



ACKURETTA MATERIALS

QuraMODEL 2.0

(3D Printing Resin for Dental Models)

Safety Data Sheet
2018/03/01

Hazard Pictogram



Signal Word: Warning

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: QuraMODEL 2.0 3D printing photo-reactive resin

Synonym: Ackuretta dental model material

Product Use: Manufacturing of 3D printed dental models using DLP, SLA, LCD or LED 3D printers.

Company: **Ackuretta Technologies Pvt. Ltd.**

4F-B No. 322, Section 1, Neihu Road

Neihu District, Taipei 11493 Taiwan (R.O.C.)

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Color: caramel

Physical State: liquid

Odor: light acrylate

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification according to Regulation (EC) No 1272/2008



GHS07

Skin Irrit. 2	H315 - Causes skin irritation.
Eye Irrit. 2	H319 - May cause an allergic skin reaction.
Skin Sens. 1	H317 - Causes serious eye irritation.
STOT SE 3	H335 - May cause respiratory irritation.
Aquatic Chronic 3	H415 - May cause long lasting harmful effects to aquatic life.

PRECAUTIONARY STATEMENTS

Precaution:

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment (see on this label).
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Response:

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P304 + P340 + P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	IF SKIN IRRITATION OCCURS: Get medical advice/ attention.
P337 + P313	IF EYE IRRITATION OCCURS: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.
 P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Monomers based on acrylates or methacrylates with low levels of stabilizer and pigments for manufacturing of 3D-printed dental models using DLP, SLA, LCD or LED 3D printers.

Hazardous Components	Hazard Statement	CAS No.	Approx. % w/w
A. Methacrylic oligomers	Aquatic Chronic. 4 - H413	Proprietary	>90%
B. Metallic Oxides	Skin Sens. 1 – H317 Aquatic Chronic. 4 - H413	Proprietary	<4%

SECTION 4: FIRST AID MEASURES

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Remove the contaminated clothing and rinse the contaminated area with plenty of water. Consult a physician.

In case of eye contact: Hold eyelids apart to ensure flushing thoroughly with plenty of water for at least 20 minutes and consult a physician.

If swallowed: Do not induce vomiting. If ingested, drink plenty of water/milk immediately. If person is vomiting, continue to offer water of milk.

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5: FIREFIGHTING MEASURES

Suitable extinguishing media: Foam, dry chemicals and CO₂.

Unsuitable extinguishing media: Direct jet of water.

Unsuitable extinguishing media: High temperatures may cause spontaneous polymerizing reaction generating heat/pressure. Closed containers may rupture or explode during a runaway polymerization. Use a water spray or fog to reduce or direct vapors. Water may not be efficient in actually extinguishing a fire involving this Product.

Fire-fighting Protective Equipment: A self-contained breathing apparatus and full protective clothing should be worn in fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Eliminate sources of ignition. Wear adequate personal protective equipment. Avoid breathing vapors. Ensure adequate ventilation. Evacuate personnel to safe areas in case of any emergency situation. See section 8 for personal protection. Adsorb resin spillages onto sand, earth or any other suitable adsorbent material. DO NOT adsorb onto sawdust or other combustible materials.

Environmental precautions: Do not let the resin enter drains, sewers or water supplies.

Methods and materials for containment and cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes and prolonged contact with skin. Wash hands before eating, drinking, and any actions that may cause contact of use's hands with skin of other body areas. A well-ventilated area is necessary for product use.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a cool, dry and well-ventilated place. Protect from heat and direct-sunlight.

Storage temperature: Not exceeding storage temperature of 25 °C

Storage class: Storage temperature above 25 °C should be avoided.

Expired date: Product expired date can be found on the container label. Products used after the expiry date can result in poor formation of 3D prints.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

Components	TWA 8hr (mg/m ³)	TWA 8hr (ppm)
A. Methacrylic oligomers	Not listed	Not listed
B. Metallic Oxides	1.0 (Skin)	No vapors
C. Fillers	Not listed	Not listed

EXPOSURE CONTROLS

Eye/face protection: Safety goggles with side-shields to prevent the splash of the product from entering eyes or contacting with face.

Skin and body protection: Handle with gloves and wear lab coat, trousers or even aprons to prevent skin from contacting resin.

