

	MATERIAL SAFETY DATA SHEET	Doc. No. : STR-MTL-OPR-CERT-012
		Revision : 03
STRUCTOMER® ORTHOPRO		CO # : N/A
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SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	Structomer® OrthoPro
MANUFACTURER	Structo Pte. Ltd.
DIVISION	Materials
SALES & DISTRIBUTION ADDRESS	114 Lavender Street, #07-53 CT Hub 2, Singapore 338729
MANUFACTURING ADDRESS	155 Kallang Way #05-09/10, Singapore 349244
COUNTRY SPECIFIC EMERGENCY PHONE (SINGAPORE)	995
MANUFACTURER'S PHONE NUMBER	+65 6920 2526 (only available during office hours)
CHEMICAL FAMILY	Acrylate oligomers
PRODUCT USE	Photoactive resin based on acrylate oligomers for manufacturing of 3D-printed dental models.

SECTION 1 NOTES:

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENT	CAS NO.	% WT/WT	HAZARD STATEMENT	CLASSIFICATION
Acrylate monomers/oligomers	Proprietary	>95%	H302 H315 H317 H318 H319 H335 H360	Harmful if swallowed Skin Irritation (Cat. 2) May cause an allergic reaction Causes serious eye damage Eye Irritation (Cat. 2) STOT SE (Cat. 3) H360FD (Cat. 1B)
Phosphine oxides		<5%	H317 H413	Skin Sensitization (Cat. 1) Aquatic Chronic (Cat. 4)
Colorants		<1%	H315 H319 H317	Skin Irritation (Cat. 2) Eye Irritation (Cat. 2) Skin Sensitization (Cat. 1)

A PEL or TLV has not been established.

SECTION 2 NOTES:

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SECTION 3: HAZARDS IDENTIFICATION

Classification to Hazardous Products Regulations (HPR) (SOR / 2015-17)

Classification of the Product	Explanation
Skin Sens. : 1	Respiratory / skin sensitization
Aquatic Chronic : 4	Hazardous to the aquatic environment - Chronic
Skin Irritation : 2	Skin corrosion / irritation
Eye Irritation : 2	Serious eye damage/eye irritation
STOT SE : 3	Specific target organ toxicity - Single exposure
H360FD : 1B	May damage fertility. May damage the unborn child.

Label Elements

Pictogram



Explanation

Warning

Hazard statements:

H302	Harmful if swallowed
H315	May cause skin irritation
H317	May cause an allergic skin reaction
H319	May cause serious eye irritation
H335	May cause respiratory irritation
H360	May damage fertility or the unborn child
H413	May cause long lasting harmful effects to the aquatic life

Precautionary statements (Prevention):

P280	Wear protective gloves
P261	Avoid breathing dust/fumes/gas/mist/vapors/spray
P273	Avoid release to the environment
P272	Contaminated work clothing should not be allowed out of the workplace
P264	Wash skin thoroughly after handling

Precautionary statements (Response):

P302 + P352	IF ON SKIN (or hair): wash with plenty of soap and water
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338	IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses if present and continue rinsing
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P321	Special treatment (see supplementary first aid instructions on this label)
P332 + P313	If skin irritation occurs: Get medical advice/attention
P337 + P313	If eye irritation persists: Get medical advice/attention
P362	Take off contaminated clothing and wash before reuse

Precautionary statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed
P405	Store locked up

Precautionary statements (Disposal):

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P501 Dispose of contents/container to an approved waste disposal point

SECTION 3 NOTES:

SECTION 4: FIRST AID MEASURES

GENERAL ADVICE

Consult a physician. Show this safety data sheet to the doctor in attendance.

INHALATION

Remove patient from exposure and to fresh air. If not breathing give artificial respiration. Obtain immediate medical attention.

EYE CONTACT

Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.

SKIN CONTACT

Remove contaminated clothing. Wash skin immediately with soap and lukewarm water. If symptoms (irritation or blistering) occur obtain medical attention.

INGESTION

Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Obtain medical attention.

MOST IMPORTANT SYMPTOMS AND EFFECTS (BOTH ACUTE AND DELAYED)

No information available.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No data available.

SECTION 4 NOTES:

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SECTION 5: FIRE-FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS

May polymerize on heating. Sealed container may rupture explosively if hot.

EXTINGUISHING MEDIA

For small (incipient) fires, use media such as "alcohol" foam, dry chemical or carbon dioxide.

UNSUITABLE EXTINGUISHING MEDIA

Direct jet of water.

SPECIAL FIREFIGHTING PROCEDURES

Do not enter fire area without proper protection. A self-contained breathing apparatus and full protective clothing should be worn in fire conditions. 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 extinguishing a fire involving this product.

FURTHER INFORMATION

Use water spray to cool unopened containers.

SECTION 5 NOTES:

SECTION 6: ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

Eliminate sources of ignition. Ensure suitable personal protection (including respiratory protection) during removal or spillage. Prevent entry into drains. Adsorb spillages onto sand, earth or any other suitable adsorbent material. DO NOT adsorb onto sawdust or other combustible materials. Transfer to a container for disposal or recovery. Spillages or uncontrolled discharges into watercourses must be alerted to appropriate regulatory body. Do not discharge into drains/surface waters/ groundwater. Maximize ventilation after accidental release.

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see Section 8.

ENVIRONMENTAL PRECAUTIONS

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Contain spillage, and then collect and place in container for disposal according to local regulations (see Section 13). Keep in suitable, closed containers for disposal.

