



Crystic Crestabond M1-20 Cartridge

SAFETY DATA SHEET (SDS)

Section 1 - Identification of the Preparation and the Company

Product Name: **Crystic Crestabond M1-20 Cartridge**

Other Names: None

This product is classified as hazardous according to the criteria of Safe Work Australia.

Classified as a Dangerous Good according to the Australian Dangerous Goods Code (ADG).

Uses: Acrylic adhesive designed for bonding composites, thermoplastics and metals.

Manufacturer: Summit Composites Pty Ltd

Address

Country

Telephone

Facsimile

Website

Poisons Information Centre

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Section 2 – Hazards Identification

DANGER



Flammable



Corrosive



Harmful, acute

Hazard Statements

Flammable Liquid Category 2

Single Target Organ Toxicity SE 3 Respiratory system

Skin Corrosive 1A

Skin Sensitiser Category 1

H225: Highly flammable liquid and vapour.

H335: May cause respiratory irritation.

H314: Causes severe skin burns and eye damage.

H317: May cause an allergic skin reaction

Precautionary Statements

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking

P260 Do not breathe vapours / mists / spray

P270 Do not eat, drink or smoke when using this product

P271 Use only outdoors or in a well-ventilated area

P272 Contaminated work clothes should not be allowed out of the workplace

P280 Wear protective gloves/eye protection/face protection See Section 8

Response

P302 + P352 IF ON SKIN: 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 + P313 + P351 + P337 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention

P308 + P313 If exposed or concerned: Get medical advice/attention

P330 Rinse mouth

P331 Do not induce vomiting

P370 + P378 In case of fire: Use carbon dioxide, dry chemical or foam for extinction

Storage

P403 + P235 Store in a well-ventilated place. Keep cool

Disposal

P501 Dispose of contents/container to approved landfill



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Section 3 - Composition/Information on Ingredients

Ingredient(s)	CAS-number	%wt
Methyl methacrylate	80-62-6	35 – 40%
Methacrylic acid	79-41-4	6 - 8%
Dipropylene glycol dibenzoate	27138-31-4	2 – 4%
Styrene	100-42-5	2 – 4%
Benzoyl peroxide	94-36-0	<1.5%
Dibutyl maleate	105-76-0	<1%
N,N-Dimethyl-p-toluidine	99-97-8	<1%
Trizinc-bis(orthophosphate)	7779-99-0	<0.2%

Section 4 – First Aid Measures

Ingestion:

NEVER GIVE AN UNCONSCIOUS PERSON ANYTHING TO DRINK NOR ATTEMPT TO INDUCE VOMITING. If the person is conscious, rinse mouth out with water ensuring that mouthwash is not swallowed. Give about 250mL (2 glasses) of water to drink. DO NOT attempt to induce vomiting. Seek URGENT medical attention. For advice, contact a Poisons Information Centre (phone e.g. Australia 131 126; New Zealand 0800 764 766).

Inhalation:

Remove to fresh air. Keep warm and at rest. If breathing is laboured, hold in a half upright position (this assists respiration). Apply artificial respiration if breathing has stopped. Seek URGENT medical attention for all but the most minor cases of over-exposure.

Eye Contact:

If in eyes, IMMEDIATELY hold eyelids apart and flush the eye continuously with running water. Seek medical attention. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

Skin Contact:

Remove contaminated clothing. Rinse the affected area with water then wash thoroughly with soap and water. Use water alone, if soap is unavailable. Seek medical attention if any soreness or inflammation of the skin persists or develops later. Launder affected clothing before re-use.

Additional Information:

First Aid Facilities: Eye wash station. Safety shower if large volumes are being handled.

Advice to Doctor: Treat symptomatically. Pre-existing disorders of the respiratory tract and skin, may be aggravated by exposure to this material.

Entry Route(s): Inhalation, ingestion and skin contact.

Section 5 – Fire Fighting Measures

Highly flammable. Solvent vapours can form explosive mixtures with air in poorly ventilated conditions. Product may polymerise at elevated temperatures and containers may explode if heated. Vapour is heavier than air and may travel along the ground; distant ignition is possible. Keep away from sources of ignition such as open flames, sparks, hot surfaces or burning cigarettes.

