

SAFETY DATA SHEET

Standard Series Resin - Neon-Pumpkin

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SECTION 1 IDENTIFICATION

1.1 Product identifier

Product name Standard Series Resin – Neon-Pumpkin

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

1.3 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 , Reproductive toxicity Category 2 ,
STOT-Repeated exposure Category 2 , Chronic Aquatic 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

Suspected of damaging the unborn child.

Harmful to aquatic life with long lasting effects

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2.6. Precautionary statements

- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Wash thoroughly after handling.
- Contaminated work clothing should not be allowed out of the workplace.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection/face protection.
- IF ON SKIN: Wash with plenty water
- 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.
- Dispose of contents/container to hazardous or special waste collection point.
- Take off contaminated clothing and wash it before reuse.

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 |
|--|------------|----------|---|
| Oxybis(methyl-2,1-ethanediyl) diacrylate | 57472-68-1 | 20~50% | Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Skin Sens. 1 / H317 |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with Acrylic acid | 55818-57-0 | 25~50% | Skin Sens. 1 / H317 Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411 |
| Glycerol, propoxylated, esters with acrylic acid | 52408-84-1 | 10~25% | Eye Irrit. 2 / H319 Skin Sens. 1 / H317 |

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| | | | |
|-------------|--------------|-------|---|
| Additives 1 | Trade Secret | 5~10% | Skin Sens. 1A / H317 Repr. 2 / H361d Aquatic Chronic 2 / H411 |
| Additives 2 | Trade Secret | 5~10% | Acute Tox. 4 / H302 STOT SE 3 / H336 |
| Additives 3 | Trade Secret | < 2% | Aquatic Chronic 4 / H413 |
| Additives 4 | Trade Secret | < 2% | Skin Corr. 1B / H314 Skin Sens. 1 / H317 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410 |

SECTION 4 FIRST AID MEASURES

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

4.1.1 Inhalation

If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

4.1.2 Skin Contact

Wash off immediately with soap and plenty of water.

If skin irritation persists, call a physician.

If on skin, rinse well with water.

If on clothes, remove clothes.

4.1.3 Eyes Contact

Immediately flush eye(s) with plenty of water.

Flush eyes with water as a precaution.

Remove contact lenses.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

4.1.4 Ingestion

Keep respiratory tract clear.

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4.2. Most important symptoms and hazardous effects

Causes skin irritation.
May cause an allergic skin reaction.
Suspected of damaging the unborn child

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

Collect contaminated fire extinguishing water separately.
This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions

Evacuate personnel to safe areas. Use personal protective equipment.
Provide adequate ventilation.
Wear appropriate respirator when ventilation is inadequate.
Wear protective gloves/clothing and eye/face protection.

6.2. Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

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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

Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.

Smoking, eating, and drinking should be prohibited in the application area.

Dispose of rinse water in accordance with local and national regulations.

Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

7.2. Storage

Original container, plastic containers with cover.

Take measures to prevent the build up of electrostatic charge.

Use explosion-proof equipment.

Keep container closed when not in use.

Store in original container. Keep containers tightly closed in a cool, well-ventilated place.

Keep away from sources of ignition, oxidizing agents, strongly alkaline and strongly acid materials to avoid exothermic reactions.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Engineering controls

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

8.2. Control Parameters

8.3. Personal protective equipment

8.3.1 Respiratory protection

Use suitable breathing protection if workplace concentration requires.

8.3.2 Hand protection

Solvent-resistant gloves (butyl-rubber)

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8.3.3 Eye protection

Goggles, Safety glasses.

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

| | | | |
|---|----------------------------------|---|---------------------------|
| Appearance and color | Neon-Pumpkin viscous liquid | Odor | Typical acrylate |
| Odor threshold | N/A | Melting point | N/A |
| pH value | N/A | Boiling point | 104.5 °C at 2.05 hPa |
| Flammable | N/A | Flash point Testing method | >110°C/ 230F close cup |
| Decomposition Temp | N/A | | |
| Natural Temp | 240°C | Explosive limit | N/A |
| Vapor pressure | 0.5 hPa at 86.6 °C | Vapor density | N/A |
| Density | 1.12 g /cm ³ at 25 °C | Solubility | N/A |
| Octanol/water distribution coefficient (log Kow) | N/A | Evaporaion rate | N/A |

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SECTION 10 STABILITY AND REACTIVITY

10.1. Stability

Stable under normal condition.

10.2. Possible hazardous reaction under specific conditions

Contact with acids and alkalis may release hydrogen.

10.3. Must avoid condition

High temperature, exposure to direct sun light.

