

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

Printing date 07.04.2022

Version number 2 (replaces version 1)

Revision: 07.04.2022

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

- **1.1 Product identifier**
 - Trade name: **Technovit 8100 Hardener new**
- **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**
 Org. Perox. D H242 Heating may cause a fire.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 Skin Sens. 1 H317 May cause an allergic skin reaction.
 Aquatic Acute 1 H400 Very toxic to aquatic life.
 Aquatic Chronic 1 H410 Very 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**



GHS02 GHS07 GHS09

- **Signal word** Danger

- **Hazard-determining components of labelling:**

dibenzoyl peroxide

- **Hazard statements**

H242 Heating may cause a fire.
 H319 Causes serious eye irritation.
 H317 May cause an allergic skin reaction.
 H410 Very toxic to aquatic life with long lasting effects.

- **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 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.
 P370+P378 In case of fire: Use CO₂, powder or water spray to extinguish.

- **2.3 Other hazards -**

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

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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, H410 (M=10) Eye Irrit. 2, H319; Skin Sens. 1, H317	≥25-≤75%
CAS: 94-49-5 EINECS: 202-338-6	Ethylene dibenzoate Aquatic Chronic 2, H411	≥25-≤75%

· **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.

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

· **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**

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)

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- **5.3 Advice for firefighters**
 - **Protective equipment:** Wear self-contained breathing apparatus.
 - **Additional information** Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.
Avoid contact with eyes and skin.
Ensure adequate ventilation
Keep away from ignition sources
Avoid causing dust.
- **6.2 Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
- **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**

Keep containers tightly sealed.
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.
Wear protective equipment. Keep unprotected persons away.
Ensure good ventilation/exhaustion at the workplace.

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

Keep ignition sources away - Do not smoke.
Use explosion-proof apparatus / fittings and spark-proof tools.
Do not spray on flames or red-hot objects.
Dust can combine with air to form an explosive mixture.
Protect from heat.
Protect against electrostatic charges.
 - **Handling**

do not mix with
metals
reducing agent
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:**

Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.
Store away from foodstuffs.
 - **Further information about storage conditions:**

Protect from heat and direct sunlight.
Store in a cool place.
· **Recommended storage temperature:** < 25°C

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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 peroxide

WEL (Great Britain) Long-term value: 5 mg/m³

71-43-2 benzene

WEL (Great Britain) Long-term value: 3.25 mg/m³, 1 ppm
 Carc; Sk

BOELV (European Union) Long-term value: 3.25 mg/m³, 1 ppm
 Skin

124-38-9 carbon dioxide

WEL (Great Britain) Short-term value: 27400 mg/m³, 15000 ppm
 Long-term value: 9150 mg/m³, 5000 ppm

IOELV (European Union) Long-term value: 9000 mg/m³, 5000 ppm

· DNELs

94-36-0 dibenzoyl peroxide

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 0.001 mg/Kg (not defined)

soil, dry weight 0.003 mg/Kg (not defined)

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

· 8.2 Exposure controls

· Individual protection measures, such as personal protective equipment

· General protective and hygienic measures

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.

Avoid contact with the eyes and skin.

· Breathing equipment:

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

Filter P2.

· Hand protection

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

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

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.

Chloroprene rubber, CR

NBR: acrylonitrile-butadiene rubber

· **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** Safety glasses

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

· **Environmental exposure controls**

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**

Solid.

· **Colour:**

White

· **Smell:**

Weak, characteristic

· **Odour threshold:**

Not determined.

· **Melting point/freezing point:**

Not determined

· **Boiling point or initial boiling point and boiling range**

365 °C (94-36-0 dibenzoyl peroxide)

· **Flammability**

May cause fire.

· **Lower and upper explosion limit**

· **Lower:**

Not determined.

· **Upper:**

Not determined.

· **Flash point:**

Not applicable

· **Decomposition temperature:**

55 °C (SADT)

· **SADT**

· **pH**

Not applicable.

· **Viscosity:**

· **Kinematic viscosity**

Not applicable.

· **dynamic:**

Not applicable.