WASTE DISPOSAL METHODS

Disposal should be in accordance with local, state or national legislation. Incinerate under approved controlled conditions, using incinerators for the disposal for organic chemicals. Decontaminate empty drums before recycling.

SECTION 6 NOTES:

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SECTION 7: HANDLING AND STORAGE

HANDLING

Avoid contact with skin and eyes. Avoid inhalation of high concentrations of vapors. Use only in well ventilated areas. Material must be kept from sources of ignition. Take precautionary measures against static discharges. Keep away from food, drinks and animal feed.

STORAGE

Keep in dry, cool, well ventilated place, separate from oxidizing agents. Keep away from sources of ignition – No smoking. Keep away from heat and direct (sun) light. Container may be filled for only 80%. Keep the container closed to avoid evaporation of the product. Store in original container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage temperature preferably not to exceed 25 °C.

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

APPROPRIATE ENGINEERING CONTROLS

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

RESPIRATORY PROTECTION

Wear suitable respiratory equipment if exposed to level above the occupational exposure limit is likely. A suitable mask with filter type A may be appropriate.

EYE / FACE PROTECTION

Safety glasses with side-shields conforming to EN166 must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapor.

SKIN PROTECTION

Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn. This equipment should be cleaned thoroughly after each use. In permeation 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 exposure has occurred.

The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

OTHER

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

SECTION 8 NOTES:

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Viscous liquid
ODOR	Ester like
PHYSICAL STATE	Liquid
pH AS SUPPLIED	Not applicable
BOILING POINT	Not available
MELTING POINT	Not applicable
FREEZING POINT	Not applicable
FLASH POINT	Not available
FLAMMABLE LIMITS (lower) (%v/v)	Not applicable
AUTO IGNITION TEMPERATURE	Not applicable
EXPLOSIVE PROPERTIES	Not applicable
OXIDISING PROPERTIES	Not applicable
VAPOR PRESSURE (mmHg):	Not available
RELATIVE DENSITY	Not available
SOLUBILITY	Not available
WATER SOLUBILITY	Not available
VISCOSITY	400-600 mPa·s
MOLECULAR WEIGHT	Not available

SECTION 9 NOTES:

SECTION 10: STABILITY AND REACTIVITY

STABILITY

Stable

CONDITIONS TO AVOID (STABILITY)

The product is stabilized. However, polymerization may occur when the expiry date and/or storage temperature is exceeded. Keep out of direct sunlight and ultra violet radiation.

INCOMPATIBILITY (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 rapid release of energy which may rupture the container explosively. Incompatible materials include strong oxidizers, strong reducers, inert gases and oxygen scavengers.

HAZARDOUS POLYMERIZATION

May occur

HAZARDOUS DECOMPOSITION PRODUCTS

No decomposition products known

SECTION 10 NOTES:

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SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

No applicable information is available

SKIN CORROSION/IRRITATION

No applicable information is available

SERIOUS EYE DAMAGE/EYE IRRITATION

No applicable information is available

RESPIRATORY OR SKIN SENSITISATION

No applicable information is available

GERM CELL MUTAGENICITY

No applicable information is available

CARCINOGENICITY

No applicable information is available

REPRODUCTIVE TOXICITY

No applicable information is available

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE

Inhalation - May cause respiratory irritation

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE

No applicable information is available

ASPIRATION HAZARD

No applicable information is available

SECTION 11 NOTES:

SECTION 12: ECOLOGICAL INFORMATION

TOXICITY

No applicable information is available

PERSISTENCE AND DEGRADABILITY

No applicable information is available

BIOACCUMULATIVE POTENTIAL

No applicable information is available

MOBILITY IN SOIL

No applicable information is available

RESULTS OF PBT AND VPVB ASSESSMENT

No applicable information is available

OTHER ADVERSE EFFECTS

No applicable information is available

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OTHER INFORMATION

Do not discharge product unmonitored

SECTION 12 NOTES:

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS:

PRODUCT

Allocation of a waste code number should be carried out in agreement with the waste disposal company.

CONTAMINATED PACKAGING

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 13 NOTES:

SECTION 14: TRANSPORT INFORMATION

UN NUMBER

ADR/RID : No applicable information is available
 IMDG : No applicable information is available
 IATA-DGR : No applicable information is available

UN PROPER SHIPPING NAME

ADR/RID : Not dangerous goods
 IMDG : Not dangerous goods
 IATA : Not dangerous goods

TRANSPORT HAZARD CLASS(ES)

ADR/RID : No applicable information is available
 IMDG : No applicable information is available
 IATA-DGR : No applicable information is available

PACKAGING GROUP

ADR/RID : No applicable information is available
 IMDG : No applicable information is available
 IATA-DGR : No applicable information is available

ENVIRONMENTAL HAZARDS

Information on environmental hazard if relevant see section 14

SPECIAL PRECAUTIONS FOR USER

No applicable information is available

SECTION 14 NOTES:

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SECTION 15: REGULATORY INFORMATION



Warning

EC Classification	IRRITANT, SENSITIZING AND HARMFUL
Hazard Symbol	Xi Irritating
Health Phrases	H302 Harmful if swallowed
	H315 Causes skin irritation
	H319 Cause serious eye irritation
	H335 May cause respiratory irritation
	H413 May cause long lasting harmful effect 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.

OTHER REGULATIONS

Adhere to the national sanitary and occupational safety regulations when using this product.

SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

Appendix D to the Hazard Communication Standard, 29 CFR 1910.1200
 Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regards to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Structo Pte. Ltd. and its affiliates shall not be held liable for any damage resulting from handling, use, contact, processing, storage, transportation, disposal or release of the above product. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified.