



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

Printing date 27.04.2021

Version number 2

Revision: 27.04.2021

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

· **1.1 Product identifier**

· Trade name: **Technovit 4006 Powder colourless**

· **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)800 4372522

· **Informing department:** email: [technik.wehrheim@kulzer-dental.com](mailto: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 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**

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.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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**SECTION 3: Composition/information on ingredients**

**3.2 Chemical characterisation: Mixtures**

**Description:** Product based on methacrylate copolymers

**Dangerous components:**

CAS: 94-36-0 EINECS: 202-327-6	dibenzoyl peroxide Self-react. B, H241; Org. Perox. B, H241 Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=10) Eye Irrit. 2, H319; Skin Sens. 1, H317	≥1-<2.5%
CAS: 80-62-6 EINECS: 201-297-1	methyl methacrylate Flam. Liq. 2, H225 Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335 Acute Tox. 5, H333	≥1-≤5%

**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**

CO<sub>2</sub>, 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**

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

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire

Carbon dioxide (CO<sub>2</sub>)

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**

*Avoid contact with eyes and skin.*

*Ensure adequate ventilation*

*Wear protective equipment. Keep unprotected persons away.*

*Avoid causing dust.*

*Keep away from ignition sources*

· **6.2 Environmental precautions:**

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

*Damp down dust with water spray jet.*

· **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**

*Provide suction extractors if dust is formed.*

*Avoid contact with eyes and skin.*

*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.*

· **Handling**

*do not mix with*

*reducing agent*

*Strong oxidizers*

*Strong bases*

*Strong acids*

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

*Use explosion-proof apparatus / fittings and spark-proof tools.*

*Dust can combine with air to form an explosive mixture.*

*Protect against electrostatic charges.*

*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, dry place in tightly closed containers.*

· **Information about storage in one common storage facility: Not required.**

· **Further information about storage conditions:**

*Store cool (not above 25 °C).*

*Protect from heat and direct sunlight.*

· **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:**

**94-36-0 dibenzoyl peroxide**

WEL (Great Britain) Long-term value: 5 mg/m<sup>3</sup>

**80-62-6 methyl methacrylate**

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

· **DNELs**

**94-36-0 dibenzoyl peroxide**

Oral	ge.pop., l.te, syst.	2 mg/Kg (nd)
Dermal	worker industr., l.te., syst.	13.3 mg/Kg/d (nd)
Inhalative	worker industr., l.te., syst.	39 mg/m <sup>3</sup> (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 <sup>3</sup> (nd)
	worker industr., l.te., syst.	348.4 mg/m <sup>3</sup> (nd)
	worker industr., l.te., local	208 mg/m <sup>3</sup> (nd)
	ge.pop., acu., local	208 mg/m <sup>3</sup> (nd)
	ge.pop., l.te, syst.	74.3 mg/m <sup>3</sup> (nd)

· **PNECs**

**94-36-0 dibenzoyl peroxide**

freshwater	0.00002 mg/l (nd)
marine water	0.000002 mg/l (nd)
STP	0.35 mg/l (nd)
sedim., dw, fre.wat.	0.013 mg/Kg (nd)
sedim., dw, mar.wat.	0.001 mg/Kg (nd)
soil,dw	0.003 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)
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)

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

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**· 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.

**· Breathing equipment:**

Use breathing protection in case of insufficient ventilation.

Use a mask with particle filter in case of dust generation.

**· Protection of hands:**

Not required.

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

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

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.

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

**· 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.

>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:**

Powder

· **Colour:**

Colourless

· **Smell:**

Odourless

**· Change in condition**

· **Melting point/freezing point:**

Not determined

· **Initial boiling point and boiling range:** Not determined

· **Flash point:**

Not applicable

· **Ignition temperature:**

400 °C

· **Self-inflammability:**

Product is not selfigniting.

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· <b>Explosive properties:</b>	Product is not explosive. However, formation of explosive powder/air mixtures is possible.
· <b>Steam pressure:</b>	Not applicable.
· <b>Density</b>	Not determined
· <b>Solubility in / Miscibility with</b> · <b>Water:</b>	Insoluble
· <b>Viscosity:</b> · <b>dynamic:</b> · <b>kinematic:</b>	Not applicable. Not applicable.
· <b>Solvent content:</b>	
· <b>Solids content:</b>	100.0 %
· <b>9.2 Other information</b>	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
- **10.4 Conditions to avoid**  
Heat, flames and sparks.  
Avoid dust formation.
- **10.5 Incompatible materials:**  
reducing agent  
Strong bases  
Strong oxidizers  
Strong acids
- **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:**

**94-36-0 dibenzoyl peroxide**

Oral	LD0	>2,000 mg/kg (mouse) (OECD 401)
Inhalative	LC0/4h	24.3 ppm (rat) (OECD 403)

**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)

- **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.

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- **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:**

**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)
NOEC / 48h	0.076 mg/l (daphnia) (OECD 202)
ErC10	0.001 mg/L /21d (daphnia) (OECD 211)

**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)

· **12.2 Persistence and degradability**

**94-36-0 dibenzoyl peroxide**

Biodegradation	71 % /28d (nd) (OECD 301D)
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**80-62-6 methyl methacrylate**

Biodegradation	94 % /14d (nd) (OECD 301C)
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· **12.3 Bioaccumulative potential** No further relevant information available.

· **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.

Danger to drinking water if even 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.

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**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:** Packaging can be reused or recycled after cleaning.

**SECTION 14: Transport information**

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN3077

· **14.2 UN proper shipping name**

· **ADR**

3077 ENVIRONMENTALLY HAZARDOUS  
SUBSTANCE, SOLID, N.O.S. (dibenzoyl  
peroxide)

· **IMDG, IATA**

ENVIRONMENTALLY HAZARDOUS  
SUBSTANCE, SOLID, N.O.S. (dibenzoyl  
peroxide)

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**

9 (M7) Miscellaneous dangerous  
substances and articles.

· **Label**

9

· **IMDG**



· **Class**

9 Miscellaneous dangerous substances  
and articles.

· **Label**

9

· **IATA**



· **Class**

9 Miscellaneous dangerous substances  
and articles.

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· <b>Label</b>	9
· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	III
· <b>14.5 Environmental hazards:</b> · <b>Marine pollutant:</b> · <b>Special marking (ADR):</b> · <b>Special marking (IATA):</b>	No Symbol (fish and tree) Symbol (fish and tree)
· <b>14.6 Special precautions for user</b>  · <b>Kemler Number:</b> · <b>EMS Number:</b> · <b>Stowage Category</b> · <b>Stowage Code</b>	Warning: Miscellaneous dangerous substances and articles. 90 F-A,S-F A SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>  · <b>Transport category</b> · <b>Tunnel restriction code</b>	5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g 3 -
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· <b>UN "Model Regulation":</b>	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

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· **National regulations**

· **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.

H333 May be harmful if inhaled.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**

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

Self-react. B: Self-reactive substances and mixtures – Type B

Org. Perox. B: Organic peroxides – Type B

Acute Tox. 5: Acute toxicity – Category 5

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**

(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.**