Hardener for Putty 25g

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

1.1. Product identifier

Trade name/designation:

Hardener for Putty 25g

Article No.:
T124101

UFI:
QEW5-ERN1-CW9K-TV0E

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture:
Hardener

Relevant identified uses:

Product Categories [PC]
PC 9b: Fillers, putties, plasters, modelling clay
Process categories [PROC]
PROC 10: Roller application or brushing

1.3. Details of the supplier of the safety data sheet

Supplier:

KANDO Service GmbH
Hartleitnerstraße 3
4653 Eberstalzell
Austria
Telephone: +43 (0) 7241 213 79
E-mail: msds@kando.eu

1.4. Emergency telephone number

Vergiftungsinformationszentrale (VIZ), Stubenring 6, 1010 Wien, 24h: 01 406 43 43, Montag - Freitag: 8 bis 16 Uhr, Tel.: 01 406 68 98 (keine medizinische Auskunft) (Only available during office hours.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Organic peroxides *(Org. Perox. E)*	H242: Heating may cause a fire.	
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	
Hazardous to the aquatic environment *(Aquatic Acute 1)*	H400: Very toxic to aquatic life.	
Hazardous to the aquatic environment *(Aquatic Chronic 1)*	H410: Very toxic to aquatic life with long lasting effects.	

Hardener for Putty 25g

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:



GHS02
Flame



GHS07
Exclamation mark



GHS09
Environment

Signal word: Warning

Hazard components for labelling:
dibenzoyl peroxide

Hazard statements for physical hazards	
H242	Heating may cause a fire.

Hazard statements for health hazards	
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

Hazard statements for environmental hazards	
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements Prevention	
P280	Wear protective gloves/eye protection.

Precautionary statements Response	
P302 + P352	IF ON SKIN: Wash with plenty of 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.

Precautionary statements Storage	
P403 + P235	Store in a well-ventilated place. Keep cool.

Precautionary statements Disposal	
P501	Dispose of contents/container to an appropriate recycling or disposal facility.

2.3. Other hazards

Other adverse effects:
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Description:
Mixture of substances listed below with non-hazardous admixtures.

Hardener for Putty 25g

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 94-36-0 EC No.: 202-327-6 Index No.: 617-008-00-0 REACH No.: 01-2119511472-50	**dibenzoyl peroxide** Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Eye Irrit. 2 (H319), Org. Perox. B (H241), Skin Sens. 1 (H317)  Danger M-factor (acute): 10 **Acute Toxicity Estimate** ATE (oral) > 2,000 mg/kg	25 – < 50 Vol-%
CAS No.: 107-21-1 EC No.: 203-473-3 Index No.: 603-027-00-1 REACH No.: 01-2119456816-28	**ethane-1,2-diol** Acute Tox. 4 (H302)  Warning **Acute Toxicity Estimate** ATE (oral) > 7,712 mg/kg ATE (dermal) 3,500 mg/kg	5 – < 10 Vol-%

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Following inhalation:
Get plenty of fresh air and consult a doctor to be on the safe side.
If unconscious, position and transport in stable lateral position.

In case of skin contact:
Wash off immediately with soap and water and rinse well.

After eye contact:
Rinse opened eye for several minutes under running water. Consult a doctor if symptoms persist

Following ingestion:
Drink plenty of water. Provide fresh air. Call a physician immediately.

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 media:
Adapt fire extinguishing measures to the surroundings.

5.2. Special hazards arising from the substance or mixture
No further relevant information available.

5.3. Advice for firefighters
No special measures are necessary.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:
Wear protective equipment. Keep unprotected persons away.
Keep away from sources of ignition - No smoking.

6.1.2. For emergency responders
No data available

6.2. Environmental precautions

Do not allow to enter into surface water or drains. In case of spillage into water or sewage system, inform the competent authorities.

6.3. Methods and material for containment and cleaning up

For cleaning up:

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information:

Dispose of contaminated material as waste according to section 13..
Provide adequate ventilation.

6.4. Reference to other sections

See section 7 for further information on safe handling.
For further information on personal protective equipment: see section 8.
For further information on disposal: see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

No special measures required if used properly.

Fire prevent measures:

Keep away from sources of ignition - No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels:

Store in a cool place.

