wash with water and soap and rinse thoroughly.

• After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

• After swallowing: Drink plenty of water and provide fresh air. Call for a doctor immediately.

5 Firefighting measures

• Extinguishing media
• Suitable extinguishing agents:

Foam

Sand

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
• For safety reasons unsuitable extinguishing agents: Water with full jet

• Special hazards arising from the substance or mixture

Exothermic polymerization.

In case of fire, the following can be released:

Hydrocarbons

Carbon monoxide and carbon dioxide

• Advice for firefighters
• Protective equipment: Wear self-contained respiratory protective device.

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- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Wear protective clothing.

Keep away from ignition sources.

Use respiratory protective device against the effects of fumes/dust/aerosol.

- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.

- **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

Store in cool, dry conditions in well sealed receptacles.

- **Information about storage in one common storage facility:** Not required.

- **Further information about storage conditions:**

Store receptacle in a well ventilated area.

Protect from heat and direct sunlight.

- **Maximum storage temperature:** 25°C

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

80-62-6 methyl methacrylate
WEL Short-term value: 416 mg/m³, 100 ppmLong-term value: 208 mg/m³, 50 ppm

- **DNELs**

80-62-6 methyl methacrylate

Dermal DNEL Dermal 17 mg/kg/d (-)

Inhalative DNEL Inhalation 208 mg/m³ (-)

- **Additional information:** The lists valid during the making were used as basis.

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
Use suitable respiratory protective device in case of insufficient ventilation.
Self-contained respiratory protective device.
Filter AX
- **Protection of hands:**



Protective gloves

- **Material of gloves**
Butyl rubber, BR
Nitrile rubber, NBR
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Fluid
Colour:	Colourless
Odour:	Characteristic
Odour threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100°C

- **Flash point:** 10°C

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 430°C

- **Decomposition temperature:** Not determined.

- **Self-igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

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· Explosion limits:	
Lower:	2.1 Vol %
Upper:	12.5 Vol %
· Vapour pressure at 20°C: 38.7 hPa	
· Density at 20°C: 0.99 g/cm ³	
· Relative density Not determined.	
· Vapour density Not determined.	
· Evaporation rate Not determined.	
· Solubility in / Miscibility with water: Not miscible or difficult to mix.	
· Segregation coefficient (n-octanol/water): Not determined.	
· Viscosity:	
Dynamic at 20°C:	70 mPas
Kinematic:	Not determined.
· Other information No further relevant information available.	

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Keep away from heat and direct sunlight.
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** Exothermic polymerization.
- **Incompatible materials:** Reacts with peroxides and other radical forming substances.
- **Hazardous decomposition products:**
Hydrocarbons
Carbon monoxide and carbon dioxide
- **Additional information:** Do not allow to enter sewers/ surface or ground water.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

80-62-6 methyl methacrylate

Oral	LD50	> 5000 mg/kg (rat)
Dermal	LD50	> 5000 mg/kg (kan)
Inhalative	LC50 (4h)	29.8 mg/l (rat)

99-97-8 N,N-dimethyl-p-toluidine

Oral	LC50	1650 mg/l (rat)
Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50 (4h)	1.5 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

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Harmful
Irritant

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12 Ecological information

- **Toxicity**

- **Acquatic toxicity:**

80-62-6 methyl methacrylate

EC0	100 mg/l (Pseudomonas putida)
EC3 (8d)	37 mg/l (Scenedesmus subspicatus od. quadricauda)
EC50 (48h)	69 mg/l (Daphnia magna)
EC50 (96h)	170 mg/l (Selenastrum capricornutum)
LC50 (96h)	> 79 mg/l (fish)
NOEC	37 mg/l (Daphnia magna)

99-97-8 N,N-dimethyl-p-toluidine

LC0 (96h)	100 mg/l (fish)
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- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Must be specially treated adhering to official regulations.

- **European waste catalogue**

07 02 08*	other still bottoms and reaction residues
15 01 04	metallic packaging

- **Uncleaned packaging:**

- **Recommendation:**

Packaging may be reused or recycled after cleaning.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

Disposal must be made according to official regulations.

- **Recommended cleansing agents:** Acetone, ethylacetate

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14 Transport information

· Land transport ADR/RID (cross-border)



- ADR/RID class: 3 Flammable liquids.
- Danger code (Kemler): 33
- UN-Number: 1866
- Packing Group: II
- Hazard label 3
- UN proper shipping name: 1866 RESIN SOLUTION
- Tunnel restriction code D/E

· Maritime transport IMDG:



- IMDG Class: 3
- UN Number: 1866
- Label 3
- Packaging group: II
- EMS Number: F-E,S-E
- Marine pollutant: No
- Proper shipping name: RESIN SOLUTION

· Air transport ICAO-TI and IATA-DGR:



- ICAO/IATA Class: 3
- UN/ID Number: 1866
- Label 3
- Packaging group: II
- Proper shipping name: RESIN SOLUTION

- **Special precautions for user** Warning: Flammable liquids.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.
- **Code letter and hazard designation of product:**



Xn Harmful
F Highly flammable

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· Risk phrases:

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 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
 33 Danger of cumulative effects.
 37/38 Irritating to respiratory system and skin.
 43 May cause sensitisation by skin contact.

· Safety phrases:

 3/7 Keep container tightly closed in a cool place.
 9 Keep container in a well-ventilated place.
 16 Keep away from sources of ignition - No smoking.
 23 Do not breathe fumes/aerosol.
 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 60 This material and its container must be disposed of as hazardous waste.

· National regulations:
· Technical instructions (air):

Class	Share in %
I	≤ 2,5
NK	50-100

- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

 R11 Highly flammable.
 R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
 R33 Danger of cumulative effects.
 R37/38 Irritating to respiratory system and skin.
 R43 May cause sensitisation by skin contact.
 R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

 · **Department issuing MSDS:** Environmental Department

 · * **Data compared to the previous version altered.**

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