

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 18.03.2024

Version number 8 (replaces version 7)




Revision: 18.03.2024

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

- **1.1 Product identifier**
 - Trade name: **Technovit 4002 IQ liquid**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
 - **Application of the substance / the mixture** Resin for metallographic testing
- **1.3 Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
Kulzer GmbH
Leipziger Straße 2, 63450 Hanau (Germany)
Tel.: +49 (0)6181 9689-2570 (Wehrheim)
 - **Informing department:** email: technik.wehrheim@kulzer-dental.com
- **1.4 Emergency telephone number:** Emergency CONTACT (24-Hour-Number): +49 (0)6132-84463

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
 - **Classification according to Regulation (EC) No 1272/2008**
 Flam. Liq. 3 H226 Flammable liquid and vapour.
 Acute Tox. 4 H332 Harmful if inhaled.
 Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 Skin Sens. 1 H317 May cause an allergic skin reaction.
 Repr. 2 H361d Suspected of damaging the unborn child.
 STOT SE 3 H335 May cause respiratory irritation.
 STOT RE 1 H372 Causes damage to the hearing organs through prolonged or repeated exposure.
- **2.2 Label elements**
 - **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.
 - **Hazard pictograms**

GHS02 GHS07 GHS08
 - **Signal word** Danger
 - **Hazard-determining components of labelling:**
 styrene
 methyl methacrylate
 1,4-butandiol dimethacrylate
 methacrylic acid
 - **Hazard statements**
 H226 Flammable liquid and vapour.
 H332 Harmful if inhaled.
 H315 Causes skin irritation.

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H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H361d Suspected of damaging the unborn child.
H335 May cause respiratory irritation.
H372 Causes damage to the hearing organs through prolonged or repeated exposure.

Precautionary statements

P201 Obtain special instructions before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P403+P235 Store in a well-ventilated place. Keep cool.

2.3 Other hazards -

Results of PBT and vPvB assessment

· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: -

Dangerous components:

CAS: 100-42-5 EINECS: 202-851-5 Index number: 601-026-00-0 Reg.nr.: 01-2119457861-32-xxxx	styrene Flam. Liq. 3, H226 Repr. 2, H361d; STOT RE 1, H372 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319 ATE: LC50/4 h inhalative: 11.8 mg/l	50-<55%
CAS: 80-62-6 EINECS: 201-297-1 Index number: 607-035-00-6 Reg.nr.: 01-2119452498-28-xxxx	methyl methacrylate Flam. Liq. 2, H225 Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	≥5-<10%
CAS: 2082-81-7 EINECS: 218-218-1 Reg.nr.: 01-2119967415-30-xxxx	1,4-butandioldimethacrylate Skin Sens. 1B, H317	≥1-≤5%
CAS: 79-41-4 EINECS: 201-204-4 Index number: 607-088-00-5	methacrylic acid Skin Corr. 1A, H314; Eye Dam. 1, H318 Acute Tox. 4, H302; Acute Tox. 4, H312 ATE: LD50 oral: 1,320 mg/kg LD50 dermal: 1,100 mg/kg Specific concentration limit: STOT SE 3; H335: C ≥ 1 %	≥1-<3%
CAS: 75-57-0 EINECS: 200-880-8	tetramethylammonium chloride Acute Tox. 2, H300; Acute Tox. 3, H311 STOT SE 1, H370 Aquatic Chronic 2, H411 Skin Irrit. 2, H315 ATE: LD50 oral: 47 mg/kg LD50 dermal: 300 mg/kg	<1%