10.4. Must avoid substances

Acids, Bases, Oxidizing 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

None

11.3. Acute toxicity

| Components | route | Species | End point | Value |
|---|--------|---------|-----------|---------------|
| Glycerol, propoxylated, esters with acrylic acid | Oral | Rat | LD50 | > 2,000 mg/kg |
| | Dermal | Rabbit | LD50 | > 2,000 mg/kg |
| 2-phenoxyethyl acrylate | Oral | Rat | LD50 | 5145mg/kg |
| Polytetrahydrofuran | Oral | Rat | LD50 | 500 mg/kg |

11.4. Chronic toxicity

None

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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 |
| Glycerol, propoxylated, esters with acrylic acid | LC50 | 5.74 mg/l | fish | 96 h |
| | EC50 | 91.4mg/l | aquatic invertebrates | 48 h |
| | ErC50 | 12.2mg/l | algae | 72h |
| 2-phenoxyethyl acrylate | LC50 | <22mg/l | fish | 24h |
| | EC50 | 3.85mg/l | aquatic invertebrates | 24 h |
| | EC50 | 4.4mg/l | algae | 72h |
| Oxybis(methyl-2,1-ethanediyl) diacrylate | LC50 | 4.64 mg/l | fish | 96 h |
| | EC50 | 22.3 mg/l | aquatic invertebrates | 48 h |
| | ErC50 | 16.7 mg/l | algae | 72h |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | LL50 | >100 mg/l | fish | 96 h |
| | LC50 | >0.082 mg/l | fish | 96 h |
| | EC50 | >16 mg/l | aquatic invertebrates | 48h |
| | EL50 | 105 mg/l | algae | 72h |
| | ErC50 | 17 mg/l | algae | 72h |
| Aquatic toxicity (chronic) of components of the mixture | | | | |
| Components | End point | Value | Species | Exposure time |
| Oxybis(methyl-2,1-ethanediyl) diacrylate | EC50 | >1000 mg/l | microorganisms | 30min |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | EC50 | >1000mg/l | microorganisms | 3h |
| 2-phenoxyethyl acrylate | EC50 | 177mg/l | microorganisms | 3h |

12.2. Persistence and degradability

| Degradability of components of the mixture | | | | |
|--|---------------------------|------------------|------|--------|
| Components | Process | Degradation rate | Time | Source |
| Glycerol, propoxylated, esters with acrylic acid | carbon dioxide generation | 72-85 % | 28d | ECHA |

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| | | | | |
|--|------------------|---------|-----|------|
| Oxybis(methyl-2,1-ethanediyl) diacrylate | DOC removal | 90-100% | 28d | ECHA |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | oxygen depletion | 72-85% | 28d | ECHA |
| 2-phenoxyethyl acrylate | oxygen depletion | 22.3% | 28d | ECHA |

12.3. Bio-accumulative potential

| Components | BCF | Log _{kw} | BOD/COD |
|--|-----|--------------------------------|---------|
| Glycerol, propoxylated, esters with acrylic acid | - | 0.01-0.39(pH value: 7., 24 °C) | - |
| Oxybis(methyl-2,1-ethanediyl) diacrylate | - | 1.6-3.8(pH value: 6.4., 23 °C) | - |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid | - | 2.52(pH value: 8.1., 23 °C) | - |
| 2-phenoxyethyl acrylate | - | 2.58 | - |
| [bis(4-methylphenyl)phosphoroso](2,4,6-trimethylphenyl)methanone | - | 4.7 (20 °C) | - |
| 1-dodecyl-2-pyrrolidone | - | 4.03 (21 °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.

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13.2. Sewage disposal method :

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

13.3. Contaminated Packaging disposal method

Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

In accordance with local and national regulations.

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 |

Additional information for IMDG CODE 3.4.1

According to the general provisions 2.10.2.7, if the volume of the product is less than 5L or the mass is less than 5kg when transported, and the packaging complies with the general provisions in 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8, the product is not regarded as dangerous goods transportation.

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

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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 | 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) |
| ISHA-ENCS | Inventory of Existing and New Chemical Substances (ISHA-ENCS) |
| NZIoC | New Zealand Inventory of Chemicals |
| CICR | Chemical Inventory and Control Regulation |

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SECTION 16 OTHER INFORMATION

| | |
|-------------------------------|---|
| Reference | US OSHA HCS 29 CFR 1910.1200, OECD, REACH |
| Table formulation unit | Name : Phrozen Tech. Co. Ltd |
| | Address / Phone : 287 Niupu Rd, Xiangshan Dist, Hsinchu City 30091, TAIWAN(R.O.C) /+886-3621-0505 |
| Table formulator | Job title Occupational Safety & Health manager |
| | Name Chun-Yao, Kuo |
| Table formulation Date | 2023.11.09 |
| 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