



MATERIAL SAFETY DATA SHEET

Section 1: Identification

Product Name: Ackuretta CURO Guide

Chemical Name/Synonyms: Additive plastic

Application: Methacrylate-based resin 3D printing systems with 385 nm or 405 nm light sources for fabrication of dental guide.

Company: Ackuretta Technologies Pvt Ltd

Manufacturer: MACK4D

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Section 2: Hazard(s) Identification

Classification of substance or mixture according to Regulation (EC) No. 1272/2008:

Skin irrit. Cat. 2 H315

Skin sens Cat. 1 H317

Eye irrit. Cat. 2 H319

Aquatic chronic Cat. 4 H413

Pictograms:



Signal Word(s): hazard

Hazard Statements:

Hazard warnings:

H317 May cause an allergic skin reaction

H318 Causes serious eye damage

H319 Causes serious eye irritation

H413 May be harmful to aquatic life with long lasting effects

Safety Tips:

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P264 Wash contaminated skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P501 Dispose of contents/containers in accordance with local regulations.

Other hazards: NA

Section 3: Composition/Information on Ingredients

Substances: This product is a mixture

Mixtures: Composition/information on ingredients.

Reagent	Percentage	EC No.:	CAS No.	REACH Registration No.	Classification according to Regulation (EC) No. 1272/2008	Hazard class and category
Difunktionale Methacrylate	<99	609-946-4	41637-38-1	01-211998 0659-17-XXXX	H413	Aquatic Chronic 4
Phosphine oxide	<2	278-355-8	75980-60-8		H317; H361; H411	Skin Sens 1; Repr 2; Aquatic chronic 1

Section 4: First Aid Measures

General information: Immediately remove stained and soaked clothing. If symptoms are present or in case you are in any doubt, seek medical advice. If the person loses consciousness, put them in the recovery position and seek medical advice immediately..

After inhalation: Make sure that there is fresh air. If the product irritates the respiratory tract, consult a doctor immediately.

After contact with skin: Wash out and rinse with plenty of soap and water.

After contact with eyes: In the event of contact with the eyes, immediately remove contact lenses and rinse with running water for 10-15 minutes while keeping the eyes open. Consult an eye specialist as soon as possible. **After swallowing:** Never administer something orally to an unconscious person or someone who is experiencing cramps. Consult a doctor immediately. Do not induce vomiting.

The most significant acute and delayed occurring symptoms and impact

Skin contact: May cause an allergic skin reaction.

Information about emergency medical aid or special treatment

Note for the physician: Treat symptomatically.

Section 5: Fire-Fighting Measures

Solvents

Suitable solvents: Water spray, foam, dry fire extinguisher or carbon dioxide.

Unsuitable solvents: Do not use a water jet as an extinguishing agent, as this will cause the fire to spread. **Particular hazards arising from substance or mixture**

Hazardous decomposition products: Thermal decomposition or combustion products may contain the following substances: Carbon oxides.

Information for fire-fighting

Safety precautions during fire-fighting: No actions should be taken without appropriate training or which are associated with personal risk.

Particular protective equipment for fire-fighters: Wear self-contained breathing apparatuses (SCBA) and suitable protective clothing.

Section 6: Accidental Release Measures

Personal precautions: At work, wear suitable protective clothing, including gloves, safety goggles/face guard, respiratory protection, boots, or other clothing or an apron as appropriate. Suitable respiratory protection in the event of inadequate ventilation.

Measures for environmental protection: Environmental protection measures to prevent discharge into the environment. **Measures for cleaning/collecting:** Methods for cleaning: No smoking, sparks, flames or other ignition sources near spillages. Bind leaked material with sand or another inert absorbent. Collect it and fill a suitable disposal bin, then seal securely. Containers with collected spilled material must have the correct hazard labeling. Spillages must be collected and disposed of in accordance with the information in Section 13.

Reference to other sections: Reference to other sections: For information on personal protective equipment, see Section 8. Section 13 contains information about waste disposal.

Section 7: Handling and Storage

Safety precautions for safe handling

Safety precautions during use: Avoid contact with the eyes and skin. Wash contaminated skin thoroughly after handling. The hands and all contaminated parts of the body must be washed with soap and water before leaving the factory premises. Keep away from heat, sparks and open flame. Mechanical suction is required if dust is discharged during handling. Open and handle containers with care. At work, wear suitable safety equipment in the event of longer exposure and/or high concentrations of vapors, spray or mist.