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CAS: 99-97-8 EINECS: 202-805-4 Index number: 612-056-00-9	<i>N,N</i> -dimethyl- <i>p</i> -toluidine Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 STOT RE 2, H373 Aquatic Chronic 3, H412 ATE: LD50 oral: 100 mg/kg LD50 dermal: 300 mg/kg LC50/4 h inhalative: 1.4 mg/l	(Contd. of page 2) <1%
CAS: 121-69-7 EINECS: 204-493-5 Index number: 612-016-00-0	<i>N,N</i> -dimethylaniline Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 Carc. 2, H351 Aquatic Chronic 2, H411 ATE: LD50 oral: 100 mg/kg LD50 dermal: 300 mg/kg LC50/4 h inhalative: 3 mg/l	<1%
CAS: 123-31-9 EINECS: 204-617-8 Index number: 604-005-00-4 Reg.nr.: 01-2119524016-51-xxxx	1,4-dihydroxybenzene Muta. 2, H341; Carc. 2, H351 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Acute Tox. 4, H302; Skin Sens. 1, H317 ATE: LD50 oral: 375 mg/kg	<0.1%

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

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Personal protection for the First Aider.

Take affected persons out of danger area and instruct to lie down.

Instantly remove any clothing soiled by the product.

· **After inhalation**

In case of unconsciousness bring patient into stable side position for transport.

Supply fresh air or oxygen; call for doctor.

· **After skin contact**

If skin irritation or rash occurs: Get medical advice/attention.

Instantly wash with water and soap and rinse thoroughly.

· **After eye contact**

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

Remove contact lenses, if present and easy to do. Continue rinsing.

· **After swallowing**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; instantly call for medical help.

· **4.2 Most important symptoms and effects, both acute and delayed Allergic reactions**

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- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
 - **Suitable extinguishing agents** CO₂, sand, extinguishing powder. Do not use water.
 - **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**
 - Can form explosive gas-air mixtures.
 - Formation of toxic gases is possible during heating or in case of fire.
 - Can be released in case of fire
 - Carbon dioxide (CO₂)
 - Carbon monoxide (CO)
 - Nitrogen oxides (NO_x)
- **5.3 Advice for firefighters**
 - **Protective equipment:**
Wear self-contained breathing apparatus.
(EN 133)
 - **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
 - Wear protective equipment. Keep unprotected persons away.
 - Ensure adequate ventilation
 - Avoid contact with eyes and skin.
 - Do not breathe vapor / mist / gas.
 - Keep away from ignition sources
 - Use breathing protection against the effects of fumes/dust/aerosol.
 - Wear protective clothing.
- **6.2 Environmental precautions:**
 - Do not allow to enter drainage system, surface or ground water.
 - Damp down gases/fumes/haze with water spray jet.
 - Inform respective authorities in case product reaches water or sewage system.
- **6.3 Methods and material for containment and cleaning up:**
 - Absorb with liquid-binding material (diatomite, universal binders, for small amounts tissues).
 - Send for recovery or disposal in suitable containers.
 - Dispose of the material collected according to regulations.
 - 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.

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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
 - Keep containers tightly sealed.
 - Avoid contact with eyes and skin.
 - Do not breathe vapor / mist / gas.
 - Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
 - Keep away from heat and direct sunlight.
 - Open and handle container with care.
 - Ensure good ventilation/exhaustion at the workplace.
 - Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
 - Fumes can combine with air to form an explosive mixture.
 - Use explosion-proof apparatus / fittings and spark-proof tools.
 - Do not spray on flames or red-hot objects.
 - Use only in explosion-proof area.
 - Keep ignition sources away - Do not smoke.
 - Protect against electrostatic charges.
- **Handling**
 - do not mix with
 - Radical initiator
 - organic peroxides
 - reducing agent
- **7.2 Conditions for safe storage, including any incompatibilities**
 - **Storage**
 - **Requirements to be met by storerooms and containers:**
 - Store only in the original container.
 - Store in cool, dry place in tightly closed containers.
 - Protect from the effects of light.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:**
 - Keep receptacle tightly sealed.
 - Store cool (not above 25 °C).
 - Protect from heat and direct sunlight.
 - **Recommended storage temperature:** 15 - 21 °C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· Components with critical values that require monitoring at the workplace:	
100-42-5 styrene	
WEL (Great Britain)	Short-term value: 1080 mg/m ³ , 250 ppm Long-term value: 430 mg/m ³ , 100 ppm