In case of fire, evacuate personnel to safe areas. Avoid breathing vapours or fumes. Responders must be made aware of the nature of the hazard and must wear self-contained breathing apparatus and full protective clothing (including helmet, coat trousers, boots and gloves). If safe to do so, move undamaged containers from fire area but DO NOT approach containers suspected of being hot. Undamaged and sealed containers may be kept cool by spraying with water but direct contact with water should be avoided.

Extinguish using carbon dioxide; dry chemical; protein-based foam; or alcohol-resistant foam. Prevent, by any means possible, runoff from entering drains or water courses.

Section 6 – Accidental Release Measures

Avoid any contact. Barricade area. Evacuate non-emergency personnel from area. Only trained and properly protected personnel should be involved in clean-up operations. Keep upwind of spill. Ventilate area. Use appropriate personal



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protective equipment (refer to Section 8 - Exposure Controls / Personal Protection). Respiratory protection should be worn, including positive pressure self-contained breathing apparatus.

Contain liquid to prevent contamination of soil, surface water or ground water. Prevent from entering, sewers or drains. Cover with an absorbent such as earth, sand or a commercial oil absorber. Sweep up and collect in drums. Move drums to a well-ventilated area until disposed to an approved recycler, reclaimer, incinerator, or to approved land-fill. Test atmosphere for vapours to ensure safe working conditions before other personnel are allowed in the area.

Section 7 – Handling and Storage

Storage:

Store in a cool, area with adequate ventilation. Storage area should be bunded. Keep containers tightly closed when not in use. Protect containers against physical damage. Class 3 Flammable Liquids should not be transported or stored with goods of:

- Class 1 Explosives
- Class 2.1 Flammable Gases (where both flammable liquid and flammable gases are in bulk)
- Class 2.3 Poisonous Gases
- Class 4.2 Spontaneously Combustible Substances
- Class 5.1 Oxidising Agents
- Class 5.2 Organic Peroxides
- Class 6 Poisonous (toxic) Substances (where the flammable liquid is nitromethane)
- Class 7 Radioactive Substances

Do not store in open containers. Damaged or punctured drums should be emptied and disposed of properly.

Flammable Liquid according to AS1940 - Storage and Handling of Flammable and Combustible Liquids. Store in accordance with regulations for storage of flammable liquids.

Handling:

Use only with adequate ventilation. Provide general and / or local exhaust ventilation to ensure that the exposure standards for these materials are not exceeded. It is recommended that the styrene concentration in air be checked at regular intervals. Keep equipment clean. Use disposable containers and tools where possible. Do not eat, drink or smoke in the workplace.

For Personal Protective Equipment (PPE), see Section 8.

Section 8 – Exposure Controls/Personal Protection

Exposure standards: Exposure standards have not been allocated to this product. Information for the ingredients is:

Benzoyl peroxide	TWA: 5mg/m ³
Methacrylic acid	TWA: 20 ppm, 70mg/m ³
Methyl methacrylate	TWA: 50 ppm, 208mg/m ³
	STEL: 100ppm, 416mg/m ³
Styrene	TWA: 50 ppm, 213mg/m ³
	STEL: 100ppm, 426mg/m ³

Exposure standards represent airborne concentrations of individual chemical substances, which according to current knowledge, should neither impair the health nor cause undue discomfort to nearly all workers. Exposure standard may be a time-weighted average (TWA), a short-term exposure limit (STEL) or a peak level.

Engineering Controls:

Product may generate high vapour levels in confined or poorly ventilated areas.

Ventilation systems should be installed and regularly monitored to ensure exposure to vapour/aerosol is minimised.

Exhaust systems should be designed in accordance with workplace conditions. The air should always be moved away from the source of vapour generation and the person working at this point. The odour and irritancy of this material are inadequate to warn of excessive exposure.

Personal Protection:

Requirements are dependent on working conditions, quantity of product in use and method of application. For minor use: safety goggles and gloves may be sufficient. If large quantities are in use: chemical resistant safety goggles, gloves or gauntlets and overalls. Polyvinyl alcohol (PVA), Nitrile Rubber, Neoprene Rubber or Viton may be suitable depending on brand. Latex rubber is not suitable for use. The suitability and durability of a glove is dependent on frequency and duration of contact, chemical resistance of glove material, glove thickness and dexterity. In all cases glove suppliers should be contacted for additional advice. Contaminated gloves should be replaced. Wear appropriate clothing including chemical resistant apron where clothing may be contaminated.



