

# **MATERIAL SAFETY DATA SHEET**

Section 1: Identification					
Product Name: Ac	kuretta CURO Model				
Chemical Name/Synonyms: Additive plastic					
-	mer based on Acrylic esters for 3D printing systems with 385 nm or 405 nm light sources for				
fabrication of dent					
	acrylate-based resin				
	ta Technologies Pvt Ltd				
Manufacturer:	KAIROS 3D Co. Ltd.,				
	(8F Y-Tower, Jayang-dong)				
	129 Jayang-ro, Jayang-dong				
	Gwangjin-gu, Seoul				
	South Korea				
	Tel.: +92-2-453-5437 (available during office hours)				
	E-mail: <u>Kairos3d@naver.com</u>				
In emergency call					
MSDS Date of prep	paration: 13th of July, 2020				
	Section 2: Hazard(s) Identification				
	on: According to Products Regulations				
Classification of th	e product:				
Skin sensibility	1 Skin sensitization				
Aquatic chronic	4 Hazardous to the aquatic environment - chronic				
Pictograms:					
Signal Word(s): ha	zard				
Hazard Statements	S:				
Hazard warnings:					
H315	Causes skin irritation				
H317	May cause an allergic skin reaction				
H319	Causes serious eye irritation				
H335	May cause respiratory irritation				
H401	Toxic to aquatic life				
H411 Processition on a Stat	Toxic to aquatic life with long lasting effects				
Precautionary Stat					
P280	Wear protective gloves/protective clothing/eye protection/face protection				
P264 P272	Wash contaminated skin thoroughly after handling.				
P302+P352	Contaminated work clothing should not be allowed out of the workplace. IF ON SKIN: Wash with plenty of water.				
P302+P352 P305+P351+P338	IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses, if present				
and easy to do. Co					
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.				
P337+P313	If eye irritation persists: Get medical advice/attention.				
P362+P364	Take off contaminated clothing and wash it before reuse.				

P501 Dispose of c Description of other hazards: NA		rdance with local regu	
	Section 3: Composition/Inf	ormation on Ingredie	ents
Monomers based on methacrylic	ester with levels of stabilize	zer, fillers, pigments i	nitiator and accelerator.
Chemical Name	CAS No.	% w/w	Classification according to Regulation (EC) No. 1272/2008
2Furanmenthanol, tetrahyro	97-99-4	>45	Aquatic chronic 4
Synthetic Iron oxide	1317-61-9	<40	Skin Sens. 1; Aquatic chronic 4
	Section 4: First	Aid Measures	
running water for 10-15 minutes After swallowing: Never admini- cramps. Consult a doctor immed The most significant acute and o Skin contact: May cause an aller Information about emergency m Note for the physician: Treat sym	there is fresh air. If the pro- ut and rinse with plenty of s event of contact with the ey s while keeping the eyes op ster something orally to an liately. Do not induce vomit <b>delayed occurring sympton</b> gic skin reaction. <b>nedical aid or special treat</b> mptomatically. <b>Section 5: Fire-Fig</b>	oduct irritates the res soap and water. yes, immediately remo en. Consult an eye sp unconscious person o ting. <b>ns and impact</b> <b>ment</b>	piratory tract, consult a doctor ove contact lenses and rinse with ecialist as soon as possible.
May polymerize on heating. Sea	-		
Solvents Suitable solvents: Foam, dry fire Unsuitable solvents: Do not use Unsuitable extinguishing media heat/pressure. Closed container to reduce or direct vapors. Wate Information for fire-fighting Particular protective equipment protective clothing should be we	a water jet as an extinguish : High temperatures may ca s may rupture or explode d er may not be efficient in ac t for fire-fighters: Wear self orn in fire-fighting condition	hing agent, as this wil ause spontaneous pol uring a runaway polyu tually extinguishing a f-contained breathing ns.	lymerizing reaction generating merization. Use water spray for fog fire involving this product.
	Section 6: Accidental		
sawdust or other combustible m	otection: Prevent entry into g: Bind leaked material with aterial. Transfer to contain ust be alerted to appropriat ventilation after accidental	o drains. h sand or another ine her for disposal or rec e regulatory body. D release.	rt absorbent. DO NOT absorb onto
Safety precautions for safe hand	Section 7: Handli	ng anu Storage	
Safety precautions during use: A handling. The hands and all cont	Avoid contact with the eyes aminated parts of the body m heat, sparks and open fla le containers with care. At acentrations of vapors, spra	/ must be washed wit ame. Mechanical suct work, wear suitable s y or mist.	h soap and water before leaving the ion is required if dust is discharged afety equipment in the event of