Hints on storage assembly:

Do not store together with: Reducing agent, Heavy metals, Acids, Alkalis

Storage class (TRGS 510, Germany): 5.2 – Organic peroxides and self-reactive substances

Further information on storage conditions:

Keep container tightly closed.

7.3. Specific end use(s)

Recommendation:

No further relevant information available.

SECTION 8: Exposure controls/personal protection

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8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
MAK (AT)	**dibenzoyl peroxide** CAS No.: 94-36-0 EC No.: 202-327-6	② 10 mg/m³ ⑤ (einatembare Fraktion max. 8x5 min./Schicht, Momentanwert, Momentanwert) Sh
MAK (AT)	**dibenzoyl peroxide** CAS No.: 94-36-0 EC No.: 202-327-6	① 5 mg/m³ ⑤ (einatembare Fraktion) Sh
MAK (AT)	**ethane-1,2-diol** CAS No.: 107-21-1 EC No.: 203-473-3	① 10 ppm (26 mg/m³) ⑤ (kann über die Haut aufgenommen werden) H

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
MAK (AT)	**ethane-1,2-diol** CAS No.: 107-21-1 EC No.: 203-473-3	② 20 ppm (52 mg/m³) ⑤ (max. 8x5 min./Schicht, Momentanwert, kann über die Haut aufgenommen werden) H
IOELV (EU)	**ethane-1,2-diol** CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (may be absorbed through the skin)

8.1.2. Biological limit values
No data available

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	35 mg/m³	① DNEL worker ② Long-term – inhalation, local effects
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	7 mg/m³	① DNEL Consumer ② Long-term – inhalation, local effects
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	106 mg/kg	① DNEL worker ② Long-term - dermal, systemic effects
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	53 mg/kg	① DNEL Consumer ② Long-term - dermal, systemic effects

Substance name	PNEC Value	① PNEC type
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	10 mg/L	① PNEC aquatic, freshwater
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	1 mg/L	① PNEC aquatic, marine water
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	37 mg/kg	① PNEC sediment, freshwater
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	3.7 mg/kg	① PNEC sediment, marine water
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	1.53 mg/kg	① PNEC soil
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	10 mg/L	① PNEC aquatic, intermittent release

8.2. Exposure controls

8.2.1. Appropriate engineering controls
No further details. See section 7.

8.2.2. Personal protection equipment



Eye/face protection:
Safety goggles with side shields (EN 166).

Skin protection:
Hand protection:
Wear protective gloves.
Glove material: Butyl caoutchouc (butyl rubber)
The selection of a suitable glove depends not only on the material but also on other quality features and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of glove materials cannot be calculated in advance and must therefore be checked before use.
Permeation time (maximum wear duration):
Gloves made of butyl rubber with a material thickness of 0.4mm are resistant to: Acetone 480 min; Butyl acetate 60 min; Ethyl acetate 170 min; Xylene 42 min
Gloves made of butyl rubber with a layer thickness of 0.4 mm are resistant to solvents for 42 - 480 minutes. As a precautionary measure, we recommend users and those responsible for occupational safety to take a resistance of 42 minutes as a basis. Taking into account the information in chapter 3 of the MSDS, it is possible to assume a higher resistance in individual cases.

Respiratory protection:
Respiratory protection is not required if the room is well ventilated.

Other protection measures:
General protective and hygienic measures:
Keep away from food, drink and animal feed.
Remove contaminated, saturated clothing immediately.
Wash hands before breaks and after work.
Separate storage of work clothes.
Avoid contact with eyes and skin.

8.2.3. Environmental exposure controls
No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid
Colour: pink
Odour: characteristic
flammability: No data available
Odour threshold: not determined

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	7	20 °C	
Melting point	*No data available*		
Freezing point	*No data available*		
Initial boiling point and boiling range	100 °C		
Decomposition temperature	50 °C		
Flash point	*not applicable*		
Evaporation rate	*No data available*		
Auto-ignition temperature	410 °C		
Upper/lower flammability or explosive limits	*No data available*		
Vapour pressure	23 hPa	20 °C	
Vapour density	*No data available*		
Density	1.1 g/cm³	20 °C	
Bulk density	*not applicable*		
Water solubility	Immiscible		
Dynamic viscosity	*No data available*		
Kinematic viscosity	*No data available*		

*
9.2. Other information
The product is not explosive.
Organic solvents: 9,0%
Solid content:55,0%

