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

· **1.1 Product identifier**

· **Trade name:** **Technovit 7100 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 histological examinations

· **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 Irrit. 2	H315 Causes skin irritation.
Eye Irrit. 2	H319 Causes serious eye irritation.
Skin Sens. 1	H317 May cause an allergic skin reaction.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

· **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:**
2-hydroxyethyl methacrylate

· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

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.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.

· **2.3 Other hazards** -

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

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· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**
· **Description:** Product based on methacrylates

· **Dangerous components:**

CAS: 868-77-9 EINECS: 212-782-2	2-hydroxyethyl methacrylate Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	75-90%
CAS: 63393-96-4 EINECS: 264-120-7	Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides Acute Tox. 3, H301 Repr. 2, H361 Skin Corr. 1C, H314; Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=1)	≥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**
Instantly remove any clothing soiled by the product.
Personal protection for the First Aider.
· **After inhalation**
Supply fresh air; consult doctor in case of symptoms.
In case of unconsciousness bring patient into stable side position for transport.
· **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. Then 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)
Hydrogen chloride (HCl)
Nitrogen oxides (NOx)

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· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear self-contained breathing apparatus.
(EN 133)
· **Additional information**
Cool endangered containers with water spray jet.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Collect contaminated fire fighting water separately. It must not enter drains.

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.
· **6.2 Environmental precautions:**
No special measures required.
Do not allow to enter the ground/soil.
Do not allow to enter drainage system, surface or ground water.
Keep dirty washing water for appropriate disposal.
· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (diatomite, universal binders, for small amounts tissues).
Dispose of the material collected according to regulations.
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**
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
Radical initiator
reducing agent
Strong oxidizers
Strong acids
amine
metals
· **Information about protection against explosions and fires:**
Protect against electrostatic charges.
Do not spray on flames or red-hot objects.
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:** Not required.

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· **Further information about storage conditions:**
Store cool (not above 25 °C).
Protect from humidity and keep away from water.
Do not seal container gastight.
· **7.3 Specific end use(s)** No further relevant information available.

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:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
Not required.

· DNELs		
868-77-9 2-hydroxyethyl methacrylate		
Oral	ge.pop., l.te, syst.	0.83 mg/Kg (nd)
Dermal	worker industr., l.te., syst.	1.3 mg/Kg/d (nd)
	ge.pop., l.te, syst.	0.83 mg/Kg/d (nd)
Inhalative	worker industr., l.te., syst.	4.9 mg/m3 (nd)
	ge.pop., l.te, syst.	2.9 mg/m3 (nd)
63393-96-4 Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides		
Inhalative	worker profess., l.te., syst.	0.42 mg/m3 (nd)

· PNECs	
868-77-9 2-hydroxyethyl methacrylate	
freshwater	0.482 mg/l (nd)
marine water	0.482 mg/l (nd)
STP	10 mg/l (nd)
sedim., dw, fre.wat.	3.79 mg/Kg (nd)
sedim., dw, mar.wat.	3.79 mg/Kg (nd)
soil,dw	0.476 mg/Kg (nd)
63393-96-4 Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides	
freshwater	0.00015 mg/l (nd)
marine water	0.00000002 mg/l (nd)
STP	0.44 mg/l (nd)
sedim., dw, fre.wat.	0.00063 mg/Kg (nd)
sedim., dw, mar.wat.	0.00000006 mg/Kg (nd)
soil,dw	0.00000004 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**
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.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.

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Avoid contact with the eyes and skin.
· **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.
chemical protection gloves are suitable, which are tested according to EN 374
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
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.
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.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
· **Form:**	Fluid
· **Colour:**	Colourless
· **Smell:**	Characteristic
· **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 7100 liquid	>100 °C
· **Self-inflammability:**	Product is not selfigniting.
· **Explosive properties:**	Product is not explosive.

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· **Critical values for explosion:**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Steam pressure:**	Not determined.
· **Density at 20 °C**	1.1 g/cm³
· **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**
No dangerous reactions known
Exothermic polymerisation
· **10.4 Conditions to avoid**
moisture exposure
Heat, flames and sparks.
· **10.5 Incompatible materials:**
organic peroxides
Radical initiator
reducing agent
Strong oxidizers
Strong acids
amine
metals
· **10.6 Hazardous decomposition products:** None

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:**		
868-77-9 2-hydroxyethyl methacrylate		
Oral	LD50	5,564 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
63393-96-4 Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides		
Oral	LD50	>200-<2,000 mg/kg (rat) (OECD 401)

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· **Primary irritant effect:**
· **Skin corrosion/irritation**
Causes skin irritation.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
· **Additional toxicological information:**
· **CMR effects (carcinogenity, 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:**	
868-77-9 2-hydroxyethyl methacrylate	
EC50/72h	345 mg/l (algae) (OECD 201)
EC50/48h (static)	380 mg/l (daphnia) (OECD 202)
LC50/96h	>100 mg/l (fish) (OECD 203)
ErC50 / 72 h	836 mg/l (algae) (OECD 201)
NOEC / 72h	400 mg/l (algae) (OECD 201)
NOEC / 48h	171 mg/l (daphnia) (OECD 202)
63393-96-4 Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides	
EC50/48h	0.16 mg/l (daphnia) (OECD 202)
LC50/96h	0.15 mg/l (fish) (OECD 203)
ErC50 / 72 h	0.29 mg/l (algae) (OECD 201)
ErC10/72h	0.138 mg/L (algae) (OECD 201)

· **12.2 Persistence and degradability**	
868-77-9 2-hydroxyethyl methacrylate	
Biodegradation	92-100 % /14d (nd) (OECD 301C)
63393-96-4 Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides	
Biodegradation	10-<20 % /60d (nd) (OECD 301B; ISO/ 9439/ EEC 92/69/V, C.4-C)

· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Avoid transfer into the environment.
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.

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

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Small quantities can be polymerized with the matching system component(s) and the cured solid material can be disposed of with the regular garbage. Larger quantities must be disposed of following the regulations of the local authorities.

· **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.

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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***
H301 Toxic if swallowed.
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.
H361 Suspected of damaging fertility or the unborn child.
H400 Very toxic to aquatic life.
H410 Very 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
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1C: Skin corrosion/irritation – Category 1C
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
Repr. 2: Reproductive toxicity – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
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: 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.***