

Revision: 14.06.2022

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

Printing date 14.06.2022

Version number 4 (replaces version 3)

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

- · 1.1 Product identifier
 - · Trade name: Technovit 4071/5071
- · 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

Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Chronic 2 H411 Toxic 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 GB CLP regulation.

Hazard pictograms





- GHS07 GHS09
- · Signal word Warning
- · Hazard-determining components of labelling:

dibenzoyl peroxide

methyl methacrylate

· Hazard statements

H317 May cause an allergic skin reaction. H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

Avoid breathing dust/fume/gas/mist/vapours/spray. P261

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. P362+P364 Take off contaminated clothing and wash it before reuse.

2.3 Other hazards

- Results of PBT and vPvB assessment
 - · PBT: Not applicable.
 - · vPvB: Not applicable.

GB



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SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

Description: -

· Dangerous components:		
CAS: 94-36-0 EINECS: 202-327-6 Reg.nr.: 01-2119511472-50-xxxx	dibenzoyl peroxide Self-react. B, H241; Org. Perox. B, H241 Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1,	≥1-<2.5%
· ·	H410 (M=10) Eye Irrit. 2, H319; Skin Sens. 1, H317	
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%

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. 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.

In case of persistent symptoms consult doctor.

- · 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.

Combustible solids. Fine dust clouds can form explosive mixtures with air.

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.

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Additional information

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 causing dust.

Keep away from ignition sources

Avoid contact with eyes and skin.

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 dust with water spray jet.

Keep dirty washing water for appropriate disposal.

6.3 Methods and material for containment and cleaning up:

Collect mechanically.

Send for recovery or disposal in suitable containers.

6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Wear protective equipment. Keep unprotected persons away.

Provide suction extractors if dust is formed.

Any deposit of dust which cannot be avoided must be removed regularly.

Prevent formation of dust.

Use appropriate industrial vacuum cleaners or central vacuum systems for dust removal.

Avoid contact with eyes and skin.

Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires: Use explosion-proof apparatus / fittings and spark-proof tools.

Protect against electrostatic charges.

Do not spray on flames or red-hot objects.

Dust can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Handling

do not mix with

Strong oxidizers

Strong acids

· 7.2 Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and containers:

Store in cool, dry place in tightly closed containers.

- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: None.

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· 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

Components with critical values that require monitoring at the workplace:			
94-36-0 dibenzoyl perox	94-36-0 dibenzoyl peroxide		
WEL (Great Britain)	Long-term value: 5 mg/m³		
80-62-6 methyl methacr	ylate		
WEL (Great Britain)	Short-term value: 416 mg/m³, 100 ppm Long-term value: 208 mg/m³, 50 ppm		
IOELV (European Union)	Short-term value: 100 ppm Long-term value: 50 ppm		

· DNELs

94-36-0	dibenzoyl	peroxide
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Oral	general population, long term, systemic	2 mg/Kg (not defined)
Dermal	worker industrial, long term, systemic	13.3 mg/Kg/d (not defined)
Inhalative	worker industrial, long term, systemic	39 mg/m3 (not defined)

· PNECs

94-36-0 dibenzoyl peroxide	
freshwater	0.00002 mg/l (not defined)
marine water	0.000002 mg/l (not defined)
sewage treatment plant	0.35 mg/l (not defined)
sediment, dry weight, freshwater	0.013 mg/Kg (not defined)
sediment, dry weight, marine water	
soil, dry weight	0.003 mg/Kg (not defined)

80-62-6 methyl methacrylate

	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	
soil, dry weight	1.48 mg/Kg (not defined)

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

· 8.2 Exposure controls

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[·] Appropriate engineering controls No further data; see item 7.



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· Individual protection measures, such as personal protective equipment

General protective and hygienic measures

Instantly remove any soiled and impregnated garments.

Do not eat or drink while working.

Avoid contact with the eyes and skin.

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.

particulate filter device (EN 143)

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

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

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.

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.

Solid.

Green

Odourless

Not determined

>30 min

- · Eye/face protection eye protection (EN 166)
- · Body protection: Light weight 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 Colour:

· Smell:

Odour threshold:

· Melting point/freezing point:

Boiling point or initial boiling point and

boiling range · Flammability

· Lower and upper explosion limit

· Lower:

· Upper: Flash point:

100 °C (80-62-6 methyl methacrylate) Not applicable.

Not determined. Not determined. Not applicable

Not determined.

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· Decomposition temperature:

·SADT

· pH Not determined. Not applicable.

· Viscosity:

Not applicable. Kinematic viscosity Not applicable. · dynamic:

Solubility Water:

Not miscible or difficult to mix

· Partition coefficient n-octanol/water (log

value)

Not determined. Not determined.

Not determined.

Steam pressure: Density and/or relative density

Density at 20 °C

1.16156 g/cm³ Relative density Not determined. · Vapour density Not determined.

· 9.2 Other information

No further relevant information available.

· Appearance:

Form: Powder

· Important information on protection of

health and environment, and on safety.

· Self-inflammability: Product is not selfigniting. Explosive properties: Product is not explosive.

Change in condition

Evaporation rate Not determined.

· Information with regard to physical hazard classes

Void · Explosives Flammable gases Void · Aerosols Void · Oxidising gases Void · Gases under pressure Void Flammable liquids Void · Flammable solids Void · 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 Corrosive to metals Void Void

SECTION 10: Stability and reactivity

· Desensitised explosives

- · 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.