**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: Fx	posure Controls	/Personal	Protection

## Parameters to be monitored:

#### Occupational Exposure Limits:

Substance	TWA 8 hr *mg/m <sup>3</sup>	TWA 8 hr (ppm)			
Methacrylic oligomers	Not listed	Not listed			
Metallic Oxides	1.0 (Skin)	No vapors			
Fillers	Not listed	Not listed			

#### 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**

Form: Liquid Odor: Esther like Colour: Clear/opaque pH: Not applicable Melting point/melting range: Not applicable Boiling point/boiling range: >100°C Flash point: >90°C Flammable limits (lower) (%v/v): Not applicable Upper/lower flammability or explosive limits: Not determined Auto ignition temperature: >430°C Danger of explosion: Not applicable Oxidizing properties: Not applicable Vapor pressure: Not determined

Relative density: 1.11 - 1.15 g/cm3 **Solubility:** Poorly soluble Viscosity: Approx. 800-1500 Pa\*s Section 10: Stability and Reactivity **Conditions to avoid:** Conditions to avoid: The product is stabilized. However, polymerization may occur when the expiry date and/or storage temperature is considerably exceeded. Materials to avoid: When heated above the flash point, flammable vapors are emitted which can mix with air and can burn or be explosive. Vapors are heavier than air and may travel to the source of ignition and flash back. Heat can cause polymerization with a rapid release of energy which may rupture the container explosively. Incompatible materials: Strong oxidizers, strong reducers, inert gas, and oxygen scavengers. Hazardous decomposition products: Carbon oxides when burned. Section 11: Toxicological Information Acute toxicity: LD50 acute oral rat: >2000 mg/kg LD50 acute dermal rat: >2000 mg/kg Potential routes of exposure/potential health effects Skin: May cause an allergic skin reaction. Eye: High vapor concentration may cause irritation. Inhalation: Irritating to the respiratory system. High atmospheric concentration may lead to irritation of the respiratory tract, dizziness, headache, and anesthetic effects. **Ingestion:** Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract. Section 12: Ecological Information (non-mandatory) **Environmental Fate and Distribution:** Liquid with low volatility. The product is slightly soluble in water. The product has low potential for Bioaccumulation in small amounts. **Environmental Exposure Controls:** This product should not be allowed to drain in sewers. **Section 13: Disposal Considerations Proper disposal/product:** Disposal in accordance with regulatory requirements. Proper disposal/packaging: May be disposed of in accordance with local regulatory requirements. Decontaminate empty drums before recycling. Ecology - waste materials: Avoid discharge into the environment Section 14: Transport Information (non-mandatory) No hazardous material as defined by the prescriptions. No specific regulation for transport necessary. This product is NOT classified as dangerous for IATA Transport. Non-hazardous; Non-restricted Materials. Section 15: Regulatory Information (non-mandatory) **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. May cause long-lasting harmful effects to aquatic life. H413 Section 16: Other Information Training tips: None Recommended restriction(s) on use: No special measures are required. Further information: REJECTION OF LIABILITY We have obtained the information in this data sheet from sources that we consider reliable. The accuracy of expressed or implied information cannot be guaranteed. The conditions or methods for handling, storage, use or disposal of the product are beyond our control and possibly also our

knowledge. For these and other reasons, we accept no responsibility and expressly reject liability for any losses, damage or costs that may arise from handling, storage, use or disposal of the product or that may be associated therewith in any way. This Safety Data Sheet was created for this product and may only be used for this product. If the product is used as a component of another product, the information indicated in the data sheet may not apply. This information is based on our current knowledge and should only describe the product with regard to health, safety and environmental conditions. It must therefore not be construed as a guarantee for any specific property of the product.