

SAFETY DATA SHEET

Phrozen Dental Ortho Model Resin, Gray

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SECTION 1 : IDENTIFICATION

1.1 Product identifier

Product name Phrozen Dental Ortho Model Resin, Gray
Recommended use and restrictions on use
Recommended use For use in Phrozen 3D-printers
Restrictions on use Do not use in the situation that easily generate aerosol, steam.

1.2 Name, address and phone of manufacturer , importers or supplier

Manufacturer Phrozen Tech Co., Ltd.287 Niupu Rd, Xiangshan Dist,
Hsinchu City 30091, TAIWAN(R.O.C)
Phone +886-3621-0505
Emergency phone / Fax +886-3621-0505 / +886-3539-6591

SECTION 2 : HAZARD IDENTIFICATION

2.1 Hazard classification

Skin corrosion/irritation Category 2 , Serious eye damage/eye irritation Category 1 ,
Skin sensitization Category 1 ,
Specific target organ toxicity - single exposure (respiratory tract irritation) Category 3,
Specific target organ toxicity - repeated exposure Category 2
Hazardous to the aquatic environment - chronic hazard Category 3

2.2 Signal statement

Corrosion, Exclamation mark, Health hazard



2.3 Pictograms

2.4 Signal word Danger

2.5 Hazard statements

Causes skin irritation
Causes serious eye damage
May cause an allergic skin reaction
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.

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2.6 Precautionary statements

- If medical advice is needed, have product container or label at hand.
- Keep out of reach of children.
- Read carefully and follow all instructions.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves/protective clothing/eye protection/face protection.
- IF IN EYES: Rinse cautiously with water for several minutes.
- Remove contact lenses, If present and easy to do. Continue rinsing.
- Immediately call a POISON CENTER/doctor.
- Store in a well-ventilated place. Keep container tightly closed
- Store locked up.
- Dispose of contents/container to hazardous or special waste collection point.

2.7 Other hazard

None

SECTION 3 : COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substances

Not relevant (mixture)

3.2. Mixtures

| Components | CAS number | Weight % | Classification acc. to GHS |
|---|------------|----------|---|
| 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,1'-methylenebis(4-isocyanatocyclohexane) and .alpha.,.alpha.,.alpha."-1,2, | 73324-00-2 | 50 – 75% | Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 STOT SE 3 / H335 |
| 4-(1-oxo-2-propenyl)-morpholine | 5117-12-4 | 10 – 25% | Acute Tox. 4 / H302 Skin Sens. 1 / H317 Eye Dam. 1 / H318 STOT RE 2 / H373 |
| (2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)- triyl)tri-2,1- | 40220-08-4 | 10-25% | Eye Dam. 1 / H318 Skin Sens. 1 / H317 |

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| | | | |
|------------------------|--------------|------|--------------------------|
| ethanediyl triacrylate | | | Aquatic Chronic 2 / H411 |
| Additives1 | Trade Secret | 2-5% | - |

SECTION 4 : FIRST AID MEASURES

4.1. First-aid advice and recommendations for different routes of exposure

4.1.1 Inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

4.1.2 Skin Contact

Wash with plenty of soap and water.

4.1.3 Eyes Contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, freshwater for at least 10 minutes, holding the eyelids apart.

4.1.4 Ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2. Most important symptoms and hazardous effects

None

4.3. Protection of First-aid personnel

None

4.4. Note for physician

None

SECTION 5 : FIRE-FIGHTING MEASURES

5.1 Applicable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂)

5.2 Specific hazards confronted during fire fighting

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Specific fire-fighting procedure

None

5.4 Specific protective equipments for fire-fighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses.

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Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2. Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3. Cleaning methods

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder. Covering of drains.
Place in appropriate containers for disposal. Ventilate affected area.

SECTION 7 : SAFETY HANDLING AND STORAGE

7.1. Handling

Use local and general ventilation. Use only in well-ventilated areas.
Do not eat, drink and smoke in work areas.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash hands after use.
Never keep food or drink in the vicinity of chemicals.
Never place chemicals in containers that are normally used for food or drink.

7.2. Storage

Storage at the area of cool, dry.
Keep away from heat, direct sunlight, rainy and rapid temperature.
Storage temperature between 15°C / 59°F to 35°C / 95°F.
Close the lid tightly when not in use.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

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8.1. Engineering controls

Provide adequate ventilation to the areas where the product is stored and/or handled.

8.2. Control Parameters

| Component | TWA | STEL | CEILING | BEI s |
|-----------|----------------------|------|---------|-------|
| silica | 6mg / m ³ | - | - | - |

8.3. Personal protective equipment

8.3.1 Respiratory protection

In case of inadequate ventilation wear respiratory protection. Filtering half mask (EN 149). P1 (filters at least 80 % of airborne particles, colour code: White).

8.3.2 Hand protection

Chemical protection gloves are suitable, which are tested according to EN 374.

For example : NBR: acrylonitrile-butadiene rubber

Material thickness : $\geq 0.6\text{mm}$

Breakthrough times of the glove material : > 480 minutes (permeation: level 6)

8.3.3 Eye protection

Use safety goggles.

8.3.4 Skin protection

Use clothing that provides complete protection to the skin.

8.4. Hygiene measures

Do not eat, drink and smoke in work areas.

Wash thoroughly after handling.

Keep clean of operation area.

