

# SDS

## Safety Data Sheet



3F., No. 287, Niupu Rd., Xiangshan Dist.,  
Hsinchu City 300, Taiwan (R.O.C.)

**Phrozen Resin**  
**ABS like Resin- Matte Gray**

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|                 |                                                                                                                                                                                     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name    | Phrozen ABS like Resin- Matte Gray                                                                                                                                                  |
| Synonyms        | -                                                                                                                                                                                   |
| Chemical Name   | Mixture of Acrylate, Photoinitiator, and Pigment                                                                                                                                    |
| Type            | Liquid                                                                                                                                                                              |
| Application     | UV/Visible Light curable resin for 3D printing                                                                                                                                      |
| Manufacturers   | 普羅森科技股份有限公司 Phrozen Tech Co. Ltd.<br>+8865400076<br>3F., No. 287, Niupu Rd., HSIN CHU CITY 30091, , Taiwan, China<br><a href="mailto:Ray.wu@phrozen3d.com">Ray.wu@phrozen3d.com</a> |
| Emergency Phone | +886916781577<br>Local police number                                                                                                                                                |



Irritant

### 1. COMPOSITION/INFORMATION ON INGREDIENTS

| Substance Name                                                       | % by weight | CAS No / EC No./ EC Index             |
|----------------------------------------------------------------------|-------------|---------------------------------------|
| (1-methyl-1,2-ethanediyl)bis([oxy(methyl-2,1-ethanediyl)] diacrylate | 15~20%      | 42978-66-5 / 256-032-2 / 607-249-00-X |
| Hexamethylene diacrylate                                             | 20~30%      | 13048-33-4 / 235-921-9 / 607-109-00-8 |
| Acrylate Oligomers                                                   | 30~50%      | 55818-57-0/                           |
| Titanium dioxide/Pigment                                             | 0.1~2%      | 13463-67-7/                           |
| Phenyl bis(2,4,6-trimethyl benzoyl)phosphine oxide                   | 1~4%        | 162881-26-7 / - / -                   |
| Additive                                                             | 0~2%        | 63148-62-9                            |

For full text of the R-Phrase(s) mentioned in this section, Please refer to Section 16.

### 2. HAZARDS IDENTIFICATION

**Most important hazards** Harmful if swallowed.  
Irritating to eyes, respiratory system and skin.  
May cause sensitization by skin contact.

### 3. FIRST AID MEASURES

**Inhalation** Keep at rest.

|                     |                                                                                          |
|---------------------|------------------------------------------------------------------------------------------|
|                     | Move to fresh air.                                                                       |
|                     | Consult a physician.                                                                     |
| <b>Skin contact</b> | Take off contaminated clothing and shoes immediately.                                    |
|                     | Rinse immediately with plenty of water and seek medical advice                           |
| <b>Eye contact</b>  | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. |
|                     | Consult a physician.                                                                     |
| <b>Ingestion</b>    | Do not induce vomiting.                                                                  |
|                     | Keep at rest.                                                                            |
|                     | Consult a physician.                                                                     |

#### 4.FIRE-FIGHTING MEASURES

|                                                                     |                                                                                        |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <b>Suitable extinguishing media :</b>                               | Use dry chemical, carbon dioxide, water spray or alcohol resistant foam.               |
| <b>Extinguishing media which must not be used for safety reason</b> | High volume water jet                                                                  |
| <b>Specific hazards</b>                                             | Prevent product from entering drains.<br>Possible decomposition products are: COx, NOx |
| <b>Special protective equipment for firefighters</b>                | Wear self-contained breathing apparatus and protective suit.                           |

#### 5.ACCIDENTAL RELEASE MEASURES

|                                |                                                                                                                                                                                                            |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>    | See also Section 8.<br>Ensure adequate ventilation.<br>Wear personal protective equipment.<br>Remove all sources of ignition.<br>Avoid contact with skin and eyes.<br>Do not breathe vapors or spray mist. |
| <b>Methods for cleaning up</b> | Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).<br>Shovel into suitable container for disposal.<br>After cleaning, flush away traces with water.    |

#### 6.HANDLING AND STORAGE

|                 |                                                                                                                                                                                                                                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage</b>  | Keep tightly closed in a dry, cool and well-ventilated place. (@25°C)<br>Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.<br>Keep away from sources of ignition - No smoking. |
| <b>Handling</b> | Handle in accordance with good industrial hygiene and safety practice.<br>Avoid contact with skin, eyes and clothing.<br>Do not breathe vapors or spray mist.<br>Use only in well-ventilated areas.<br>No information available                     |

Specific use(s)

#### 7.EXPOSURE CONTROLS/PERSONAL PROTECTION

|                                      |                                                                                                        |
|--------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Personal protective equipment</b> |                                                                                                        |
| <b>Respiratory protection</b>        | In case of insufficient ventilation, wear suitable respiratory equipment. (filter type A)              |
| <b>Hand protection</b>               | Protective gloves (EN 374)<br>Nitrile rubber                                                           |
| <b>Eye protection</b>                | Goggles (EN 166)                                                                                       |
| <b>Hygiene measures</b>              | Ensure adequate ventilation.<br>Handle in accordance with good industrial hygiene and safety practice. |