Void

• 10.3 Possibility of hazardous reactions No dangerous reactions known

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· 10.4 Conditions to avoid

Heat, flames and sparks. Avoid dust formation.

· 10.5 Incompatible materials:

Strong oxidizers

Strong acids
10.6 Hazardous decomposition products: None

· Additional information: -

SECTION 11: Toxicological information

- · 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
 - · Acute toxicity Based on available data, the classification criteria are not met.

· LD/	· LD/LC50 values that are relevant for classification:			
94-36-0 di	94-36-0 dibenzoyl peroxide			
Oral	Oral LD0 >2,000 mg/kg (mouse) (OECD 401)			
Inhalative	LC0/4h	24.3 ppm (rat) (OECD 403)		
80-62-6 m	ethyl met	hacrylate		
Oral	Oral LD50 ~7,900 mg/kg (rat)			
Dermal	Dermal LD50 >5,000 mg/kg (guinea pig) (OECD 402)			
Inhalative	Inhalative LC50/4 h 29.8 mg/l (rat)			

- · 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.
- · 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.
- · 11.2 Information on other hazards
 - · Endocrine disrupting properties

Taking into account the current state of scientific knowledge, no data on endocrine disrupting properties of the product are available.

None of the ingredients is listed.

SECTION 12: Ecological information

· 12.1 Toxicity

٠	A	qι	ıatic	toxicity:
-	_	_		

94-36-0 dibenzoyl peroxide

 EC50/72h
 0.042 mg/l (algae) (OECD 201)

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

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

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

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

 NOEC / 96h
 0.032 mg/l (fish) (OECD 203)

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NOEC / 48h	0.076 mg/l (daphnia) (OECD 202)	
ErC10	0.001 mg/L /21d (daphnia) (OECD 211)	
80-62-6 metl	hyl 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)	
· 12.2 Persiste	ence and degradability	
94-36-0 dibe	nzoyl peroxide	
Biodegradation	on 71 % /28d (not defined) (OECD 301D)	
80-62-6 metl	hyl methacrylate	
Biodegradation	on 94 % /14d (not defined) (OECD 301C)	

- · 12.3 Bioaccumulative potential No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- · 12.5 Results of PBT and vPvB assessment

 - · **PBT:** Not applicable. · **vPvB:** Not applicable.
- · 12.6 Endocrine disrupting properties

For information on endocrine disrupting properties see section 11.

- · 12.7 Other adverse effects
 - Remark: Harmful to fish
 - · Additional ecological information:
 - General notes:

Harmful to aquatic organisms

Avoid transfer into the environment.

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 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 or ID number

· ADR, IMDG, IATA UN3077

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14.2 UN proper shipping name	
ADR	3077 ENVIRONMENTALLY HAZARDOU SUBSTANCE, SOLID, N.O.S. (dibenzo peroxide)
· IMDG	ENVIRONMENTALLY HAZARDOU SUBSTANCE, SOLID, N.O.S. (dibenzo peroxide), MARINE POLLUTANT
·IATA	ENVIRONMENTALLY HAZARDOU SUBSTANCE, SOLID, N.O.S. (dibenzo peroxide)
14.3 Transport hazard class(es)	
· ADR	
1 1 1 1 1 1 1 1 1 1	
· Class	9 (M7) Miscellaneous dangerous substance
· Label	and articles.
· IMDG, IATA	
Class	9 Miscellaneous dangerous substances ar articles.
· Label	9
14.4 Packing group · ADR, IMDG, IATA	III
14.5 Environmental hazards: · Marine pollutant:	No Symbol (fish and tree)
Special marking (ADR): Special marking (IATA):	Symbol (fish and tree) Symbol (fish and tree)
14.6 Special precautions for user	Warning: Miscellaneous dangerous substances ar articles.
· Kemler Number: · EMS Number:	90 F-A,S-F
· Stowage Category	Α
Stowage Code	SW23 When transported in BK3 bu container, see 7.6.2.12 and 7.7.3.9.
14.7 Maritime transport in bulk according IMO instruments	g to Not applicable.
· Transport/Additional information:	-
· ADR	
· Limited quantities (LQ) · Excepted quantities (EQ)	5 kg Code: E1 Maximum net quantity per inner packagin
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(Contd. of page 9) 30 g Maximum net quantity per outer packaging: 1000 g · Transport category 3 · Tunnel restriction code (-)· Limited quantities (LQ) 5 kg Excepted quantities (ÉQ) Code: E1 Maximum net quantity per inner packaging: Maximum net quantity per outer packaging: 1000 g · UN "Model Regulation": UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DIBENZOYL PEROXIDE), 9, 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 E2 Hazardous to the Aquatic Environment
 - Qualifying quantity (tonnes) for the application of lower-tier requirements 200 t
 - Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t
 - · 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.

H241 Heating may cause a fire or explosion.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

H410 Very toxic 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)

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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. 2: Flammable liquids — Category 2
Self-react. B: Self-reactive substances and mixtures — Type B
Org. Perox. B: Organic peroxides — Type B
Skin Irrit. 2: Skin corrosion/irritation — Category 2
Eye Irrit. 2: Serious eye damage/eye irritation — Category 2
Skin Sens. 1: Skin sensitisation — Category 1
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 1: Hazardous to the aquatic environment - long-term aquatic hazard — Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard — Category 2
Sources

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.