General work hygiene measures: When using the product, do not eat, drink or smoke.

Conditions for safe storage, taking cases of incompatibility into account

Safety precautions for storage: Store in a cool and dry place in a tightly sealed original container. Store at temperatures between 5°C and 30°C. Keep away from frost and direct sunlight. Keep away from hot surfaces, sparks, open flames and other types of ignition sources. Do not smoke.

Specific end uses

Intended end use(s): The intended uses of this product are described as the application in Section 1.

Section 8: Exposure Controls/Personal Protection

Parameters to be monitored: No maximum allowable concentration(s) is/are known for the ingredient(s). **Limitation and monitoring of exposure**

Protective equipment



Suitable technical controller: Adequate room ventilation and local aspiration must be ensured. The maximum allowable concentration of the product or ingredients must be observed.

Eye/face protection: Eye protection corresponding to a recognized standard should be worn if a risk assessment shows that eye contact is possible. The following personal protective clothing should be worn: Chemical safety goggles. Wear close-fitting chemical safety goggles or face protection.

Hand protection: Wear protective gloves. In accordance with the data specified by the protective glove manufacturers, it is required while using them to check whether the gloves maintain their repellent properties and to change them as soon as damage is detected. In the case of exposure up to 8 hours, protective gloves made of the following material must be worn: Nitrile rubber.

Other skin and personal protection: Avoid contact with the skin. Wear suitable clothing to prevent possible skin contact. **Hygiene measures:** Wash contaminated skin thoroughly after handling. Before removing the clothing, wash contaminated clothing and skin immediately with plenty of water. Immediately remove all contaminated garments and wash before wearing them again. Contaminated work clothing should not be allowed out of the workplace. When using the product, do not eat, drink or smoke.

Respiratory protection: If ventilation is inadequate, suitable respiratory protection must be worn. Wear a protective mask with full face protection and the following filter cartridge: Filter against organic vapors. Highly effective particle filters.

Section 9: Physical and Chemical Properties

Appearance: Liquid

Odor: Ester

Color: Various

Melting point: Not determined

Initial boiling point and boiling range: Not determined

Flash point: >250°C

Inflammability (solid, gaseous): Not determined

Upper/lower inflammability or explosion limits: Not determined

Vapor pressure: Not determined

Relative density: 1.12g/cm³

Solubility: Insoluble in water; Soluble in most organic solvents

Viscosity: Approx. 700-1200 Pa s

pH: Not determined

Section 10: Stability and Reactivity

Reactivity: No information is available

Chemical stability: Stable at normal room temperatures

Possible hazardous reactions: May polymerize

Conditions to avoid: Incompatible conditions: Reaction with light, risk of polymerization. Keep away from heat, flames and other ignition sources. Do not expose to high temperatures or direct sunlight. Avoid contact with strong oxidizers **Incompatible materials:** Incompatible materials Keep away from radical-forming initiators, peroxides, strongly alkaline substances and reactive metals to prevent exothermic polymerization reactions.

Hazardous decomposition products: Carbon oxides

Section 11: Toxicological Information

Difunktionale Methacrylate (at 100%)

Acute toxicity – oral LD50: >2000 mg/kg, oral, rat

Acute toxicity – dermal LD50: >2000 mg/kg, dermal, rat

Acute toxicity – inhalative LC50: No information available

Caustic/irritant effect on the skin: Does not cause irritation

Severe eye damage/irritation: Does not cause irritation

Respiratory tract sensitization: No information available

Skin sensitization: Sensitizing

Germ cell mutagenicity: Bacterial reverse mutation test: Negative

Carcinogenicity: No information available

Reproductive toxicity: Fertility - NOAEL, 1000 mg/kg KG/day, oral, rat F1

Specific target organ toxicity (repeated exposure): STOT - repeated exposure NOAEL 300mg/kg KG/day, oral, rat **Phosphine oxide (at 100%)**

Acute toxicity – oral LD50: No information available

Acute toxicity – dermal LD50: >2000 mg/kg, dermal, rat

Acute toxicity – inhalative LC50: No information available

Caustic/irritant effect on the skin: No information available

Severe eye damage/irritation: No information available

Respiratory tract sensitization: No information available

Skin sensitization: No information available

Germ cell mutagenicity/genotoxicity - in vitro: No information available

Carcinogenicity: No information available

Reproductive toxicity - fertility: Suspected of damaging fertility or the unborn child

