

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product name Substance Methacrylated composite resin - PriZma 3D BIO
CROWN resins.
Use UV-curing resin for general use in 3D Printers
Supplier Manufactured and marketed by:
BF Tecnologia 3D LTDA
MAKERTECH LABS LTDA – ME
NIT nº06.122.109/0001-88 Rua Luiz de Camargo Barros, 20
Centro – Tatuí /SP/ Brasil CEP: 18250-000
Phone (15) 3305-4901

2. HAZARD IDENTIFICATION

Classification according to Regulations (EC) No 1272/2008 [CLP/GHS].

Skin Irritation	Category 2
Eye Irritation	Category 2A
May cause sensitization on skin contact	Category 1
Specific Target Organ Toxicity (Single Exposure)	Category 3
Aquatic Chronic	Category 3

Classificação segundo as diretivas 67/548/EEC

Symbol	Xn, N
Risk Phrase	R36/37/38, 43, 51/52//53

Labeling according to regulations (EC) No 1272/2008 [CLP/GHS].

Danger Pictogram	GHS07: Exclamation mark GHS09: Environment
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Warning word: Warning

Hazard Statement

H315: Causes skin irritation
H317: May cause an allergic skin reaction
H319: Causes serious eye irritation

Development and Commercialization:

MAKERTECH LABS LTDA – ME NIT nº 06.122.109/0001-88 (15) 3305-4901

H335: May cause respiratory irritation.

H411: Toxic to aquatic life with long lasting effects

Preventive Statements

P280: Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338: IF IN EYE CONTACT: Rinse cautiously with water for several minutes. If contact lenses are worn, remove if easy.

Continue rinsing.

P302+P352: IF ON SKIN: Wash with plenty of soap and water. P332+R313: If skin irritation occurs: Get medical advice/attention.

P337+P313: If eye irritation persists: Get medical advice/attention. P391: Collect spilled material.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Classification according to Regulations (EC) No 1272/2008

Chemical Name	Percentage in Weight (%)	Classification according to regulations (EC) No 1272/2008
Methacrylated Monomers (Proprietary)	>10%	Eyes irrit. 2A (H319) Skin sens. 1 (H317) Skin sens. 2 (H315) Aquatic Cron. 2 (H411)
Amorphous silica CAS: 112945-5-25	≤ 8%	Eyes irrit. 2A (H319) Skin sens. 1 (H317)
Urethane Dimethacrylate CAS: 72869-86-4	< 75 %	Aquatic sens. 2 (H411)
Titanium Dioxide CAS: 13463-67-7	< 0.5%	Eyes irrit. 2A (H319)
Zirconia silanized CAS: 7440-67-7	< 2%	Eyes irrit. 2A (H319)
Ceramic Fillers (proprietary)	< 15%	Eyes irrit. 2A (H319)
Diphenyl (2,4,6-trimethylbenzoyl)-phosphine oxide CAS: 75980-60-8	< 5 %	Eyes irrit. 2A (H319)

4. FIRST AID MEASURES

Description of first aid measures

General notes: Present this safety data sheet to the physician during care

Inhalation: In case of inhalation of vapors or combustion products remove the victim to fresh air. Refer the victim to a hospital/medic urgently.

Skin contact: Remove all clothing, including contaminated shoes. Wash skin and hair with running water (and soap if available). Seek medical attention in case of irritation.

Eye contact: Flush with running water. Get emergency medical attention.

Ingestion: Immediately give water to the victim. At first, medical attention is not necessary. In case of doubt, consult a physician.

Main symptoms/effects, short- and medium-term Contact with eyes: May cause irritation to eyes.
Skin contact: May cause skin irritation; May cause sensitization on skin contact. May cause an allergic skin reaction.

Inhalation: Irritating to respiratory system.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Foam, dry chemical, and carbon dioxide (CO₂).

Specific hazards arising from the substance or mixture

Combustible, slight fire hazard when exposed to heat or flame. During combustion, can emit toxic gases of carbon monoxide (CO).

Protective measures for firefighters

Wear full body protective clothing with respiratory equipment. Prevent, via any available means, leakage into sewage and water systems. Fight fire from a safe distance with adequate protection.

