

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 05/24/2016

Reviewed on 05/24/2016

### Identification

- **1.1 Product identifier**
- **Trade name: SILIKAL R 51 (-25°C)**
- **Article number: R 51 (-25°C)**
- **Application of the substance / the preparation: Reaction resin**
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Silikal America  
 609-B Fertilla Street  
 Carrolton, GA 30117  
 Tel.: 770.830.1404  
 Fax.: 777.830.9213  
 e-mail: info@silikalamerica.com
- **Information department: Silikal America**
- **1.4 Emergency telephone number: INFOTRAC 1-800-535-5053**

### Hazard(s) identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
 Flam. Liq. 2 H225 Highly flammable liquid and vapor.  
 Skin Irrit. 2 H315 Causes skin irritation.  
 Skin Sens. 1 H317 May cause an allergic skin reaction.  
 STOT SE 3 H335 May cause respiratory irritation.  
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
 The product is classified and labeled according to the CLP regulation.
- **Hazard pictograms**



GHS02 GHS07 GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
 methyl methacrylate  
 N,N-dimethyl-p-toluidine
- **Hazard statements**  
 H225 Highly flammable liquid and vapor.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H335 May cause respiratory irritation.  
 H373 May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**  
 P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
 P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
 P280 Wear protective gloves / eye protection / face protection.  
 P314 Get medical advice/attention if you feel unwell.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 3  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 1  
Fire = 3  
Reactivity = 0

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

80-62-6	methyl methacrylate Flam. Liq. 2, H225; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
99-97-8	N,N-dimethyl-p-toluidine Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT RE 2, H373; Flam. Liq. 4, H227	0.5-2.5%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

## First-aid measures

- **4.1 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 copious amounts of water and provide fresh air. Immediately call a doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## Fire-fighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
Foam  
Sand  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
Exothermic polymerization.

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In case of fire, the following can be released:

Hydrocarbons

Carbon monoxide and carbon dioxide

· **5.3 Advice for firefighters**

· **Protective equipment:** Wear self-contained respiratory protective device.

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

### Accidental release measures

· **6.1 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.

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

· **6.3 Methods and material for containment and cleaning up:**

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

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **6.4 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.

### Handling and storage

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

· **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

· **7.2 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

· **7.3 Specific end use(s)** No further relevant information available.

### Exposure controls/personal protection

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

· **8.1 Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**80-62-6 methyl methacrylate**

PEL Long-term value: 410 mg/m<sup>3</sup>, 100 ppm

REL Long-term value: 410 mg/m<sup>3</sup>, 100 ppm

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TLV	Short-term value: 410 mg/m <sup>3</sup> , 100 ppm Long-term value: 205 mg/m <sup>3</sup> , 50 ppm DSEN
<b>99-97-8 N,N-dimethyl-p-toluidine</b>	
WEEL	Long-term value: 0.5 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

· **8.2 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.

· **Breathing equipment:**

Workplace must be properly ventilated and monitored to maintain air quality below the TLV.

Organic vapour respirators are required only when levels meet or exceed these values. A self contained breathing apparatus is required in confined spaces.

Filter AX or Organic Vapour Cartridge.

· **Recommended filter device for short term use:** Filter A

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation (EN 374)

· **Material of gloves** Butyl rubber, BR

· **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.

For the mixture of chemicals mentioned below the penetration time has to be at least 60 minutes (Permeation according to EN 374 Part 3: Level 3).

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

### Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Color: Colorless

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

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<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
· <b>Flash point:</b>	10 °C (50 °F)
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	430 °C (806 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	2.1 Vol %
<b>Upper:</b>	12.5 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	38.7 hPa (29 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	0.99 g/cm <sup>3</sup> (8.262 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic at 20 °C (68 °F):</b>	70 mPas
<b>Kinematic:</b>	Not determined.
· <b>9.2 Other information</b>	No further relevant information available.

### Stability and reactivity

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

### Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

#### LD/LC50 values that are 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)

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**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:**  
Causes skin irritation.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:**  
May cause an allergic skin reaction.
- **Additional toxicological information:**
- **Carcinogenic categories**

• **IARC (International Agency for Research on Cancer)**

80-62-6	methyl methacrylate	3
9011-14-7	Polymethylmethacrylat	3

• **NTP (National Toxicology Program)**

None of the ingredients is listed.

• **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

**Ecological information**• **12.1 Toxicity**• **Aquatic toxicity:****80-62-6 methyl methacrylate**

EC50 (48h)	69 mg/l (Daphnia magna)
EC50 (96h)	170 mg/l (Selenastrum capricornutum)
EC3 (16h)	100 mg/l (Pseudomonas putida)
NOEC	37 mg/l (Daphnia magna)
NOEC (72h)	> 110 mg/l (Selenastrum capricornutum)
LC50 (96h)	> 79 mg/l (fish)

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

LC0 (96h)	100 mg/l (fish)
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- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.

• **Additional ecological information:**• **General notes:**

Water hazard class 1 (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.

• **12.5 Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

• **12.6 Other adverse effects** No further relevant information available.

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## Disposal considerations

- **13.1 Waste treatment methods**

- **Recommendation:**

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

Must be specially treated adhering to official regulations.

- **Uncleaned packagings:**

- **Recommendation:**

Packaging can be reused or recycled after cleaning.

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

Disposal must be made according to official regulations.

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

## Transport information

- **14.1 UN-Number**

- **DOT, ADR, IMDG, IATA**

UN1866

- **14.2 UN proper shipping name**

- **DOT**

Resin solution

- **ADR**

1866 Resin solution

- **IMDG, IATA**

RESIN SOLUTION

- **14.3 Transport hazard class(es)**

- **DOT**



- **Class**

3 Flammable liquids

- **Label**

3

- **ADR, IMDG, IATA**



- **Class**

3 Flammable liquids

- **Label**

3

- **14.4 Packing group**

- **DOT, ADR, IMDG, IATA**

II

- **14.5 Environmental hazards:**

- **Marine pollutant:**

No

- **14.6 Special precautions for user**

Warning: Flammable liquids

- **Danger code (Kemler):**

33

- **EMS Number:**

F-E,S-E

- **Stowage Category**

B

- **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

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· **Transport/Additional information:**

· **ADR**

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **IMDG**

· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 1866 RESIN SOLUTION, 3, II

## Regulatory information

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

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

80-62-6 | methyl methacrylate

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

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

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogeny categories**

· **EPA (Environmental Protection Agency)**

80-62-6 | methyl methacrylate

E, NL

· **TLV (Threshold Limit Value established by ACGIH)**

80-62-6 | methyl methacrylate

A4

· **MAK (German Maximum Workplace Concentration)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **AGW (German Workplace Threshold Value)**

80-62-6 | methyl methacrylate

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- **National regulations:**
- **Technical instructions (air):**

Class	Share in %
I	0,5-2,5
NK	50-100

- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 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.

- **Date of preparation / last revision** 05/24/2016 / 4
- **Abbreviations and acronyms:**
  - Flam. Liq. 2: Flammable liquids – Category 2
  - Flam. Liq. 4: Flammable liquids – Category 4
  - Acute Tox. 3: Acute toxicity – Category 3
  - Skin Irrit. 2: Skin corrosion/irritation – Category 2
  - Skin Sens. 1: Skin sensitisation – Category 1
  - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
  - STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- **\* Data compared to the previous version altered.**

US