Reproductive toxicity - Development: No information available

Specific target organ toxicity (repeated exposure): No information available

Section 12: Ecological Information (non-mandatory)

Toxicity

Difunktionale Methacrylate (at 100%)

Acute toxicity - fish: LC50, 96 hours: 100 mg/l, Brachydanio rerio (zebrafish)

Acute toxicity - invertebrate aquatic animals: EC50, 48 hours: > 100 mg/l, Daphnia magna

Acute toxicity - aquatic plants NOEC, 72 hours: >100 mg/l, Desmodismus subspicatus

Acute toxicity - microorganisms NOEC, 28 days: 14.3 mg/l, activated sludge

Phosphine oxide (at 100%)

Acute toxicity - fish: No information available

Acute toxicity - invertebrate aquatic animals: No information available

Acute toxicity - aquatic plants: No information available

Acute toxicity - microorganisms: No information available

Persistence and degradability: The product is not easily biodegradable.

Bioaccumulation potential**Difunktionale Methacrylate (at 100%):** Distribution coefficient log Kow: 5.30-5.62**Phosphine oxide (at 100%):** Distribution coefficient No information available**Mobility on the ground****Difunktionale Methacrylate (at 100%):** Adsorption/desorption coefficient - Log Koc:3.69~3.88 @ 20°C **Phosphine oxide (at 100%):** Adsorption/desorption coefficient: No information available**Results of PBT and vPvB assessment****Difunktionale Methacrylate:** This substance must not be classified as PBT or vPvB in accordance with the currently valid EU classification criteria.**Phosphine oxide:** No information available**Results of PBT and vPvB assessment:** No information available.**Section 13: Disposal Instructions****Proper disposal/product:** Disposal in accordance with regulatory requirements.**Proper disposal/packaging:** May be disposed of in accordance with local regulatory requirements. **Ecology - waste materials:** Avoid discharge into the environment.**Section 14: Transport Information (non-mandatory)****UN number:** none**Proper UN shipping name:** none**Transport hazard classes:** No dangerous goods pursuant to transportation regulations.**Packaging group:** none**Environmental hazards:** none**Special precautions for transport:** none**Bulk transport in accordance with Annex II of the MARPOL Convention 73/79 pursuant to IBC Code No****Section 15: Regulatory Information (non-mandatory)****Regulations on safety, health and environmental protection/specific laws for the substance or mixture EU regulations.****Information about Regulation (EC) No. 166/2006 concerning the establishment of a European Pollutant Release and Transfer Register:** irrelevant**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer:** irrelevant**Regulation (EC) No. 648/2004 on detergents:** irrelevant**Regulation (EC) No. 850/2004 [POP regulation]:** irrelevant**Regulation (EU) No. 649/2012 concerning the import and export of hazardous chemicals:** irrelevant **Restriction on use in accordance with REACH Annex XVII No.:** irrelevant**National regulations**

National regulations must also be observed.

Instructions on employment restriction: No information is available.

Major Accidents Ordinance Not subject to the German Major Accidents Ordinance.

Solvent Ordinance (31st Federal Immission Protection Ordinance [BlmSchV]): irrelevant**Storage class:** 10-13 Other flammable and non-flammable substances.**Water hazard class (WHC):** 1 slightly hazardous to water (WHC 1)

Technical Instructions on Air Quality Control (TA-Luft): Not subject to the Technical Instructions on Air Quality Control. **Other regulations, restrictions and prohibition ordinances:** none

Chemical safety assessment

A chemical safety assessment was carried out for this preparation; Chemical safety assessments were not carried out for substances in this mixture.

Section 16: Other Information

Text of H and P phrases (number and full text)

H phrases Text

H317 May cause an allergic skin reaction.

H361 Suspected of damaging fertility or the unborn child.

H411 Toxic to aquatic life with long lasting effects.

H413 May be harmful to aquatic life with long lasting effects

P phrases Text

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P264 Wash contaminated skin thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.

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P305+P351+P338 IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P362+P364 Take off contaminated clothing and wash it before reuse.

P501 Dispose of contents/containers in accordance with local regulations.

Training tips: None

Recommended restriction(s) on use: No special measures are required.

Data sources: REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No. 1907/2006.

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