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80-62-6 methyl methacrylate

WEL (Great Britain)	Short-term value: 416 mg/m ³ , 100 ppm Long-term value: 208 mg/m ³ , 50 ppm
IOELV (European Union)	Short-term value: 100 ppm Long-term value: 50 ppm

79-41-4 methacrylic acid

WEL (Great Britain)	Short-term value: 143 mg/m ³ , 40 ppm Long-term value: 72 mg/m ³ , 20 ppm
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121-69-7 N,N-dimethylaniline

WEL (Great Britain)	Short-term value: 50 mg/m ³ , 10 ppm Long-term value: 25 mg/m ³ , 5 ppm Sk
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123-31-9 1,4-dihydroxybenzene

WEL (Great Britain)	Long-term value: 0.5 mg/m ³
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DNELs

100-42-5 styrene

Oral	general population, long term, systemic	2.1 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	406 mg/Kg/d (not defined)
	general population, long term, systemic	343 mg/Kg/d (not defined)
Inhalative	worker industrial, acute, systemic	289 mg/m ³ (not defined)
	worker industrial, long term, systemic	85 mg/m ³ (not defined)
	worker industrial, long term, local	306 mg/m ³ (not defined)
	general population, acute, systemic	174.25 mg/m ³ (not defined)
	general population, long term, systemic	10.2 mg/m ³ (not defined)
	general population, long term, local	182.75 mg/m ³ (not defined)

80-62-6 methyl methacrylate

Oral	general population, long term, systemic	8.2 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	13.67 mg/Kg/d (not defined)
	general population, long term, systemic	8.2 mg/Kg/d (not defined)
Inhalative	worker industrial, acute, local	416 mg/m ³ (not defined)
	worker industrial, long term, systemic	348.4 mg/m ³ (not defined)
	worker industrial, long term, local	208 mg/m ³ (not defined)
	general population, acute, local	208 mg/m ³ (not defined)
	general population, long term, systemic	74.3 mg/m ³ (not defined)

2082-81-7 1,4-butandiol dimethacrylate

Oral	general population, long term, systemic	2.5 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	4.2 mg/Kg/d (not defined)
	general population, long term, systemic	2.5 mg/Kg/d (not defined)
Inhalative	worker professional, long term, systemic	14.5 mg/m ³ (not defined)
	general population, long term, systemic	4.3 mg/m ³ (not defined)

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79-41-4 methacrylic acid

Oral	general population, long term, systemic	5.35 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	4.25 mg/Kg/d (not defined)
	general population, long term, systemic	5.35 mg/Kg/d (not defined)
Inhalative	worker industrial, long term, systemic	39.3 mg/m3 (not defined)
	worker industrial, long term, local	44 mg/m3 (not defined)
	general population, long term, systemic	11.7 mg/m3 (not defined)
	general population, long term, local	8.8 mg/m3 (not defined)

75-57-0 tetramethylammonium chloride

Oral	general population, long term, systemic	0.05 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	0.1 mg/Kg/d (not defined)
	general population, long term, systemic	0.05 mg/Kg/d (not defined)
Inhalative	worker industrial, long term, systemic	0.987 mg/m3 (not defined)
	general population, long term, systemic	0.174 mg/m3 (not defined)

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

Oral	general population, long term, systemic	2.373 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	0.624 mg/Kg/d (not defined)
	general population, long term, systemic	0.02 mg/Kg/d (not defined)
Inhalative	worker industrial, long term, systemic	0.128 mg/m3 (not defined)
	general population, long term, systemic	0.0227 mg/m3 (not defined)

121-69-7 N,N-dimethylaniline

Oral	general population, long term, systemic	1.474 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	2.988 mg/Kg/d (not defined)
	general population, long term, systemic	0.737 mg/Kg/d (not defined)
Inhalative	worker industrial, long term, systemic	3.406 mg/m3 (not defined)
	general population, long term, systemic	0.847 mg/m3 (not defined)

