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Safety data sheet: Zortrax Resin DENTAL Model

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1. PRODUCT IDENTIFIER

Trade name: ZORTRAX RESIN DENTAL MODEL

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified use: For use with 3D printers

Use advised against: Other than listed above

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier: Zortrax S.A.
Lubelska 34
10-409 Olsztyn
Poland
TEL. +48 89 672 40 01
email: office@zortrax.com

1.4. EMERGENCY TELEPHONE NUMBER

Emergency telephone number: 112 - emergency number
+48 89 672 40 01 (8.00 am-4.00 pm) - supplier's number

SECTION 2. HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Regulation (EC) No. 1272/2008

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Skin Sens. 1

Hazard Statements:

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

2.2. LABEL ELEMENTS

Regulation (EC) No. 1272/2008

Hazard components for labelling:

N,N'-(2,2-dimethylpropylidene)hexamethylenediamine
hexamethylene diacrylate, hexane-1,6-diol diacrylate

Signal word:

Warning

Pictograms:



Hazard statements:

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

Precautionary statements:

P102 Keep out of reach of children.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. OTHER HAZARDS

No information available

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. SUBSTANCES

Not applicable

3.2. MIXTURES

Hazardous components

Name	CAS EC Index No REACH Registration No	Content % w/w	CLP classification
methyl acetoacetate	105-45-3 203-299-8 607-137-00-0 01-2119451095-43	45 - 55	Eye Irrit. 2; H319
N,N'-(2,2-dimethylpropylidene) hexamethylenediamine	1000-78-8 401-660-6 612-092-00-5	25 - 35	Skin Irrit. 2, H315 Skin Sens. 1, H317
hexamethylene diacrylate, hexane-1,6-diol diacrylate	13048-33-4 235-921-9 607-109-00-8 01-2119484737-22	5 - 10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8 278-355-8 015-203-00-X 01-2119972295-29	0,5 - 1	Repr. 2, H361f

Full text of H and EUH statements: see section 16.

SECTION 4. FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

General information:

If unconscious place in recovery position and seek medical advice. When in doubt or if symptoms are observed, get medical advice. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately.

After inhalation:

Provide fresh air. When in doubt or if symptoms are observed, get medical advice. In the case of bluish discoloration (lips, earlobes, finger nails) give oxygen as soon as possible. If breathing is irregular or stopped, administer artificial respiration.

After contact with skin:	After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.
After contact with eyes:	Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. Protect uninjured eye. Consult an ophthalmologist.
After ingestion:	Do NOT induce vomiting. Call a physician immediately.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

No information available.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media:	Foam, extinguishing powder, carbon dioxide (CO ₂), sand, earth
Unsuitable extinguishing media:	Water

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Do not inhale explosion and combustion gases. Thermal decomposition can lead to the escape of irritating gases and vapours.

5.3. ADVICE FOR FIREFIGHTERS

Special protective equipment for firefighters:	Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.
Additional information:	Collect contaminated fire extinguishing water separately. Do not allow to enter drains or surface water. Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Use appropriate respiratory protection.

6.2. ENVIRONMENTAL PRECAUTIONS

Do not allow to enter surface water or drains. Be aware that gases can spread at ground level (heavier than air) and pay attention to the wind direction. In the case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. REFERENCE TO OTHER SECTIONS

Safe handling – SECTION 7

Personal protective equipment – SECTION 8

Waste disposal – SECTION 13

SECTION 7. HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Advice on safe handling

Provide adequate ventilation as well as local exhaust fan at critical locations. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

Advice on protection against fire and explosion

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Heating causes rise in pressure with risk of bursting. Materials soiled with product, such as cleaning rags, tissues and protective clothing, may ignite spontaneously a few hours later.

Further information on handling

Never use pressure to empty container.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Keep/Store only in original container. Store in a place accessible by authorized persons only. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

Advice on storage compatibility

Do not store together with: acids, alkali (lye), alkali metals, alkaline earth metal, strong oxidising agents, inorganic acid chlorides.

Further information on storage conditions

Storage temperature: 15 - 25° C [59 - 77° F]

Maximum storage period (time): 6 - 9 month(s)

Protect against: light, contact with air/oxygen

7.3. SPECIFIC END USE(S)

See SECTION 1.2. For professional use only.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

Additional advice on limit values:

To date, no national critical limit values exist.

8.2. EXPOSURE CONTROLS



Appropriate engineering controls

Provide adequate ventilation as well as a local exhaust fan at critical locations.

Protective and hygiene measures

Remove contaminated, soaked clothing immediately. Draw up and observe a skin protection program. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Do not wear contact lenses. Do not breathe gas/fumes/vapour/spray. Used working clothes should not be worn outside the work area.

Eye/face protection

Eye glasses with side protection

Hand protection

Wear protective rubber gloves.

Suitable material: PVC (polyvinyl chloride), CR (polychloroprene, chloroprene rubber)

When working with chemical substances, protective gloves must be worn with the CE-label, including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific workplace concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Breakthrough times and swelling properties of the material must be taken into consideration.

Skin protection

Wear suitable protective clothing.

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Half-face mask or quarter facepiece: maximum use concentration for substances with exposure limits:

P1 filter: up to a max. of 4 times the exposure limit.

P2 filter: up to a max. of 10 times the exposure limit.

P3 filter: up to a max. of 30 times the exposure limit.