Additional information

Cool containers/tanks with water spray. Combustion residues and contaminated water should be disposed of in accordance with local regulations.

6. MEASURES FOR ACCIDENTAL SPILLS

Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Avoid contact with skin, eyes and clothing.

Remove all sources of ignition, heat, flames and sparks.

Environmental precautions

Do not allow leakage into the sewage system, soil, and waterways.

Methods and materials for containment and cleanup

Clean common access area and open to winds. Absorb with sand, organize and deposit in suitable container for disposal. Dispose of material in accordance with current local regulations.

7. HANDLING AND STORING

Precautions for safe handling

Handle only in well ventilated rooms, possibly with local exhaust. Do not eat, smoke or drink during use. Take precautions against electrostatic discharge.

Conditions for safe storage, including incompatibilities

Keep away from sources of ignition. Store in well-ventilated areas. Due to polymerization hazards store the product in its original packaging at temperatures below 38°C. Avoid contact with light, UV radiation and strong oxidizers. Air must be present above the liquid to maintain product quality.

SAFE STORAGE WITH OTHER CLASSIFIED PRODUCTS

Specific end use

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limit

There are no substances with occupational exposure limits. Special hazards arising from the substance or mixture

Personal protection equipment

Respiratory protection: If ventilation is poor, the use of respiratory equipment is necessary, e.g. type A filter mask.

Hand protection: Do not use rubber gloves. Nitrile rubber gloves > 0.5mm thick should be used where a mixture between acrylates and solvents is used. Gloves should be replaced regularly or at any apparent change in appearance.

Eye protection: Safety glasses with side shields.

Skin and body protection: Wear face protection, waterproof clothing and shoes.



Environmental exposure control**Do not allow ground water contamination.****9. PHYSICOCHEMICAL PROPERTIES**

Appearance	Clear to slightly yellowish liquid yellowish
Odor	Smooth, like an ester
Color	Slightly yellowish
pH	6.8 ~ 7.2
Melting Point/Freezing Point	< 0 °C
Initial boiling point and boiling range	> 200 °C
Flash Point	> 110 °C
Boiling point	Not available
Flammability (solid, gas)	Non-Flammable, tests performed in a laboratory.
Upper/lower flammability or explosion limits	Not available
Vapor pressure	< 0.01 kPa @ 25 °C
Relative vapor density	Not available
Relative density	1.08 ~ 1.14 (water = 1)
Solubility(s)	Insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	450 ~ 800 cps @ 25°C
Explosive properties	Not available
Oxidizing properties	Not available

10. STABILITY AND REACTIVITY**Reactivity****There are no specific data regarding reactivity for this product or its ingredients.****Chemical Stability****Stable under recommended storage conditions.**

Possibility of hazardous reactions

No specific data regarding hazardous reactions are available.

Materials to be avoided

No specific data regarding conditions to materials to be avoided.

Hazardous Decomposition Products

None if handled and stored properly.

Conditions to avoid

Direct sunlight, other sources of heat or radiation, flames and sparks, oxidizing conditions, inert gas.

Materials to be avoided

Free radical generators, oxidizing agents, reducing agents, acids and bases.

Hazardous decomposition products

None. Thermal decomposition will release carbon dioxide(CO₂) and carbon monoxide(CO).

11. TOXICOLOGICAL INFORMATION

Acute Effects

Ingestion

Although ingestion does not tend to produce harmful effects (according to the CE classification guidelines), the material can be harmful to the health of the individual, especially in cases where there is obvious organ damage (e.g. liver, kidney). The present definitions of harmful or toxic substances are generally based on doses that lead to mortality rather than producing morbidity (diseases, health problems). Gastrointestinal discomfort can cause nausea and vomiting. In an occupational setting ingestion of negligible amounts is not considered cause for concern.

Eyes

This material can cause eye irritation and damage in some people.

Skin

This material may cause irritation on contact with the skin in some people. Skin contact is not considered to have the potential to cause adverse health effects (according to CE classification guidelines); however, material may cause damage on contact with injured, bruised or abrasive areas.

Inhalation

This material is non-volatile in contact with air and does not cause major problems upon inhalation. However, the characteristic odor of the product may not be pleasant to some people and can cause irritation and allergic reactions such as sneezing and coughing.