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Avoid breathing of vapours/gases. Atmospheric levels should be maintained below the exposure standards. When atmospheric levels may exceed the exposure standard, use an approved air-purifying respirator equipped with an organic vapour sorbent and a particulate filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive pressure air-supplying respirator (airline or self-contained breathing apparatus SCBA). For emergency response, or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Select and use respirators in accordance with AS/NZS 1715/1716. N.B. If using an air-purifying respirator, TAKE THE LIMITS OF ABSORPTION CAPACITY INTO ACCOUNT. CHANGE FILTERS REGULARLY. Contaminated personal protective equipment should be removed promptly and should not be re-used until decontaminated.

Section 9 – Physical and Chemical Properties

Appearance: Paste
Odour: Strong, acrylic
Colour: White
Specific gravity (H2O = 1) >1.0
Boiling Point: 100°C based on methyl methacrylate – may polymerise
Solubility in Water: Insoluble
Vapour Pressure: 38.5mmHg @ 25°C based on methyl methacrylate
Vapour density (Air = 1): 3.6 based on methyl methacrylate
Flash Point: 12°C (Closed Cup)
Explosive limits (% By Volume in Air): LEL:1.1% UEL:6.1%

Section 10 – Stability and Reactivity

Stability: Stable under recommended storage and handling conditions. Highly flammable.
Hazardous Decomposition Products: Emits toxic fumes including oxides of carbon, if heated to decomposition or burned.
Hazardous polymerisation: Methyl methacrylate may polymerise at elevated temperatures and containers may explode if heated.
Incompatibilities: Incompatible with acids, bases, peroxides, strong oxidising agents such as liquid or powdered chlorine and combustibles.
Conditions to Avoid: Excessive heat, ignition sources and incompatible materials

Section 11 – Toxicological Information

Symptoms of Exposure:

Swallowed. May cause chemical burns to the mouth and throat. Ingestion may cause abdominal spasm, nausea and vomiting as well as symptoms similar to those for inhalation.

Eye: Causes burns, extreme irritation to the eyes and mucous membranes including burning and tearing.

Skin: Causes burns. Risk of sensitisation or allergic reactions.

Inhaled: Vapours are irritating to the eyes, nose and throat and have central nervous system effects. Inhalation may cause headache, nausea and dizziness. Higher concentrations may cause unconsciousness and coma.

Chronic Health Effects

Respiratory disorders, skin disorders and allergies may be aggravated by prolonged exposures.

Methyl Methacrylate and Methacrylic Acid

Classified by International Agency for Research on Cancer (IARC) in Group 3 i.e. not classifiable (inadequate data in humans, inadequate data in animals).

Styrene:

Classified by IARC in Group 2B i.e. possibly carcinogenic to humans (sufficient evidence in animals, inadequate data in humans).

Toxicological Information

Acute Toxicity Data:

Methyl Methacrylate

LD50 (oral, rat): 7,872 mg/kg

LC50 (Inhaled, rat): 78,000 mg/m³ / 4 h

LD50 (Dermal, rabbit): > 5,000 mg/kg



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Methacrylic Acid

LC50 (inhaled, rat): 7.1 mg/l / 4-hr

LD50 (oral, rat): 1,060-9,400 mg/kg

Dermal LD50 between 500 and 2,000 mg/kg

Eye irritation – Corrosive to Rabbits

Skin irritation: Corrosive to rabbits (24-hr exposure)

Styrene Monomer:

LCLo (inhaled, human): 10000ppm/30M,

TCLo (inhaled, human): 600ppm,

LD50 (oral, rat): 2650mg/Kg,

LC50 (inhaled, rat): 12g/m3/4H

Section 12 – Ecological Information

Eco toxicity: Methyl Methacrylate

Fish Toxicity: 191000 µg/L 96 hour(s) LC50 (Mortality) Bluegill (*Lepomis macrochirus*)

Invertebrate Toxicity: 1042 mg/L 24 hour(s) EC100 (Abundance) Water flea (*Daphnia magna*)

Algal Toxicity: 37000 µg/L NR year(s) (Population Growth) Green algae (*Scenedesmus quadricauda*)

Persistence / Degradability:

If released to air, a vapour pressure of 38.5 mm Hg at 25 deg C indicates methyl methacrylate will exist solely as a vapour in the atmosphere. Vapour-phase methyl methacrylate will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals and ozone; the half-lives for these reactions in air are estimated to be 15 hours and 1 day, respectively. Methyl methacrylate does not contain chromophores that absorb at wavelengths >290 nm (wavelength max = 239 nm) and therefore is not expected to be susceptible to direct photolysis by sunlight. If released to soil, methyl methacrylate is expected to have very high to high mobility based upon Koc values of 9-95. Volatilization from moist soil surfaces is expected to be an important fate process based upon an estimated Henry's Law constant of 3.2×10^{-4} atm-cu m/mole. Methyl methacrylate may volatilize from dry soil surfaces based upon its vapour pressure. Utilizing the Japanese MITI test, 94% of the theoretical BOD was reached in 2 weeks indicating that biodegradation is an important environmental fate process. If released into water, methyl methacrylate is expected to adsorb to suspended solids and sediment based upon the Koc values. Volatilization from water surfaces is expected to be an important fate process based upon this compound's estimated Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 5.7 hours and 4.8 days, respectively. An estimated BCF of 4 suggests the potential for bio concentration in aquatic organisms is low. Hydrolysis half-lives for methyl methacrylate of 4 years, 140 days, 14 days, and 3.4 hours have been calculated at pH values of 7, 8, 9 and 11, respectively. The rate constant for the aqueous-phase reaction of methyl methacrylate with photochemically-produced hydroxyl radicals has been determined to be $1.2 \times 10^{+10}$ L/mol-sec at pH 7; this corresponds to an aqueous half-life of approximately 67 days at an aqueous hydroxyl radical concentration of 1×10^{-17} mol/L.

Section 13 – Disposal Considerations

Do not allow into any sewers, drains, on the ground or into any body of water. Any disposal must be in accordance with applicable State, Territory and/or Local government regulations. The preferred waste management option for unused, uncontaminated, unformulated, or not otherwise altered material is to send to an approved recycler, reclaimer, or incinerator. The same waste management options are recommended for used or contaminated material, although additional evaluation is required. Waste characterisation and disposal compliance are the responsibility solely of the party generating the waste or deciding to discard or dispose of the material. Chemical additions, processing, storage, or otherwise altering this material may make the waste management information presented here incomplete, inaccurate or otherwise inappropriate.

Any disposal of contaminated packaging and washings must be in accordance with State, Territory and/or Local government regulations. After container has been cleaned and labelling has been removed, empty containers can be sent for recycling or disposal. If the container is to be reconditioned, the reconditioning company should be made aware of the nature of the original contents.



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Section 14 – Transport Information

This product is a Class 3 Flammable Liquid according to the Australian Code for the Transportation of Dangerous Goods by Road and Rail (ADG Code).

UN Number:	1133
Proper shipping name:	ADHESIVES
DG Class:	3
Hazchem code:	3YE
Packing group:	II
Emergency Information	1ERG 18P (AS/NZS HB:76) or EPG 3A1 (AS 2931)

Section 15 – Regulatory Information

Product is a schedule 6 Poison according to the requirements of the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

All ingredients are listed on the Australian Inventory of Chemical Substances (AICS).

Section 16 – Other Information

REFERENCES

1. List of Designated Hazardous Substances [NOHSC: 10005(1999)]
2. Safe Work Australia Code of Practice: Preparation of Safety Data Sheets for Hazardous Chemicals, 2016
3. Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC: 1003(1995)] and subsequent amendments
4. AS/NZS 1715 - Selection, use and maintenance of respiratory protective devices.
5. AS/NZS 1716 - Respiratory protective devices.
6. Australian Code for the Transportation of Dangerous Goods by Road and Rail (ADG Code), Edition, 7.4.
7. International Maritime Dangerous Goods Code (IMDG), and current amendments
8. Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) No. 15, November 2016

ABBREVIATIONS

IARC	International Agency for Research on Cancer
LC50	Lethal dose for 50% of test population, by inhalation.
LDLo	Lowest documented lethal dose
LD50	Lethal dose for 50% of test population, by ingestion or skin contact
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
TDLo	Lowest published toxic dose

User should verify applicability of this data sheet if more than 5 years old.

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