Filtering device (full mask or mouthpiece) with filter: ABEK

Environmental exposure controls

Do not allow to enter surface water or drains. Be aware that gases can spread at ground level (heavier than air) and pay attention to the wind direction. In the case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	
Physical state:	Liquid
Color:	Various
Odor:	Characteristic
Odor threshold:	Not determined
pH:	Not determined
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	145° C [293° F]
Flash point:	> 100° C [212° F]
Evaporation rate:	Not determined
Flammability:	Not applicable
Upper/lower flammability or explosive limits:	Lower explosion limits: 1.1 vol. % Upper explosion limits: 6.1 vol. %
Vapor pressure:	6.7 hPa at 20° C [68° F]
Vapor density:	Not determined
Relative density:	1.1 g/cm ³
Solubility:	Not determined
Partition coefficient: n-octanol/water:	Not determined
Auto-ignition temperature:	480° C [896° F]
Decomposition temperature:	Not determined
Viscosity:	500 - 800 mPa·s (20° C / 68° F)
Explosive properties:	Heating causes rise in pressure with risk of bursting. Danger of polymerisation (Danger of explosion)
Oxidizing properties:	Not oxidising.

9.2. OTHER INFORMATION

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SECTION 10. STABILITY AND REACTIVITY

10.1. REACTIVITY

No hazardous reaction when handled and stored according to provisions.

10.2. CHEMICAL STABILITY

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Can polymerise exothermically if heated, exposed to air, sunlight or by addition of free radical initiators.
Danger of bursting container.

Heating causes rise in pressure with risk of bursting.

Thermal decomposition:

Reacts with: acids, alkali metals, alkaline earth metals, strong oxidising agents.

10.4. CONDITIONS TO AVOID

Protect against: light, contact with air/oxygen, heat.

10.5. INCOMPATIBLE MATERIALS

Acids, alkali (lye), alkali metals, alkaline earth metals, strong oxidising agents, inorganic acid chlorides.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition can lead to the escape of irritating gases and vapours.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity:	Based on available data, the classification criteria are not met.
Irritation and corrosivity:	Causes skin irritation. Causes serious eye irritation.
Sensitising effects:	May cause an allergic skin reaction. (N,N'-(2,2-dimethylpropylidene)hexamethylenediamine; hexamethylene diacrylate, hexane-1,6-diol diacrylate)
Carcinogenic/mutagenic/toxic effects for reproduction:	Based on available data, the classification criteria are not met.
STOT-single exposure:	Based on available data, the classification criteria are not met.
STOT-repeated exposure:	Based on available data, the classification criteria are not met.

Aspiration hazard:

Based on available data, the classification criteria are not met.

Additional information on tests:

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12. ECOLOGICAL INFORMATION

12.1. TOXICITY

The product is not ecotoxic.

12.2. PERSISTENCE AND DEGRADABILITY

The product has not been tested.

12.3. BIOACCUMULATIVE POTENTIAL

The product has not been tested.

12.4. MOBILITY IN SOIL

The product has not been tested.

12.5. RESULTS OF PBT AND VPVB ASSESSMENT

The product has not been tested.

12.6. OTHER ADVERSE EFFECTS

No information available.

Further information:

Do not allow to enter surface water or drains. Do not allow to enter soil/subsoil.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS

Advice on disposal:

Do not allow to enter surface water or drains. Do not allow to enter soil/subsoil. Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products:

070208 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; other still bottoms and reaction residues; hazardous waste

Waste disposal number of used product:

070208 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; other still bottoms and reaction residues; hazardous waste

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14. TRANSPORT INFORMATION

LAND TRANSPORT (ADR/RID)

- 14.1. UN number: The product is not classified as dangerous according to this transport regulation.
14.2. UN proper shipping name: The product is not classified as dangerous according to this transport regulation.
14.3. Transport hazard class(es): The product is not classified as dangerous according to this transport regulation.
14.4. Packing group: The product is not classified as dangerous according to this transport regulation.

INLAND WATERWAYS TRANSPORT (ADN)

- 14.1. UN number: The product is not classified as dangerous according to this transport regulation.
14.2. UN proper shipping name: The product is not classified as dangerous according to this transport regulation.
14.3. Transport hazard class(es): The product is not classified as dangerous according to this transport regulation.
14.4. Packing group: The product is not classified as dangerous according to this transport regulation.

MARINE TRANSPORT (IMDG)

- 14.1. UN number: The product is not classified as dangerous according to this transport regulation.
14.2. UN proper shipping name: The product is not classified as dangerous according to this transport regulation.
14.3. Transport hazard class(es): The product is not classified as dangerous according to this transport regulation.
14.4. Packing group: The product is not classified as dangerous according to this transport regulation.

AIR TRANSPORT (ICAO-TI/IATA-DGR)

- 14.1. UN number: The product is not classified as dangerous according to this transport regulation.
14.2. UN proper shipping name: The product is not classified as dangerous according to this transport regulation.
14.3. Transport hazard class(es): The product is not classified as dangerous according to this transport regulation.
14.4. Packing group: The product is not classified as dangerous according to this transport regulation.

14.5. ENVIRONMENTAL HAZARDS

Environmentally hazardous: No

14.6. SPECIAL PRECAUTIONS FOR USER

No information available.

14.7. TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL AND THE IBC CODE

Not applicable

SECTION 15. REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

EU regulatory information:

Restrictions on use (REACH, annex XVII): Entry 3:	methyl acetoacetate; hexamethylene diacrylate, hexane-1,6-diol diacrylate
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

National regulatory information:

Employment restrictions:	Observe restrictions to employment of juveniles according to the Directive 94/33/EC on the protection of young people at work.
Water contamination class (D):	2 - clearly water contaminating
Skin sensitization:	Causes allergic and hypersensitivity reactions.

15.2. CHEMICAL SAFETY ASSESSMENT

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16. OTHER INFORMATION

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: CAS Registry Number

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method

Relevant H and EUH statements (number and full text)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H361f	Suspected of damaging fertility.

Further Information:

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The receiver of our product is responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

End of Safety Data Sheet



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