123-31-9 1,4-dihydroxybenzene

Oral	general population, long term, systemic	0.6 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	3.33 mg/Kg/d (not defined)
	general population, long term, systemic	1.66 mg/Kg/d (not defined)
Inhalative	worker industrial, long term, systemic	2.1 mg/m3 (not defined)
	general population, long term, systemic	1.05 mg/m3 (not defined)

PNECs
100-42-5 styrene

freshwater	0.028 mg/l (not defined)
marine water	0.014 mg/l (not defined)
sewage treatment plant	5 mg/l (not defined)
sediment, dry weight, freshwater	0.614 mg/Kg (not defined)
sediment, dry weight, marine water	0.307 mg/Kg (not defined)
soil, dry weight	0.2 mg/Kg (not defined)

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80-62-6 methyl methacrylate

freshwater	0.94 mg/l (not defined)
marine water	0.094 mg/l (not defined)
sewage treatment plant	10 mg/l (not defined)
sediment, dry weight, freshwater	10.2 mg/Kg (not defined)
sediment, dry weight, marine water	0.102 mg/Kg (not defined)
soil, dry weight	1.48 mg/Kg (not defined)

2082-81-7 1,4-butandiol dimethacrylate

freshwater	0.003 mg/l (not defined)
marine water	0 mg/l (not defined)
sewage treatment plant	20 mg/l (not defined)
sediment, dry weight, freshwater	0.12 mg/Kg (not defined)
sediment, dry weight, marine water	0.012 mg/Kg (not defined)
soil, dry weight	0.022 mg/Kg (not defined)

79-41-4 methacrylic acid

freshwater	0.82 mg/l (not defined)
marine water	0.082 mg/l (not defined)
sewage treatment plant	100 mg/l (not defined)
sediment, dry weight, freshwater	3.09 mg/Kg (not defined)
sediment, dry weight, marine water	0.309 mg/Kg (not defined)
soil, dry weight	0.137 mg/Kg (not defined)

75-57-0 tetramethylammonium chloride

freshwater	0.0006 mg/l (not defined)
marine water	0.00006 mg/l (not defined)
sewage treatment plant	6 mg/l (not defined)
sediment, dry weight, freshwater	0.035 mg/Kg (not defined)
sediment, dry weight, marine water	0.0035 mg/Kg (not defined)
soil, dry weight	0.0066 mg/Kg (not defined)

121-69-7 N,N-dimethylaniline

freshwater	0.023 mg/l (not defined)
marine water	0.002 mg/l (not defined)
sewage treatment plant	5.948 mg/l (not defined)
sediment, dry weight, freshwater	4.942 mg/Kg (not defined)
sediment, dry weight, marine water	4.942 mg/Kg (not defined)
soil, dry weight	1.906 mg/Kg (not defined)

123-31-9 1,4-dihydroxybenzene

freshwater	0.00057 mg/l (not defined)
marine water	0.000057 mg/l (not defined)
sewage treatment plant	0.71 mg/l (not defined)
sediment, dry weight, freshwater	0.0049 mg/Kg (not defined)

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sediment, dry weight, marine water	0.00049 mg/Kg (not defined)
soil, dry weight	0.00064 mg/Kg (not defined)

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

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see section 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures**

Keep away from foodstuffs, beverages and food.

Do not eat or drink while working.

The usual precautionary measures should be adhered to in handling the chemicals.

Do not inhale gases / fumes / aerosols.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

Use breathing protection in case of insufficient ventilation.

Filter A.

· **Hand protection**

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

chemical protection gloves are suitable, which are tested according to EN 374

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization.

Check protective gloves prior to each use for their proper condition.

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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.

· **Eye/face protection** eye protection (EN 166)

· **Body protection:** Solvent resistant protective clothing

· **Environmental exposure controls**

Do not allow to enter the ground/soil.