Take off polluted clothing as soon as possible after work. The clothing can be re-wear only after washed in clean or discard.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---------------------|---------------------|---------------|----------------------|
| Apperance and color | Gray viscous liquid | Odor | Typical acrylate |
| Odor threshold | N/A | Melting point | N/A |
| pH value | 6-8 | Boiling point | >360 °C at 100.7 kPa |
| Flammable | N/A | Flash point | >113 °C |

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| | | | |
|--|----------------------------------|-----------------|----------|
| Decomposition Temp | N/A | Testing method | Close up |
| Natural Temp | N/A | Explosive limit | N/A |
| Vapor pressure | 0.059 Pa at 20 °C | Vapor density | N/A |
| Density | 1.18 g /cm ³ at 25 °C | Solubility | N/A |
| Octanol/water distribution coefficient (log Kow) | N/A | Evaporaion rate | N/A |

SECTION 10: STABILITY AND REACTIVITY

10.1. Stability

Stable under normal condition.

10.2. Possible hazardous reation under specific conditions

None

10.3. Must avoid condition

UV-radiation/sunlight.

10.4. Must avoid substances

Oxidisers, Reducing agents

10.5. Hazardous decomposed product

None

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Test data are not available for the complete mixture.

11.1. Exposure paths

None

11.2. Symptoms

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None

11.3. Acute toxicity

| Components | route | Species | End point | Value |
|---------------------------------|-------|---------|-----------|-----------|
| 4-(1-oxo-2-propenyl)-morpholine | Oral | Rat | LD50 | 588 mg/kg |

11.4. Chronic toxicity

None

11.5. Reproductive and/or Developmental Effects

None

SECTION 12: ECOLOGICAL INFORMATION

The product has not been tested. The statement has been derived from the properties of the individual components.

12.1. Ecological toxicity

| Aquatic toxicity (acute) of components of the mixture | | | | |
|---|-----------|----------|-----------------------|---------------|
| Components | End point | Value | Species | Exposure time |
| 4-(1-oxo-2-propenyl)-morpholine | LC50 | >220mg/l | fish | 24h |
| | EC50 | 230mg/l | aquatic invertebrates | 24h |
| | ErC50 | >120mg/l | algae | 72h |

12.2. Persistence and degradability

| Degradability of components of the mixture | | | | |
|--|------------------|------------------|------|--------|
| Components | Process | Degradation rate | Time | Source |
| (2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triy)tri-2,1-ethanediyl triacrylate | oxygen depletion | 19.7 % | 28d | ECHA |

12.3. Bio-accumulative potential

| Components | BCF | Log kow | BOD/COD |
|---------------------------------|-----|---------------|---------|
| 4-(1-oxo-2-propenyl)-morpholine | | -0.46 (21 °C) | |

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|--|--|-----------------------------|--|
| (2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triy)tri-2,1-ethanediyl triacrylate | | 1.09 (pH value: 6.8, 25 °C) | |
| [bis(4methylphenyl)phosphoroso] (2,4,6-trimethylphenyl)methanone | | 4.7 (20 °C) | |

12.4. Mobility in soil

None

12.5. Other adverse effects

None

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste disposal methods

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

13.2. Sewage disposal method

Do not empty into drains. Avoid release to the environment.

13.3. Contaminated Packaging disposal method

Handle contaminated packages in the same way as the substance itself.

SECTION 14: TRANSPORT INFORMATION

| | |
|------------------------------------|--|
| Land transport USDOT | Not classified as dangerous goods under transport regulations. |
| Sea transport IMDG | Not classified as dangerous goods under transport regulations. |
| Air transport IATA/ICAO | Not classified as dangerous goods under transport regulations. |
| Further information | N/A |
| Other requirements | N/A |

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SECTION 15: REGULATORY INFORMATION

15.1. List of substances subject to authorisation (REACH, Annex XIV) / SVHC- candidate list

None of the ingredients are listed

15.2. Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

None of the ingredients are listed

15.3. Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed

15.4. Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

15.5. National inventories

| Country | Inventory | Status |
|---------|------------|--------------------------------|
| AU | AU AICS | not all ingredients are listed |
| CA | DSL | not all ingredients are listed |
| CA | NDSL | not all ingredients are listed |
| CN | IECSC | not all ingredients are listed |
| EU | ECSI | not all ingredients are listed |
| EU | REACH Reg. | not all ingredients are listed |
| JP | CSCL-ENCS | not all ingredients are listed |
| JP | ISHA-ENCS | not all ingredients are listed |
| NZ | NZIoC | not all ingredients are listed |
| TR | CICR | not all ingredients are listed |
| TW | TCSI | not all ingredients are listed |
| US | TSCA | not all ingredients are listed |

Legend

| | |
|-----------|---|
| AiIC | Australian Inventory of Industrial Chemicals |
| DSL | Domestic Substances List (DSL) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| EU | EC Substance Inventory (EINECS, ELINCS, NLP) |
| EU | REACH registered substances |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS) |

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| | |
|-----------|---|
| ISHA-ENCS | Inventory of Existing and New Chemical Substances (ISHA-ENCS) |
| NZIoC | New Zealand Inventory of Chemicals |
| CICR | Chemical Inventory and Control Regulation |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |

SECTION 16: OTHER INFORMATION

| | |
|------------------------|--|
| Reference | US OSHA HCS 29 CFR 1910.1200 |
| Table formulation unit | Name : Phrozen Tech. Co. Ltd Address / Phone : 287 Niupu Rd, Xiangshan Dist, Hsinchu City 30091, TAIWAN(R.O.C) /+ 886-3-6210505 |
| Table formulator | Job title : Occupational Safety & Health manager Name : Chun-Yao, Kuo |
| Table formulation Date | 2024.06.03 |
| Remarks | In the above described information, the symbol "N/A" means no relevant information currently. |

To the best of our knowledge the information contained herein is accurate. However, Phrozen Tech. Co. Ltd. makes no warranty, expressed or implied, regarding the accuracy of these results to be obtained from the use thereof. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Phrozen Tech. Co. Ltd. assumes no responsibility for injury from the use of the product described herein.

END OF SAFETY DATASHEET