

SAFETY DATA SHEET

Consumer Series Resin - Aqua Resin: Oat White

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SECTION 1 : IDENTIFICATION

1.1 Product identifier

Product name	Consumer Series Resin - Aqua Resin: Oat White
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 2A ,
Skin sensitization Category 1 ,
Hazardous to the aquatic environment, long-term (Chronic) Category 2

2.2 Signal statement

Exclamation mark, Health hazard, Environment



2.3 Pictograms

2.4 Signal word

Warning

2.5 Hazard statements

Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
Toxic to aquatic life with long lasting effects

2.6 Precautionary statements

Do not breathe dust/fume/gas/mist/vapours/spray.

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Wash hand and face thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

2.7 Other hazard

None

SECTION 3 : COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS number	Weight %	Classification acc. to GHS
4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2, 3-epoxypropane, esters with a acrylic acid	55818-57-0	50-60%	Skin Sens. 1 / H317 Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411
3,3,5-Trimethylcyclohexyl Acrylate	86178-38-3	30-40%	Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1B / H317 STOT SE 3 / H335 Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411
Additives1	Trade Secret	1-5%	Carc. 2 / H351
Additives2	Trade Secret	1-5%	-
Additives3	Trade Secret	1-5%	Acute Tox. 4 / H312 Skin Sens. 1B / H317 Aquatic Chronic 2 / H411

SECTION 4 : FIRST AID MEASURES

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

SAFETY DATA SHEET**Consumer Series Resin - Aqua Resin: Oat White***Page 3 of 11***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

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

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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

8.1. Engineering controls

Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to

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maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Ensure that eyewash stations and safety showers are proximal to the work-station location.

8.2. Control Parameters

Components	TWA	STEL	CEILING	BEI s
Titanium dioxide	10 mg / m ³	15 mg /m ³	-	-
Carbon black	3.5mg / m ³	7mg /m ³	-	-

8.3. Personal protective equipment

8.3.1 Respiratory protection

If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination(US) or type AXBEK (EN 14387) respirator cartridges.

8.3.2 Hand protection

Wear protective gloves (such as butyl rubber), passing the tests according to EN 374(EU),US F739 or AS/NZS 2161.1 standard.

8.3.3 Eye protection

Wear protective goggle (Conform to EC EN 166 or US-NIOSH).

8.3.4 Skin protection

Use clothing that provides complete protection to the skin.

8.4. Hygiene measures

Forbid smoking, eating and drinking in working places.

Washing hands after handling products.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Apperance and color	White viscous liquid	Odor	Typical acrylate
Odor threshold	N/A	Melting point	N/A
pH value	6 - 8	Boiling point	226.1 °C
Flammable	N/A	Flash point	N/A

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Decomposition Temp	N/A	Testing method	N/A
Natural Temp	299°C	Explosive limit	N/A
Vapor pressure	12.8 Pa at 25 °C	Vapor density	N/A
Density	1.15 g /cm ³ at 20 °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

None

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11.3. Acute toxicity

Components	route	Species	End point	Value
Titanium dioxide	Oral	Rat	LD50	>10000 mg/kg
	Dermal	Rabbit	LD50	>10000 mg/kg
Carbon black	Oral	Rat	LD50	>8000mg/kg
	Dermal	Rabbit	LD50	>3000mg/kg
Ethyl phenyl(2,4,6-trimethylbenzoyl) phosphinate	Dermal	Rat	LD50	>2000mg/kg

11.4. Chronic toxicity

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
Titanium dioxide	LC50	>1000 mg/l	fish	96 h
	EC50	>1000 mg/l	aquatic invertebrates	48 h
Ethyl Phenyl(2,4,6-trimethylbenzoyl) phosphinate	LC50	1.89mg/l	fish	96h
	EC50	1.01mg/l	aquatic invertebrates	48h
	EC50	1.6mg/l	algae	72h
Carbon black	LC50	>1000mg/l	fish	96h
	LC50	>10000mg/l	algae	72h
4,4'-Isopropyliden ediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid	EL50	105mg/l	algae	72h
	ErC50	17mg/l	algae	72h
3,3,5-trimethylcyclohexyl acrylate	LC50	1.9mg/l	fish	96h
	EC50	14.43mg/l	aquatic invertebrates	48h
	ErC50	>0.59mg/l	algae	72h

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Aquatic toxicity (chronic) of components of the mixture				
Components	End point	Value	Species	Exposure time
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid	EC50	>1,000 mg/l	microorganisms	3 h
Ethyl phenyl(2,4,6-trimethylbenzoyl) phosphinat	EC50	>1,000 mg/l	microorganisms	180min

12.2. Per sistence and degradability

Degradability of components of the mixture				
Components	Process	Degradation rate	Time	Source
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid	oxygen depletion	42%	28d	ECHA
3,3,5-trimethylcyclohexyl acrylate	oxygen depletion	16.8%	28d	ECHA
Diphenyl(2,4,6-trimethyl benzoyl) phosphine oxide	oxygen depletion	0 -10%	28 d	ECHA

12.3. Bio-accumulative potential

Components	BCF	Log kow	BOD/COD
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-e		1.6 – 3.8(pHvalue : 6.4, 23°C)	

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poxypropane, ester s with acrylic acid			
3,3,5-trimethylcyclo hexyl acrylate		4.6	
Diphenyl(2,4,6-trim ethyl benzoyl) phosphine oxide		2.91 (pH value: 4.4, 25 °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

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Other requirements	N/A
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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

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	all ingredients are listed
CA	DSL	not all ingredients are listed
CA	NDSL	not all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
NZ	NZIoC	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed

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US	TSCA	not all ingredients are listed
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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
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

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 formulation	Job title : Occupational Safety & Health manager
	Name : Chun-Yao, Kuo
Table formulation Date	2023.11.14
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