

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

Printing date 10.06.2021

Version number 6

Revision: 10.06.2021

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

- **1.1 Product identifier**
 - Trade name: **Technovit 2210**
- **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**

Lightcuring material for fixing, filling and sealing of specimens
- **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**

Skin Sens. 1 H317 May cause an allergic skin reaction.
- **2.2 Label elements**
 - **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

 - **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labelling:**

triethylen glycol dimethacrylate
methyl methacrylate
- **Hazard statements**

H317 May cause an allergic skin reaction.
- **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- **2.3 Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
 - **Description:** -

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· Dangerous components:

CAS: 109-16-0 EINECS: 203-652-6 Reg.nr.: 01-2119969287-21-xxxx	triethylen glycol dimethacrylate Skin Sens. 1B, H317	10-25%
CAS: 80-62-6 EINECS: 201-297-1 Reg.nr.: 01-2119452498-28-xxxx	methyl methacrylate Flam. Liq. 2, H225 Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	≥0.1-<1%
CAS: 131-57-7 EINECS: 205-031-5	Oxybenzone Aquatic Acute 1, H400; Aquatic Chronic 2, H411	≥0.25-<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**

Personal protection for the First Aider.

Instantly remove any clothing soiled by the product.

· **After inhalation** Supply fresh air; consult doctor in case of symptoms.

· **After skin contact**

Instantly wash with water and soap and rinse thoroughly.

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

· **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**

In case of persistent symptoms consult doctor.

Rinse out mouth and then drink plenty of water.

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

· **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, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

· **For safety reasons unsuitable extinguishing agents** Water with a full water jet.

· **5.2 Special hazards arising from the substance or mixture**

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)

· **5.3 Advice for firefighters**· **Protective equipment:**

Wear self-contained breathing apparatus.

(EN 133)

· **Additional information**

Cool endangered containers with water spray jet.

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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**
Avoid contact with eyes and skin.
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
Keep away from ignition sources
- **6.2 Environmental precautions:**
Do not allow to enter the ground/soil.
Do not allow to enter drainage system, surface or ground water.
Damp down gases/fumes/haze with water spray jet.
- **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.
- **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 7 for information on safe handling

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Prevent formation of aerosols.
Avoid contact with eyes and skin.
Ensure good ventilation/exhaustion at the workplace.
Keep away from heat and direct sunlight.
 - **Handling**
do not mix with
organic peroxides
amine
Strong bases
Strong acids
Radical initiator
reducing agent
Strong oxidizers
Water.
 - **Information about protection against explosions and fires:**
Protect from heat.
Keep ignition sources away - Do not smoke.
- **7.2 Conditions for safe storage, including any incompatibilities**
 - **Storage**
 - **Requirements to be met by storerooms and containers:** Store in cool location.
 - **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.
 - **Further information about storage conditions:** Store cool (not above 25 °C).
- **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

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

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

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

· **DNELs**

109-16-0 triethylen glycol dimethacrylate

Oral	ge.pop., l.te, syst.	8.33 mg/Kg (nd)
Dermal	worker industr., l.te., syst.	13.9 mg/Kg/d (nd)
	ge.pop., l.te, syst.	8.33 mg/Kg/d (nd)
Inhalative	worker industr., l.te., syst.	48.5 mg/m ³ (nd)
	ge.pop., l.te, syst.	14.5 mg/m ³ (nd)

80-62-6 methyl methacrylate

Oral	ge.pop., l.te, syst.	8.2 mg/Kg (nd)
Dermal	worker industr., l.te., syst.	13.67 mg/Kg/d (nd)
	ge.pop., l.te, syst.	8.2 mg/Kg/d (nd)
Inhalative	worker industr., acute, local	416 mg/m ³ (nd)
	worker industr., l.te., syst.	348.4 mg/m ³ (nd)
	worker industr., l.te., local	208 mg/m ³ (nd)
	ge.pop., acu., local	208 mg/m ³ (nd)
	ge.pop., l.te, syst.	74.3 mg/m ³ (nd)

131-57-7 Oxybenzone

Oral	ge.pop., l.te, syst.	2 mg/Kg (nd)
Dermal	worker industr., l.te., syst.	39 mg/Kg/d (nd)
	ge.pop., l.te, syst.	20 mg/Kg/d (nd)
Inhalative	worker industr., l.te., syst.	27.7 mg/m ³ (nd)
	ge.pop., l.te, syst.	6.8 mg/m ³ (nd)

· **PNECs**

109-16-0 triethylen glycol dimethacrylate

freshwater	0.016 mg/l (nd)
marine water	0.002 mg/l (nd)
STP	1.7 mg/l (nd)
sedim., dw, fre.wat.	0.185 mg/Kg (nd)
sedim., dw, mar.wat.	0.018 mg/Kg (nd)
soil,dw	0.027 mg/Kg (nd)

80-62-6 methyl methacrylate

freshwater	0.94 mg/l (aqua)
	0.94 mg/l (nd)
marine water	0.094 mg/l (nd)
STP	10 mg/l (nd)

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sedim., dw, fre.wat.	10.2 mg/Kg (nd)
sedim., dw, mar.wat.	0.102 mg/Kg (nd)
soil,dw	1.48 mg/Kg (nd)
131-57-7 Oxybenzone	
freshwater	0.00067 mg/l (nd)
marine water	0.000067 mg/l (nd)
STP	10 mg/l (nd)
sedim., dw, fre.wat.	0.066 mg/Kg (nd)
sedim., dw, mar.wat.	0.007 mg/Kg (nd)
soil,dw	0.013 mg/Kg (nd)

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

· **8.2 Exposure controls**

· **Personal protective equipment**

· **General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.
 Do not eat or drink while working.
 Avoid contact with the eyes and skin.
 Instantly remove any soiled and impregnated garments.
 Keep away from foodstuffs, beverages and food.
 Wash hands during breaks and at the end of the work.