9.2.1. Information with regard to physical hazard classes
Explosives:
Not applicable
Flammable gases:
Not applicable
Aerosols:
Not applicable
Oxidizing gases:
Not applicable
Gases under pressure:
Not applicable
Flammable liquids:
Flammable liquid and vapour.
Flammable solids:
Not applicable
Self-reactive substances and mixtures:
Not applicable
Pyrophoric liquids:
Not applicable
Pyrophoric solids:
Not applicable
Self-heating substances and mixtures:
Not applicable
Substances or mixtures which, in contact with water, emit flammable gases:
Not applicable
Oxidizing liquids:
Not applicable
Oxidizing solids:
Not applicable
Organic peroxides:
Not applicable
Corrosive to metals:
Not applicable
Desensitised explosives:
Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity
No further relevant information available.

10.2. Chemical stability
Thermal decomposition / Conditions to avoid: Avoid heating.

10.3. Possibility of hazardous reactions
No dangerous reactions known.

10.4. Conditions to avoid
No further relevant information available.

10.5. Incompatible materials
No further relevant information available.

10.6. Hazardous decomposition products
No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

dibenzoyl peroxide CAS No.: 94-36-0 EC No.: 202-327-6	
LD_{50} oral: >2,000 mg/kg (Rat)	
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	
LD_{50} oral: >7,712 mg/kg (Rat)	
LD_{50} dermal: 3,500 mg/kg	

Acute oral toxicity:
Based on available data, the classification criteria are not met.

Acute dermal toxicity:
Based on available data, the classification criteria are not met.

Acute inhalation toxicity:
Based on available data, the classification criteria are not met.

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 are included.

SECTION 12: Ecological information

12.1. Toxicity

dibenzoyl peroxide CAS No.: 94-36-0 EC No.: 202-327-6	
LC_{50}: 0.0602 mg/L (fish, Oncorhynchus mykiss)	
EC_{50}: 0.11 mg/L (crustaceans, Daphnia magna)	
ErC_{50}: 0.071 mg/L (Algae/water plant)	
EC_{50}: 0.11 mg/L	

ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3
LC_{50}: >72,860 mg/L (fish, Pimephales promelas)
EC_{50}: >100 mg/L (crustaceans, Daphnia magna)
EC_{50}: 6,500 – 13,000 mg/L 4 d (Algae/water plant)
EC_{50}: 100 mg/L
NOEC: ≥1,000 mg/L 21 d (crustaceans, Americamysis bahia)
NOEC: 8,590 mg/L (crustaceans, Chronic Crustacea)
NOEC: 15,380 mg/L (fish)

Aquatic toxicity:
Very toxic to aquatic life with long lasting effects.

Assessment/classification:
No further relevant information available.

12.2. Persistence and degradability

ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3
Biodegradation: Yes, rapidly
Remark: Readily biodegradable (according to OECD criteria).

Additional information:
No further relevant information available.

12.3. Bioaccumulative potential

dibenzoyl peroxide CAS No.: 94-36-0 EC No.: 202-327-6
Log K_{OW}: 3.46
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3
Log K_{OW}: -1.36
Bioconcentration factor (BCF): 10

Accumulation / Evaluation:
No further relevant information available.

12.4. Mobility in soil
No further relevant information available.

12.5. Results of PBT and vPvB assessment

dibenzoyl peroxide CAS No.: 94-36-0 EC No.: 202-327-6
Results of PBT and vPvB assessment: —
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3
Results of PBT and vPvB assessment: —

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties
The product does not contain any substances with endocrine-disrupting properties.

12.7. Other adverse effects
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Drinking water hazard even when small quantities leak into the subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Must not be disposed of together with household waste. Do not allow to enter into surface water or drains.
For Austria: Full and empty containers are to be disposed of by private end users at the responsible hazardous waste collection centre.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product

08 04 09 *	Waste adhesives and sealants containing organic solvents or other dangerous substances
15 01 10 *	packaging containing residues of or contaminated by dangerous substances

**: Evidence for disposal must be provided.*

Waste code packaging

15 01 02	Plastic packaging

Waste treatment options

Appropriate disposal / Package:

Uncleaned packaging: Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
UN 3108	UN 3108	UN 3108	UN 3108
14.2. UN proper shipping name			
ORGANIC PEROXIDE TYPE E, SOLID, ENVIRONMENTALLY HAZARDOUS (dibenzoyl peroxide)	ORGANIC PEROXIDE TYPE E, SOLID, ENVIRONMENTALLY HAZARDOUS (dibenzoyl peroxide)	ORGANIC PEROXIDE TYPE E, SOLID (dibenzoyl peroxide)	ORGANIC PEROXIDE TYPE E, SOLID (dibenzoyl peroxide)
14.3. Transport hazard class(es)			
 5.2	 5.2	 5.2	 5.2
14.4. Packing group			
		-	
14.5. Environmental hazards			
		 MARINE POLLUTANT	No
14.6. Special precautions for user			
Special Provisions: 122 | 274 **Limited quantity (LQ):** 500 g **Excepted Quantities (EQ):** E0 **Classification code:** P1 **Tunnel restriction code:** (D) **Remark:** Caution: Flammable liquid substances!	**Special Provisions:** 122 | 274 **Limited quantity (LQ):** 500 g **Excepted Quantities (EQ):** E0 **Classification code:** P1 **Remark:** Caution: Flammable liquid substances!	**Special Provisions:** 122 | 274 **Limited quantity (LQ):** 500 g **Excepted Quantities (EQ):** E0 **EmS-No.:** F-J, S-R **Remark:** Caution: Flammable liquid substances!	**Special Provisions:** A20 **Excepted Quantities (EQ):** E0 **Remark:** Caution: Flammable liquid substances!

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU legislation

Authorisations:

Named dangerous substances - ANNEX I: None of the ingredients are included.

Restrictions on use:

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment - Annex II: None of the ingredients are included.
Regulation (EU) 2019/1148
Regulation (EC) No 273/2004 on drug precursors: None of the ingredients are included.
Regulation (EC) No 111/2005 laying down rules for the monitoring of trade in drug precursors between the Community and third countries: None of the ingredients are included.

Other regulations (EU):

Hazard categories:
- P6b Self-reactive substances and mixtures, Type C, D, E or F, or organic peroxides, Type C, D, E or F
- E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Regulation (EC) No 1907/2006 ANNEX XVII Restriction conditions: 3

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds:

Volatile organic compounds (VOC) content in percent by weight: 112.6 g/L

15.1.2. National regulations

No data available

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

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16.1. Indication of changes

8.1.	Control parameters
9.2.	Other information
16.1.	Indication of changes
16.2.	Abbreviations and acronyms

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16.2. Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
DNEL	derived no-effect level
EC_{50}	Effective Concentration 50%
EN	European Standard
ES	Exposure scenario
EWC	European Waste Catalogue
IC_{50}	Inhibition Concentration 50 %
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
KG	body weight
LC_{50}	Lethal (fatal) Concentration 50%
LD_{50}	Lethal (fatal) Dose 50%
MAK	Maximum concentration in the workplace air (CH)
NFPA	National Fire Protection Association

NIOSH	National Institute for Occupational Safety & Health
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Cooperation and Development
OEL	Threshold Limit Value
OSHA	Occupational Safety & Health Administration
PBT	persistent and bioaccumulative and toxic
PC	Product category
PNEC	Predicted No Effect Concentration
PROC	Process Category
REACH	Registration, Evaluation and Authorization of Chemicals
RID	Dangerous goods regulations for transport by rail
SCL	Specific concentration limit
TRGS	Technische Regeln für Gefahrstoffe
UN	United Nations
VOC	Volatile organic compounds

16.3. Key literature references and sources for data
No data available

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Organic peroxides *(Org. Perox. E)*	H242: Heating may cause a fire.	
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	
Hazardous to the aquatic environment *(Aquatic Acute 1)*	H400: Very toxic to aquatic life.	
Hazardous to the aquatic environment *(Aquatic Chronic 1)*	H410: Very toxic to aquatic life with long lasting effects.	

16.5. List of relevant hazard statements and/or precautionary statements from sections 2 to 15

Hazard statements	
H241	Heating may cause a fire or explosion.
H302	Harmful if swallowed.
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.

16.6. Training advice
No data available

16.7. Additional information
To the best of our knowledge, the information contained herein is accurate. However, neither the above-mentioned supplier nor its subsidiaries assume any liability with regard to the correctness or completeness of the information provided. A final determination of the suitability of individual materials is the sole responsibility of the user. All materials may involve unknown risks and should be used with caution. While certain risks are described herein, we cannot guarantee that these are the only possible risks.

* Data changed compared with the previous version.