Chronic health effects of toxicity and irritation

Development and Commercialization:

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Mutagenic effects: No such effects are known to exist in the ingredients. Carcinogenicity: No such effects are known to exist in the ingredients. Reproductive toxicity: No such effects are known to exist for the ingredients.

12. ECOLOGICAL INFORMATION

Toxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause long-term adverse effects in the aquatic environment. Do not discard in aquatic surfaces or sewage systems.

Fish Not available Crustacean Not available Algae Not available

Persistence and degradability Bioaccumulative potential Mobility in soil

Results of PBT and vPvB assessment (very Persistent, very Bioaccumulative)

This substance is not considered to be persistent, bioaccumulative or toxic(PBT). This substance is not considered to be very persistent nor very accumulative(vPvB).

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of material should be in accordance with current local regulations. Controlled incineration is recommended. Contaminated packaging can be recycled after thorough cleaning. Packaging that cannot be recycled should be disposed of in accordance with local regulations.

14. TRANSPORT INFORMATION

Land Transport (ADR/RID)

UN-No.: Not listed

Proper shipping name:

Substance polluting in aquatic media.

Class(es):
classifications

Does not correspond to the standard United Nations

Risk Class:

Not applicable/Not regulated

Packaging Group:

Class III - Low risk

Hazard label(s): Not applicable/Not regulated
Environmental hazards: Chronic hazard to the aquatic environment
Special disposal(s): No hazardous properties for land transport.

River transport (ADN)

UN-No: Not listed
Proper Shipping Name: Not applicable/Not regulated
Class(es): Does not correspond to the standard classifications of the
United Nations.
Hazard Class: Not applicable/Non-regulated
Packaging Group: Class III - Low risk
Environmental Hazards: Chronic hazards to the aquatic environment Hazard label(s):
Not applicable/Unregulated
Special Disposition(s):

River transport by tanker (ADN)

UN-No.: Not listed
Proper Shipping Name: Not applicable/Not regulated
Class(es): Does not correspond to the standard classifications of the United
Nations.
Hazard Class: Not applicable/Non-regulated
Packaging Group: Not applicable/Non-regulated Hazard Label(s) and Hazard Code(s)
Not applicable/Non-regulated Special Provision(s): Not applicable/Non-regulated

Maritime transport (IMDG)

UN-No.: Not listed
Proper Shipping Name: Not applicable/Not regulated
Class(es): Does not conform to United Nations standard classifications.
Packaging Group: Class III - Low hazard
Marine Pollutant: Chronic hazard to the aquatic environment Special disposal(s):

Air transport (ICAO-TI/IATA-DGR)

UN-No.: Not listed
Proper Shipping Name: Not applicable/Not regulated

Class(es): Does not correspond to the standard classifications of the United Nations.

Packaging group: Class III - Low hazard
Special disposal(s):
Substance polluting in aquatic media.

15. LEGAL INFORMATION

The components of this product are found in the following regulatory lists; "European Chemicals Agency (ECHA) Registration List of Identified Substances 2010", "European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)".

Other registration information

All components of this product are in compliance with the following inventories:

U.S. TSCA EU EINECS Canada DSL Australia AICS New Zealand NZIoCChina IECSC Korea KECI Japan ENCS

16. OTHER INFORMATION

Full text of H-statements mentioned in paragraphs 2 and 3

H315: Causes skin irritation

H317: May cause an allergic skin reaction H319: Causes serious eye irritation

H335: May cause respiratory irritation

H411: Toxic to aquatic life with long lasting effects

Full text of R-phrases referred to in paragraphs 2 and 3

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

R43: May cause sensitization by skin contact.

R51/52/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R51/52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Shelf life: 1 year if stored in original packaging and in good condition

This safety data sheet complies with the requirements of regulation (EC) No. 1907/2006

Considerations

The information contained herein is given in the good faith based on our knowledge and experience of the product, up to the date of publication of this document. The purpose of this Safety Data Sheet is to describe the product in relation to health, safety and environmental considerations, yet the user retains responsibility to ensure that the information is appropriate for his or her particular use. This sheet makes no guarantee of any kind as to the properties of the product.

Creation date: 03/02/2022



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Revision Note: not applicable