· **Solubility**

· **Water:**

Insoluble

· **Partition coefficient n-octanol/water (log value)**

Not determined.

· **Steam pressure:**

Not applicable.

· **Density and/or relative density**

· **Density**

Not determined

· **Relative density**

Not determined.

· **Vapour density**

Not applicable.

· **9.2 Other information**

No further relevant information available.

· **Appearance:**

· **Form:**

Powder

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- Keep ignition sources away - Do not smoke.
- **10.3 Possibility of hazardous reactions**
 Risk of dust explosion if enriched with fine dust in presence of air
 Toxic fumes may be released if heated above the decomposition point
 Can react violently with oxygen rich (oxidizing) material. Explosive.
 Explosive when dry
 Self igniting at raised temperature
- **10.4 Conditions to avoid** Heat, flames and sparks.
- **10.5 Incompatible materials:**
 metals
 reducing agent
 Strong acids
- **10.6 Hazardous decomposition products:**
 Benzol
 Carbon dioxide
- **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/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)

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

None of the ingredients is listed.

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)

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

12.2 Persistence and degradability

94-36-0 dibenzoyl peroxide

Biodegradation 71 % /28d (not defined) (OECD 301D)

· **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:** Very toxic for fish

· **Additional ecological information:**

· **General notes:**

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

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.

Non contaminated packagings can be used for recycling.

SECTION 14: Transport information

· **14.1 UN number or ID number**

· **ADR, IMDG, IATA**

UN3106

· **14.2 UN proper shipping name**

· **ADR**

3106 ORGANIC PEROXIDE TYPE D, SOLID (dibenzoyl peroxide)

· **IMDG**

ORGANIC PEROXIDE TYPE D, SOLID

(dibenzoyl peroxide), MARINE POLLUTANT

· **IATA**

ORGANIC PEROXIDE TYPE D, SOLID

(dibenzoyl peroxide)

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14.3 Transport hazard class(es)

· ADR



· **Class** 5.2 (P1) Organic peroxides.
 · **Label** 5.2

· IMDG



· **Class** 5.2 Organic peroxides.
 · **Label** 5.2

· IATA



· **Class** 5.2 Organic peroxides.
 · **Label** 5.2

14.4 Packing group
 · ADR, IMDG, IATA

Void

14.5 Environmental hazards:

· **Marine pollutant:** Symbol (fish and tree)
 · **Special marking (ADR):** Symbol (fish and tree)

14.6 Special precautions for user

Warning: Organic peroxides.

· **Kemler Number:** -
 · **EMS Number:** F-J, S-R
 · **Stowage Category:** D
 · **Stowage Code:** SW1 Protected from sources of heat.
 · **Segregation Code:** SG35 Stow "separated from" SGG1-acids
 SG36 Stow "separated from" SGG18-alkalis.
 SG72 See 7.2.6.3.2.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

· Transport/Additional information:

-

· ADR

· **Limited quantities (LQ)** 500 g
 · **Excepted quantities (EQ)** Code: E0
 Not permitted as Excepted Quantity
 · **Transport category** 2
 · **Tunnel restriction code** D

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· **IMDG**

- | | |
|-----------------------------------|--|
| · Limited quantities (LQ) | 500 g |
| · Excepted quantities (EQ) | Code: E0
Not permitted as Excepted Quantity |

- | | |
|---------------------------------|--|
| · UN "Model Regulation": | UN 3106 ORGANIC PEROXIDE TYPE D, SOLID (DIBENZOYL PEROXIDE), 5.2 |
|---------------------------------|--|

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**
P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES
E1 Hazardous to the Aquatic Environment
 - **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
 - **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
 - **Information about limitation of use:**
Employment restrictions concerning young persons 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**

- H241 Heating may cause a fire or explosion.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 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)
- DNEL: Derived No-Effect Level (GB REACH)
- PNEC: Predicted No-Effect Concentration (GB REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Self-react. B: Self-reactive substances and mixtures – Type B
- Org. Perox. B: Organic peroxides – Type B
- Org. Perox. D: Organic peroxides – Type C/D
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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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: GB 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.**

GB