



SECTION 1: Identification of the substance/mixture and of the Company/Undertaking

1.1 Product identifier

Trade name: *KRISTAL UV™*

1.2 Relevant identified uses of the substance or mixture

Product Type: UV Curing Acrylic Resin

Product Name: Kristal UV

1.3 Details of the supplier of the safety data sheet

Company: AMT Composites (Pty) Ltd

AMT HEAD OFFICE

JOHANNESBURG

TEL: +27 11 392 4232

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification: Skin irritation, category 2
Skin Sensitization, category 1
Eye irritation, category 2A

2.2 GHS Label elements including precautionary statements:

GHS Labels:



Signal Word: WARNING

Hazard Statement(s): H315: Causes skin irritation

H317: May cause allergic skin reaction

H319: Causes serious eye irritation

Precautionary Statements:

Prevention Precautionary statements:

P261: Avoid breathing dust/fumes/gas/mist/vapours/spray

P264: Wash thoroughly after handling

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

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

Response Precautionary Statements:

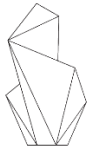
P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P333+313: If skin irritation or a rash occurs: Get medical advice/attention.

P362: Take off contaminated clothing and wash before reuse.

P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if possible and continue rinsing.

P337+313: If eye irritation persists get medical advice/attention.



Storage Precautionary Statements: None.

Disposal Precautionary Statements: P501: Dispose of contents and container in accordance with local/regional/national /international regulations.

2.3 Description of any hazards not otherwise classified

None. No health hazard after curing. See section 11 for more detailed information on health effects and symptoms.

SECTION 3: Composition/information of ingredients

CAS Numbers and other Identifiers:

Chemical Name	CAS No.	EC No.	Concentration
Polyurethane acrylate prepolymer	Proprietary	/	50 – 75%
Hexamethylene diacrylate	13048-33-4	/	5 – 20%
Acrylate monomer	Proprietary	/	1 – 10%
Photoinitiator A: 2-hydroxy-2-methylpropiophenone	7473-98-5	/	1 – 10%
Photoinitiator B	Proprietary	/	1 – 5%
Additives	Proprietary	/	0.5 – 1%

SECTION 4: First aid measures

Inhalation: Move to fresh air. If symptoms develop and persist, get medical attention.

Skin contact: Wash with soap and water. Remove contaminated clothing and shoes. Wash clothing before re-use. Get medical attention if symptoms occur.

Eye contact: Flush with copious amounts of water (preferably lukewarm) for at least 15 minutes, holding eyelids open constantly. Get medical attention.

Ingestion: Do not induce vomiting. Keep individual calm and obtain medical attention.

SECTION 5: Firefighting measures

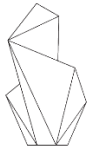
5.1 Extinguishing media:

Flash point:	Greater than 93°C (200°F) Tagliabue closed cup
Auto-ignition temperature:	Not available
Flammable/Explosive limits-lower %:	2.0 % (Acrylic Acid)
Flammable/Explosive limits-upper %:	8.0 % (Acrylic Acid)
Extinguishing media:	Foam, dry chemical or carbon dioxide.
Special fire-fighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Oxides of carbon. Irritating organic vapours.

SECTION 6: Accidental release measures

Environmental precautions: Prevent product from entering drains or open waters.

Clean-up methods: Ensure adequate ventilation. Soak up with inert absorbent. Store in a partly filled, closed container until disposal.



SECTION 7: Handling and storage

7.1 Precautions for safe handling:

- a) Use in well ventilated area.
- b) Use appropriate, approved safety equipment.
- c) Avoid contact with skin and eyes. Avoid breathing vapour or mist.
- d) Keep container tightly closed when not in use.
- e) Do not eat, drink or smoke at the workplace.
- f) Wash thoroughly after handling. Remove contaminated clothing and wash before re-use.
- g) Keep away from heat/sparks, open flames and hot surfaces.
- h) Prohibit use of product in high temperature/flame/spark or freezing environments. Avoid direct sunlight or ultraviolet light before bonding.
- i) For precautions, see section 2.

Fire and explosion protection recommendations: Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures: Provide adequate ventilation and wash hands immediately before and after using this product.

7.2 Safe storage conditions, including any incompatibilities

Store in cool, dry and well ventilated place. Keep container tightly closed. Keep away from fire and heat. Store away from foodstuff and strong oxides. Avoid direct sunlight or ultraviolet light before bonding.