· **Breathing equipment:**

Use breathing protection in case of insufficient ventilation.
 Filter A/P2.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 chemical protection gloves are suitable, which are tested according to EN 374
 Check protective gloves prior to each use for their proper condition.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **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.
 NBR: acrylonitrile-butadiene rubber (0,11 mm)

· **Penetration time of glove material**

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
 >30 min

· **Eye protection:** eye protection (EN 166)

· **Body protection:** Light weight protective clothing

· **Limitation and supervision of exposure into the environment**

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

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SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
 - **General Information**
 - **Appearance:**
 - **Form:** Pasty
 - **Colour:** Yellowish
 - **Smell:** Odourless
 - **Odour threshold:** Not determined.
 - **pH-value:** Not determined.
 - **Change in condition**
 - **Melting point/freezing point:** Not determined
 - **Initial boiling point and boiling range:** Not determined
 - **Flash point:** Not applicable
 - **Inflammability (solid, gaseous)** Not applicable.
 - **Decomposition temperature:** Not determined.
 - **SAPT**
Technovit 2210 >300 °C
 - **Self-inflammability:** Product is not selfigniting.
 - **Explosive properties:** Product is not explosive.
 - **Critical values for explosion:**
 - **Lower:** Not determined.
 - **Upper:** Not determined.
 - **Steam pressure:** Not determined.
 - **Density** Not determined
 - **Relative density** Not determined.
 - **Vapour density** Not determined.
 - **Evaporation rate** Not determined.
 - **Solubility in / Miscibility with**
 - **Water:** Not miscible or difficult to mix
 - **Partition coefficient: n-octanol/water:** Not determined.
 - **Viscosity:**
 - **dynamic:** Not determined.
 - **kinematic:** Not determined.
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
 - **Conditions to be avoided:** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** Exothermic polymerisation
- **10.4 Conditions to avoid**
 - moisture exposure
 - Heat, flames and sparks.
- **10.5 Incompatible materials:**
 - amine
 - organic peroxides

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Radical initiator
 reducing agent
 Strong bases
 Strong oxidizers
 Strong acids
 Water.

10.6 Hazardous decomposition products:

None
 Hydrocarbons
 Methanole

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SECTION 11: 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:**

109-16-0 triethylen glycol dimethacrylate

Oral	LD50	8,300 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (mouse)

80-62-6 methyl methacrylate

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

131-57-7 Oxybenzone

Oral	LD50	>12,800 mg/kg (rat) (OECD 401)
Dermal	LD50	>16,000 mg/kg (rabbit) (OECD 402)

· **Primary irritant effect:**

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.

· **Serious eye damage/irritation**

Based on available data, the classification criteria are not met.

· **Respiratory or skin sensitisation**

May cause an allergic skin reaction.

· **Additional toxicological information:**

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

· **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** Based on available data, the classification criteria are not met.

· **STOT-single exposure** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure** Based on available data, the classification criteria are not met.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

· **Aquatic toxicity:**

109-16-0 triethylen glycol dimethacrylate

EC50/21d	51.9 mg/L (daphnia) (OECD 211)
LC50/96h	16.4 mg/l (fish) (OECD 203)
NOEC / 21d	32 mg/l (daphnia) (OECD 211)

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ErC50 / 72 h	>100 mg/l (algae) (OECD 201)
NOEC / 72h	18.6 mg/l (algae) (OECD 201)
EbC50 / 72h	72.8 mg/l (algae) (OECD 201)

80-62-6 methyl methacrylate

EC50/21d	49 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)

131-57-7 Oxybenzone

EC50/48h	1.87 mg/l (daphnia) (OECD 202)
LC50/96h	3.8 mg/l (fish) (OECD 203)
ErC50 / 72 h	0.67 mg/l (algae) (OECD 201)
NOEC / 72h	0.18 mg/l (algae) (OECD 201)
NOEC / 96h	0.72 mg/l (fish) (OECD 203)
NOEC / 48h	1.15 mg/l (daphnia) (OECD 202)

12.2 Persistence and degradability

109-16-0 triethylen glycol dimethacrylate

Biodegradation	85 % /28d (nd) (OECD 301B; ISO/ 9439/ EEC 92/69/V, C.4-C)
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80-62-6 methyl methacrylate

Biodegradation	94 % /14d (nd) (OECD 301C)
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131-57-7 Oxybenzone

Biodegradation	60-70 % /28d (nd)
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12.3 Bioaccumulative potential

131-57-7 Oxybenzone

Bloconcentration factor (BCF)	>33-<160 (fish) (OECD 305)
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12.4 Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into soil.

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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SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
 - **Recommendation** Smaller quantities can be disposed with household garbage.
- **Uncleaned packagings:**
 - **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|--|-----------------|
| · 14.1 UN-Number
· ADR, IMDG, IATA | Void |
| · 14.2 UN proper shipping name
· ADR, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es)
· ADR, ADN, IMDG, IATA
· Class | Void |
| · 14.4 Packing group
· ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards:
· Marine pollutant: | No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | - |
| · UN "Model Regulation": | Void |

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.
 - **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.

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.
 - H315 Causes skin irritation.
 - H317 May cause an allergic skin reaction.
 - H335 May cause respiratory irritation.

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H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

SAPT: Self Accelerating Polymerisation 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 (REACH)
PNEC: Predicted No-Effect Concentration (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
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1B: Skin sensitisation – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
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

Sources

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

(EC) 1907/2006: REACH

ADR/RID/ADN - IMDG - 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.**