

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

Printing date 04.03.2021

Version number 1

Revision: 04.03.2021

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

- **1.1 Product identifier**
 - Trade name: **Technovit 4021 Pulver**
- **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
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



GHS09

- **Signal word** Void
- **Hazard statements**
H411 Toxic to aquatic life with long lasting effects.
- **Precautionary statements**
P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Additional information:**
Contains dibenzoyl peroxide. May produce an allergic reaction.
- **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: -

- **Dangerous components:**

CAS: 94-36-0	dibenzoyl peroxide	≥0.25-<1%
EINECS: 202-327-6	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	

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· **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** No special measures required.
 - **After inhalation** Supply fresh air; consult doctor in case of symptoms.
 - **After skin contact** Instantly wash with water and soap and rinse thoroughly.
 - **After eye contact** Rinse opened eye for several minutes under running water.
 - **After swallowing** In case of persistent symptoms consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **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.
 - **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.
In case of fire the following can be released:
Carbon dioxide (CO₂)
Carbon monoxide (CO)
Combustible solids. Fine dust clouds can form explosive mixtures with air.
- **5.3 Advice for firefighters**
 - **Protective equipment:** Wear self-contained breathing apparatus.
 - **Additional information** -

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Avoid causing dust.
Keep away from ignition sources
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Prevent material from reaching sewage system, holes and cellars.
Damp down dust with water spray jet.
- **6.3 Methods and material for containment and cleaning up:**
Dispose of the material collected according to regulations.
Collect mechanically.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

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SECTION 7: Handling and storage· **7.1 Precautions for safe handling**

Store in cool, dry place in tightly closed containers.

Provide suction extractors if dust is formed.

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

Prevent formation of dust.

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

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

Protect against electrostatic charges.

Dust can combine with air to form an explosive mixture.

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:**

No special requirements.

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.· **7.3 Specific end use(s)** No further relevant information available.**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· **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 ³ (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)

· **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**

Wash hands during breaks and at the end of the work.

Do not eat, drink or smoke while working.

Keep away from foodstuffs, beverages and food.

· **Breathing equipment:**

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

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Filter P2.

· Protection of hands:

If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization.

· 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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.

>30 min

· Eye protection: Safety glasses

· Body protection: Light weight protective clothing

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties
· General Information
· Appearance:
· Form: Powder

· Colour: Black

· Smell: Characteristic

· Odour threshold: Not determined.

· pH-value: Not applicable.

· 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 determined.

· Decomposition temperature: Not determined.

· Self-inflammability: Product is not selfigniting.

· Explosive properties: Product is not explosive.
 Not determined.

· Critical values for explosion:
· Lower: Not determined.

· Upper: Not determined.

· Steam pressure: Not applicable.

· Density Not determined

· Relative density Not determined.

· Vapour density Not applicable.

· Evaporation rate Not applicable.

· Solubility in / Miscibility with
· Water: Insoluble

· Partition coefficient: n-octanol/water: Not determined.

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- **Viscosity:**
- **dynamic:** Not applicable.
- **kinematic:** Not applicable.

· **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**
Risk of dust explosion if enriched with fine dust in presence of air
- **10.4 Conditions to avoid**
Heat, flames and sparks.
Avoid dust formation.
- **10.5 Incompatible materials:**
Strong bases
Strong acids
Strong oxidizers
reducing agent
amine
metals
- **10.6 Hazardous decomposition products:** None
 - **Additional information:** -

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)

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

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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)

· **12.2 Persistence and degradability****94-36-0 dibenzoyl peroxide**

Biodegradation 71 % /28d (nd) (OECD 301D)

· **12.3 Bioaccumulative potential** No further relevant information available.· **12.4 Mobility in soil** No further relevant information available.· **Ecotoxicological effects:**· **Remark:** Harmful to fish· **Additional ecological information:**· **General notes:** Harmful to aquatic organisms· **12.5 Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **12.6 Other adverse effects** No further relevant information available.**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**· **ADR, IMDG, IATA**

UN3077

· **14.2 UN proper shipping name**· **ADR**3077 ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, SOLID, N.O.S. (Ethylene
dibenzoate, dibenzoyl peroxide)· **IMDG**ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, SOLID, N.O.S. (Ethylene

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· IATA	dibenzoate, dibenzoyl peroxide), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Ethylene dibenzoate, dibenzoyl peroxide)
· 14.3 Transport hazard class(es)	
· ADR	
· Class	9 (M7) Miscellaneous dangerous substances and articles.
· Label	9
· IMDG, IATA	
· Class	9 Miscellaneous dangerous substances and articles.
· Label	9
· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	
· Marine pollutant:	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special marking (IATA):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
· Kemler Number:	90
· EMS Number:	F-A,S-F
· Stowage Category	A
· Stowage Code	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	-
· ADR	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· Transport category	3
· Tunnel restriction code	-

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· **IMDG**

- **Limited quantities (LQ)**
- **Excepted quantities (EQ)**

5 kg

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

· **UN "Model Regulation":**

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ETHYLENE DIBENZOATE, 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
 - **National regulations**
 - **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.

· **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

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

Org. Perox. B: Organic peroxides – Type B

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

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Trade name: Technovit 4021 Pulver*Skin Sens. 1: Skin sensitisation – Category 1**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*

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