#### 8.PHYSICAL AND CHEMICAL PROPERTIES

|                                                               |                        |
|---------------------------------------------------------------|------------------------|
| <b>General information</b>                                    |                        |
| <b>Appearance</b>                                             | Liquid                 |
| <b>Color</b>                                                  | Refer to product label |
| <b>odour</b>                                                  | Characteristic         |
| <b>Important health, safety and environmental information</b> |                        |
| <b>pH</b>                                                     | Not applicable         |
| <b>Boiling point/boiling range</b>                            | No data available      |
| <b>Melting point/melting range</b>                            | No data available      |
| <b>Flash point</b>                                            | > 110 °C               |

|                                         |                   |
|-----------------------------------------|-------------------|
| Evaporation rate                        | < 1               |
| Vapour density                          | > 1               |
| Autoignition temperature                | No data available |
| Oxidising properties                    | Not applicable    |
| Vapour pressure                         | No data available |
| Relative density                        | 1.11              |
| Water solubility                        | Insoluble         |
| Explosion limits                        | No data available |
| Viscosity                               | 80~100 cp (@25°C) |
| Partition coefficient (n-octanol/water) | No data available |

## 9.STABILITY AND REACTIVITY

|                                  |                                                     |
|----------------------------------|-----------------------------------------------------|
| Stability                        | Stable at normal conditions                         |
| Conditions to avoid              | Keep away from heat ,sources of ignition            |
| Materials to avoid               | Incompatible with strong acids and oxidising agents |
| Hazardous decomposition products | COx, VOC                                            |

## 10.TOXICOLOGICAL INFORMATION

|                  |                                                                                                                                               |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Acute toxicity   | Acrylate Monomers: > 5000 mg/kg<br>Photoinitiators: > 2000 mg/kg                                                                              |
| Inhalation       | Irritating to respiratory system.                                                                                                             |
| Skin contact     | May cause sensitisation by skin contact.<br>Repeated contact may cause allergic reactions in very susceptible persons.<br>Irritating to skin. |
| Eye contact      | Irritating to eyes.                                                                                                                           |
| Ingestion        | Harmful if swallowed.                                                                                                                         |
| Chronic toxicity | May cause sensitisation by skin contact.                                                                                                      |

## 11.ECOLOGICAL INFORMATION

|                               |                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bioaccumulation               | No data is available on the product itself.                                                                                                                                                                                                                                                                                                                                   |
| Ecotoxicity effects           | (1-methyl-1,2-ethanediyl)bis([oxy(methyl-2,1-ethanediyl)] diacrylate : LC50/96h/fish : 4,5mg/l - 10mg/l (Leuciscus idus)<br>(1-methyl-1,2-ethanediyl)bis([oxy(methyl-2,1-ethanediyl)] diacrylate : EC50/48h/ daphnia : 88,7mg/l (Daphnia magna)<br>(1-methyl-1,2-ethanediyl)bis([oxy(methyl-2,1-ethanediyl)] diacrylate : EC50/72h/ algae : >28mg/l (Scenedesmus subspicatus) |
| Ecotoxicity effects           | Photoinitiators: LC50/96h >0.09-1mg/l<br>Photoinitiators: EC50/48h/Daphnia >1.175-10mg/l<br>Photoinitiators: IC50/72h/Algae >0.26-1mg/l                                                                                                                                                                                                                                       |
| Mobility                      | Insoluble                                                                                                                                                                                                                                                                                                                                                                     |
| Persistence and degradability | No data is available on the product itself.                                                                                                                                                                                                                                                                                                                                   |

## 12.DISPOSAL CONSIDERATION

|                     |                                                 |
|---------------------|-------------------------------------------------|
| Waste from residues | Dispose of in accordance with local regulations |
|---------------------|-------------------------------------------------|

## 13.TRANSPORT INFORMATION

Class

ADR/RID

|                      |                |
|----------------------|----------------|
| UN-No                | Not applicable |
| Proper shipping name | Not applicable |
| Class                | Not applicable |
| Packing group        | Not applicable |

IMDG

|                      |                |
|----------------------|----------------|
| UN-No                | Not applicable |
| Class                | Not applicable |
| Packing group        | Not applicable |
| Proper shipping name | Not applicable |

ICAO/IATA

**It is not subject to current regulations for transportation of hazardous goods. (IMDG)**

|                      |                |
|----------------------|----------------|
| UN-No                | Not applicable |
| Class                | Not applicable |
| Packing group        | Not applicable |
| Proper shipping name | Not applicable |

#### 14. REGULATORY INFORMATION

**Labeling** The preparation is classified as dangerous in accordance with Directive 1999/45/EC.

**Symbol(s)** Xi-Irritant

**R-phrases(s)** -R22- Harmful if swallowed.

R36/38 – Irritating to eyes and skin.

R36/37/38 – Irritating to eyes, respiratory system and skin.

R43-May cause sensitization by skin contact.

S37- Wear suitable gloves.

**S-phrases(s)**

#### 15. OTHER INFORMATION

**Text of R phrases mentioned in Section 2**

R22– Harmful if swallowed.

R36/38 – Irritating to eyes and skin.

R37/38 – Irritating to eyes, respiratory system and skin.

R43 – May cause sensitization by skin contact.

pean Chemicals Bureau

**Sources of key data used to compile the data sheet**

Contents and format of this MSDS are in accordance with EEC Commission Directive 2001/58/EC, 1999/45/EC, 67/548/EC.

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