Gloves: The most appropriate glove depends on consideration of a number of factors including the physical strength of the glove, the degree of manual dexterity required, the amount of permeation through the glove material and the duration of wear. There is a wide range of elastomeric and laminate gloves available. Common elastomeric glove material include latex (natural rubber), neoprene (polyisoprene), nitrile rubber (ABS rubber), butyl rubber, polyvinyl alcohol (PVA), polyvinyl chloride (PVC) and fluoroelastomers. Laminate gloves are made from heat sealed sheets of PVA between layers of polyethylene. In permeations tests PVA/Polyethylene laminate and supported PVA gloves performed best (note that PVA can be rendered ineffective by contact with water if the laminate layer is breached). Butyl and nitrile rubber gloves offer short-term protection. Latex surgical gloves offer little protection. Gloves should be stored correctly and changed regularly, especially if excessive exposure has occurred.

Other: Keep working clothes separately. Take off contaminated clothing immediately. Keep away from food, drinks and animal feed. Wash hands thoroughly after handling

Respiratory protection: In a well-ventilated working environment, respirators are generally not necessary. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU) when higher level protection is needed.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Properties	Value
Appearance:	Clear/ Opaque viscous liquid
Odor:	Ester like
pH:	Not applicable
Boiling point:	>100°C
Melting point:	Not applicable
Flash point:	>90°C
Flammable limits (lower) (%v/v):	Not applicable
Auto ignition temperature:	430°C
Explosive properties:	Not applicable
Oxidizing properties:	Not applicable
Vapor pressure:	-
Relative density:	1.11-1.15
Solubility:	Good solubility with most organic solvents

Water solubility:	Poorly soluble
Viscosity:	800-1500 mPa*s

SECTION 10: STABILITY AND REACTIVITY

Conditions to avoid: This is a stabilized product. Polymerization, however, may occur when the product is expired, or storage temperature exceeds 25°C. Very high temperature can result in uncontrolled polymerization which cause rapid heat buildup and result in rupture of the material container.

Incompatible materials: Polymerization initiators, peroxides, oxidizing agents, alcohol and strong bases

Hazardous decomposition products: Oxides of carbon and various hydrocarbon fragments when the material is burned.

SECTION 11: TOXICOLOGICAL INFORMATION

Properties	
Acute oral toxicity (rat)	>2000 mg/kg
Acute dermal toxicity (rat)	>2000 mg/kg
Inhalation	Irritating to respiratory system. High atmospheric concentrations may lead to irritation of the respiratory tract, dizziness, headache and anesthetic effects.
Dermal	N/A
Skin corrosion/irritation	May cause sensation by skin contact. Irritating to skin, Repeated and/or prolonged contact may cause dermatitis.
Serious eye damage/eye irritation	High vapor concentration may cause irritation.
Ingestion	Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.
Respiratory or skin sensitization	N/A
Germ cell mutagenicity	N/A
Reproductive toxicity	N/A
Specific target organ toxicity - single exposure	N/A
Specific target organ toxicity - repeated exposure	N/A
Inhalation	May cause respiratory irritation
Delayed and immediate effects as well as chronic effects from short and long-term exposure	Inhalation of vapors may lead to headache, drowsiness and dizziness.

SECTION 12: ECOLOGICAL INFORMATION

Properties	
Toxicity	N/A
Persistence and degradability	N/A
Bio accumulative potential	Liquid with low volatility. The product is slightly soluble in water. The product as low potential for Bio-accumulation in small amounts.
Results of PBT and vPvB assessment	N/A
Specific target organ toxicity - repeated exposure	N/A
Mobility in soil	N/A
Ecotoxic effects	Harmful to aquatic organisms.

Additional ecological information	Do not allow undiluted product or large quantities of it to reach ground water, water course, or sewage system.
Other adverse effects	N/A

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods: Dispose the product following to governmental policy. Do not allow product to reach sewage system. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product. Expose the opened empty container to light as long as possible, then dispose.

SECTION 14: TRANSPORT INFORMATION

No hazardous material as defined by the prescriptions. No specific regulation for transport necessary. This product is NOT classified as dangerous for IATA Transport.

SECTION 15: REGULATORY INFORMATION



EC classification: irritant, sensitizing and harmful

Hazard symbol: Xi: irritating

H315	Causes skin irritation.
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H413	May cause long lasting harmful effects to aquatic life

High atmospheric concentrations may lead to irritation of the respiratory tract and anesthetic effects. Repeated and/or prolonged contact may cause dermatitis.

SECTION 16: OTHER INFORMATION

The information is based on the present state of our knowledge and experience, and it is applicable to the product with regard to appropriate safety precautions. It does not, however, constitute a guarantee for properties of the product and shall not establish a legally valid contractual relationship. Ackuretta Technologies Pvt. Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product.