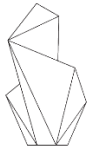
SECTION 8: Exposure controls/personal protection

Engineering controls: Use local exhaust ventilation to maintain airborne concentrations below established exposure limits.
Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).
Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact.
Eye/face protection: Safety goggles or safety glasses with side shields.
See Section 2 for exposure limits.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Liquid
Colour:	Transparent/Amber
Odour:	Sharp, Irritating
Vapour pressure:	Less than 5 mm Hg at 27oC (80oF)
pH:	not determined
Melting point/freezing point:	not determined
Boiling point/boiling range:	Greater than 149oC (300oF)
Specific gravity:	Approximately 1.1
Vapour density:	Not available
Evaporation rate:	Not available
Solubility in water:	Slight
Partition coefficient (n-octanol/water):	Not available
VOC content:	ASTM D5403 Process volatiles 1.17 %, 12.87 grams/litre; Potential volatiles 1.02 %, 11.22 grams/litre;
Total volatiles:	2.19 %, 24.09 grams/litre.



SECTION 10: Stability and reactivity

Stability: Stable.
Hazardous polymerization: Will not occur.
Hazardous decomposition products: Oxides of carbon. Irritating organic vapours.
Incompatibility: Strong oxidizers. Reducing agents. Acids. Bases. Alkalis. Aldehydes. Amines. Free radical initiators. Peroxides.
Conditions to avoid: Exposure to sunlight. Heat, flames and sparks. See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).

SECTION 11: Toxicological information

Product toxicity data: Acute LD50 (oral): 5000 (estimated). Acute dermal LD50 greater than 2000 mg/kg (estimated).

CARCINOGEN STATUS

Hazardous Components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Polyurethane methacrylate resin PROPRIETARY	NO	NO	NO
High boiling methacrylate 68586-19-6	NO	NO	NO
Hydroxyalkyl methacrylate 969-77-9	NO	NO	NO
Benzenecarboxylic acid, 1,1 dimethylethyl ester 614-45-9	NO	NO	NO
Acrylic acid 79-10-7	NO	NO	NO
Photoinitiator 947-19-3	NO	NO	NO
Saccharin 81-07-2	NO	NO	NO

LITERATURE REFERENCED TARGET ORGAN & OTHER HEALTH EFFECTS

Polyurethane methacrylate resin PROPRIETARY	Allergen, Irritant
High boiling methacrylate 68586-19-6	Allergen, Irritant
Hydroxyalkyl methacrylate 868-77-9	Allergen, Irritant
Benzenecarboxylic acid, 1,1- dimethylethyl ester 614-45-9	Central nervous system , Irritant, Mutagen
Acrylic acid 79-10-7	Allergen, Corrosive, Irritant, Kidney/Liver
Photoinitiator 947-19-3	No data
Saccharin 81-07-2	No target organs

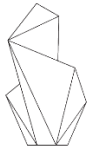
SECTION 12: Ecological information

No available ecological information.

SECTION 13: Disposal considerations

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.
EPA hazardous waste number: Not a RCRA hazardous waste.



SECTION 14: Transport information

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name: Unrestricted
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA):

Proper shipping name: Unrestricted
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG):

Proper shipping name: Unrestricted
Hazard class or division: None
Identification number: None
Packing group: None
Marine pollutant: None

SECTION 15: Regulatory information

United States Regulatory Information:

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12 (b) Export Notification: None.

CERCLA/SARA Section 302 EHS: None above reporting de minimus.

CERCLA/SARA Section 311/312: Mediate Health Hazard, Delayed Health Hazard.

CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Acrylic acid (CAS# 79-10-7).

California Proposition 65: This product contains a chemical known to the State of California to cause cancer.

Canada Regulatory Information:

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Domestic Substances List.

WHMIS hazard class: D.2.B

Section 16: Other Information

DISCLAIMER: Data contained herein is furnished for information only and believed to be reliable. However AMT does not assume responsibility for any results obtained by parties over whose methods AMT has no control. It is the user's responsibility to determine the suitability of the product or any production methods mentioned herein for a particular purpose and to adopt such precautions as may be advisable for the protection of persons and property against any hazards that may be involved in the handling and use of any AMT products. In light of the foregoing, AMT specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose arising from sale or use of AMT products. AMT further disclaims any liability for consequential or incidental damages of any kind, including lost profits.