Do not allow to enter drainage system, surface or ground water.

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Physical state**

Fluid

· **Colour:**

Light green

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<ul style="list-style-type: none"> · Smell: · Odour threshold: · Melting point/freezing point: · Boiling point or initial boiling point and boiling range · Flammability · Lower and upper explosion limit <ul style="list-style-type: none"> · Lower: · Upper: · Flash point: · Auto-ignition temperature: · Decomposition temperature: · SADT · pH · Viscosity: <ul style="list-style-type: none"> · Kinematic viscosity · Kinematic viscosity <ul style="list-style-type: none"> · dynamic: · Solubility <ul style="list-style-type: none"> · Water: · Partition coefficient n-octanol/water (log value) · Steam pressure at 20 °C: · Vapour pressure: <ul style="list-style-type: none"> · Density and/or relative density <ul style="list-style-type: none"> · Density · Relative density · Vapour density 	<p>Characteristic</p> <p>Not determined.</p> <p>Not determined</p> <p>>145 °C</p> <p>Not applicable.</p> <p>Not determined.</p> <p>Not determined.</p> <p>>31 °C</p> <p>>490 °C</p> <p>Not determined.</p> <p>Not determined.</p> <p>Not determined.</p> <p>Not determined.</p> <p>Not determined.</p> <p>Not miscible or difficult to mix</p> <p>Not determined.</p> <p>37 hPa (80-62-6 methyl methacrylate)</p> <p>Not determined</p> <p>Not determined.</p> <p>Not determined.</p>
<ul style="list-style-type: none"> · 9.2 Other information · Appearance: <ul style="list-style-type: none"> · Form: · Important information on protection of health and environment, and on safety. <ul style="list-style-type: none"> · Self-inflammability: · Explosive properties: · Change in condition <ul style="list-style-type: none"> · Evaporation rate 	<p>No further relevant information available.</p> <p>Fluid</p> <p>Product is not selfigniting. Product is not explosive. However, formation of explosive air/vapour mixtures is possible.</p> <p>Not determined.</p>
<ul style="list-style-type: none"> · Information with regard to physical hazard classes <ul style="list-style-type: none"> · Explosives · Flammable gases · Aerosols · Oxidising gases · Gases under pressure · Flammable liquids · Flammable liquid and vapour. · Flammable solids 	<p>Void</p> <p>Void</p> <p>Void</p> <p>Void</p> <p>Void</p> <p>Void</p> <p>Void</p>

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· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity flammable**
- **10.2 Chemical stability**
 - **Conditions to be avoided:** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** Danger of polymerisation
- **10.4 Conditions to avoid** Heat, flames and sparks.
- **10.5 Incompatible materials:**
 - organic peroxides
 - Radical initiator
 - reducing agent
- **10.6 Hazardous decomposition products:** None

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
 - **Acute toxicity**
Harmful if inhaled.

· **LD/LC50 values that are relevant for classification:**

100-42-5 styrene

Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat) (OECD 402)
Inhalative	LC50/4 h	11.8 mg/l (ATE) 11.8 mg/l (rat)

80-62-6 methyl methacrylate

Oral	LD50	~7,900 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (guinea pig) (OECD 402)
Inhalative	LC50/4 h	29.8 mg/l (rat)

2082-81-7 1,4-butandioldimethacrylate

Oral	LD50	10,066 mg/kg (rat) (OECD 401)
Dermal	LD50	>2,000 mg/kg (rat) (OECD 402)

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79-41-4 methacrylic acid

Oral	LD50	1,320 mg/kg (ATE) 1,320 mg/kg (rat) (OECD 401)
Dermal	LD50	1,100 mg/kg (ATE)

75-57-0 tetramethylammonium chloride

Oral	LD50	47 mg/kg (ATE) 47 mg/kg (rat) (OECD 401)
Dermal	LD50	300 mg/kg (ATE) >200-<500 mg/kg (rabbit) (OECD 402)

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

Oral	LD50	100 mg/kg (ATE)
Dermal	LD50	300 mg/kg (ATE)
Inhalative	LC50/4 h	1.4 mg/l (ATE) 1.4 mg/l (rat)

121-69-7 N,N-dimethylaniline

Oral	LD50	100 mg/kg (ATE)
Dermal	LD50	300 mg/kg (ATE)
Inhalative	LC50/4 h	3 mg/l (ATE)

123-31-9 1,4-dihydroxybenzene

Oral	LD50	375 mg/kg (ATE) >375 mg/kg (rat) (OECD 401)
Dermal	LD50	>2,000 mg/kg (rabbit) (OECD 402)

- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity**
Suspected of damaging the unborn child.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure**
Causes damage to the hearing organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
 - **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Repr. 2

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11.2 Information on other hazards

· Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

12.1 Toxicity

· Aquatic toxicity:

100-42-5 styrene

EL50/48h	4.7 mg/L (daphnia) (OECD 202)
LC50/96h	10 mg/l (fish) (OECD 203)
ErC50 / 72 h	4.9 mg/l (algae) (EPA OTS 797.1050)
NOEC / 48h	1.9 mg/l (daphnia) (OECD 202)

80-62-6 methyl methacrylate

EC50/21d	37 mg/L (daphnia) (OECD 211)
EC50/48h	69 mg/l (daphnia) (EPA OTS 797.1300)
NOEC / 21d	37 mg/l (daphnia) (OECD 211)
ErC50 / 72 h	>110 mg/l (algae) (OECD 201)
NOEC / 72h	110 mg/l (algae) (OECD 201)
NOEC / 48h	48 mg/l (daphnia) (EPA OTS 797.1300)
EbC50 / 72h	>110 mg/l (algae) (OECD 201)
NOEC/ 35d	9.4 mg/L (fish) (OECD 210)
LC50/ 35d	33.7 mg/L (fish) (OECD 210)

2082-81-7 1,4-butandiol dimethacrylate

EC50/21d	14.1 mg/L (daphnia) (OECD 211)
NOEC / 21d	5.09 mg/l (daphnia) (OECD 211)
ErC50 / 72 h	9.79 mg/l (algae) (OECD 201)
NOEC / 72h	2.11 mg/l (algae) (OECD 201)
NOEC / 96h	1.78 mg/l (fish) (OECD 203)
LC50 / 96h	3.34 mg/l (fish) (OECD 203)
ErC10/72h	4.35 mg/L (algae) (OECD 201)

79-41-4 methacrylic acid

EC50/48h	>130 mg/l (daphnia) (EPA OTS 797.1300)
LC50/96h	85 mg/l (fish) (EPA OTS 797.1400)
NOEC / 21d	53 mg/l (daphnia)
ErC50 / 72 h	45 mg/l (algae) (OECD 201)
NOEC / 72h	8.2 mg/l (algae) (OECD 201)
NOEC / 96h	12 mg/l (fish) (EPA OTS 797.1400)
NOEC / 48h	130 mg/l (daphnia) (EPA OTS 797.1300)
NOEC/ 35d	10 mg/L (fish) (OECD 210)

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LC50/ 35d 42 mg/L (fish) (OECD 210)

75-57-0 tetramethylammonium chloride

EC50/48h 3.6 mg/l (daphnia)

LC50/96h 462 mg/l (fish) (OECD 203)

EC50 0.16 mg/l (daphnia)

ErC50 / 72 h 96.3 mg/l (algae) (OECD 201)

NOEC / 72h 6.25 mg/l (algae) (OECD 201)

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

EC50/72h 23.69 mg/l (algae) ((Q)SAR)

EC50/48h 8.48 mg/l (daphnia) (OECD 202)

LC50/96h >56.12 mg/l (fish) (OECD 203)

123-31-9 1,4-dihydroxybenzene

EC50/48h 0.134 mg/l (daphnia) (OECD 202)

LC50/96h 0.638 mg/l (fish) (OECD 203)

NOEC / 21d 0.006 mg/l (daphnia) (OECD 211)

ErC50 / 72 h 0.33 mg/l (algae) (OECD 201)

NOEC / 48h 0.095 mg/l (daphnia) (OECD 202)

NOEC/ 32d ≥0.001 mg/L (fish) (OECD 210)

12.2 Persistence and degradability

100-42-5 styrene

Biodegradation 70.9-100 % /28d (not defined)

80-62-6 methyl methacrylate

Biodegradation 94 % /14d (not defined) (OECD 301C)

2082-81-7 1,4-butandiol dimethacrylate

Biodegradation 84 % /28d (not defined) (OECD 310)

79-41-4 methacrylic acid

Biodegradation 86 % /28d (not defined) (OECD 301D)

75-57-0 tetramethylammonium chloride

Biodegradation 100 % /28d (not defined) (OECD 301B; ISO/ 9439/ EEC 92/69/V, C.4-C)

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

Biodegradation 50 % /28d (not defined)

123-31-9 1,4-dihydroxybenzene

Biodegradation 70 % /14d (not defined) (OECD 301C)

12.3 Bioaccumulative potential

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

Bloconcentration factor (BCF) 33 (not defined)

12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
 - **Additional ecological information:**
 - **General notes:**
Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.

SECTION 13: 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.
Disposal must be made according to official regulations.
 - **Uncleaned packagings:**
 - **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|---|---------------------------------------|
| · 14.1 UN number or ID number
· ADR, IMDG, IATA | UN1866 |
| · 14.2 UN proper shipping name
· ADR
· IMDG, IATA | 1866 RESIN SOLUTION
RESIN SOLUTION |
| · 14.3 Transport hazard class(es)
· ADR | |
|  | |
| · Class
· Label | 3 (F1) Flammable liquids.
3 |
| · IMDG, IATA | |
|  | |
| · Class
· Label | 3 Flammable liquids.
3 |
| · 14.4 Packing group
· ADR, IMDG, IATA | III |

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· 14.5 Environmental hazards:
· Marine pollutant: No

· 14.6 Special precautions for user

Warning: Flammable liquids.

· Kemler Number:

30

· EMS Number:

F-E, S-E

· Stowage Category

A

· 14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

· Transport/Additional information:

-

· ADR
· Limited quantities (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· Transport category

3

· Tunnel restriction code

D/E

· IMDG
· Limited quantities (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· UN "Model Regulation":

UN 1866 RESIN SOLUTION, 3, III

SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
· Directive 2012/18/EU
· Named dangerous substances - ANNEX I None of the ingredients is listed.

· Seveso category P5c FLAMMABLE LIQUIDS

· Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t

· Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t

· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (UK ANNEX XIV)
· Information about limitation of use:

Employment restrictions concerning young persons must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H300 Fatal if swallowed.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H341 Suspected of causing genetic defects.
- H351 Suspected of causing cancer.
- H361d Suspected of damaging the unborn child.
- H370 Causes damage to organs.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

Abbreviations and acronyms:

- SADT: Self Accelerating Decomposition Temperature
- ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- DNEL: Derived No-Effect Level (UK REACH)
- PNEC: Predicted No-Effect Concentration (UK REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Flammable liquids – Category 2
- Flam. Liq. 3: Flammable liquids – Category 3
- Acute Tox. 2: Acute toxicity – Category 2
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Corr. 1A: Skin corrosion/irritation – Category 1A
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1

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Skin Sens. 1B: Skin sensitisation – Category 1B

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 2: Carcinogenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

Sources

(EC) 1272/2008: classification, labelling and packaging of substances and mixtures

(EC) 1907/2006: UK REACH

ADR/RID/ADN - IDMG - IATA: transport of dangerous goods by road, rail, inland waterway, with maritime vessels and for the air transport

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

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