

SAFETY DATA SHEET

Classified as hazardous according to criteria of WorkSafe Australia

Solid Bond 375, Fibreglassing Resin

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name Polyester Laminating Resin 475.
 Product Code PR475
 Recommended Use Composites fabrication.
 Other Names Not Available

2. HAZARDS IDENTIFICATION

Hazard Classification Classified as Hazardous according to criteria of National Occupational Health & Safety Commission, Australia (NOHSC).
 Classified as Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
 Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
 Classified as Dangerous Goods for transport, according to the NZS 5433:1999 Transport of Dangerous Goods on Land.

Risk Phrase(s) R10 Flammable.
 R20 Harmful by inhalation.
 R36/38 Irritating to eyes and skin.

Safety Phrase(s) S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S38 If insufficient ventilation, wear suitable respiratory equipment.
 S23(2) Do not breathe vapour.
 S23(3) Do not breathe spray.
 S24/25 Avoid contact with skin and eyes.
 S37/39 Wear suitable gloves and eye/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Polyester resin	Proprietary	30-60 %
	Styrene monomer	100-42-5	30-60 %
	Other ingredients determined not to be hazardous		00-10 %
	Quinone and/or phenolic inhibitors	Proprietary	00-0.99 %
	Metal Naphthenates and/or Octoates	Proprietary	00-0.99 %
	Amine and/or aniline derivatives	Proprietary	00-0.09 %

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4. FIRST AID MEASURES

Inhalation	Remove the source of contamination or move the victim to fresh air. Ensure airways are clear. Keep at rest. Apply artificial respiration if not breathing. Seek medical attention.
Ingestion	Do not induce vomiting. Immediately wash mouth out with copious amount of water. Seek medical attention.
Skin	Wash affected area thoroughly with copious amounts of running water. Remove contaminated clothing and wash before reuse. If symptoms develop seek medical attention.
Eye	If in eyes wash out immediately with water for several minutes, holding the eyelids open. Seek medical attention.
First Aid Facilities	Eye wash station, safety shower and normal washroom facilities.
Advice to Doctor	Treat symptomatically.
Other Information	For advice, contact the Poisons Information Centre (Australia 131 126; New Zealand 0800 POISON/0800 764 766).

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Extinguish fire with foam, dry chemical powder, carbon dioxide, water spray or water fog.
Hazards from Combustion	Under fire conditions this product may emit toxic and/or irritating fumes Products including carbon monoxide and carbon dioxide.
Specific Methods	Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.
Specific Hazards	This product is flammable. Vapours are heavier than air and will 'travel' to low-level areas e.g. sumps, drains, etc. and flashback. Precautions should be taken to eliminate the build up of explosive mixtures. Polymerisation may occur at elevated temperatures. If polymerisation occurs in a closed container, violent rupture may result.
Hazchem Code	3[Y]
Precautions in connection with Fire	Water spray may be used to keep fire exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures	Remove all sources of ignition. Increase ventilation. Evacuate all unnecessary personnel. Wear sufficient respiratory protection where required and full protective clothing to minimise skin and eye exposure. If possible contain the spill. Place inert absorbent such as vermiculite, sand or dirt onto material. Use clean non-sparking tools to collect the material and place into a suitable labelled container. Do not dilute material but contain. Mop up the remaining material and place into the same container. If the spilled material enters the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.
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7. HANDLING AND STORAGE

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Precautions for Safe Handling	Wear appropriate protective equipment to prevent inhalation, skin and eye contact. Handle and use the material in a well-ventilated area, away from sparks, flames and other ignition sources. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Work from suitable, labelled, fire-resistant containers. Keep containers closed when not in use.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated area away from sources of ignition. This product should be stored away from foodstuffs and strong oxidising agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	Name	STEL (mgm3) (ppm)	STEL	TWA (mgm3) (ppm)	TWA
	Styrene monomer	426	100	213	50
Other Exposure Information	No exposure standards have been established for this material by the Australian National Occupational Health & Safety Commission (NOHSC) or the Occupational Safety and Health Service (OSH) of the New Zealand Department of Labour. However, the available exposure limits on the ingredients, as assigned by both authorities, are given above. TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week. STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.				
Engineering Controls	Good ventilation adequate to maintain the concentration below exhaust ventilation system, drawing vapours/mists exposure standards is required. The ventilation system should be suitable for use with flammable materials. The use of a local away from workers' breathing zone, is strongly recommended.				
Respiratory Protection	If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable organic vapour filter should be used. Reference should be made to Australian/New Zealand Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.				
Eye Protection	Safety glasses with side shields or chemical goggles should be worn. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.				
Hand Protection	Wear impervious gloves conforming to AS/NZS 2161: Occupational protective gloves. Laminated film gloves offer good protection for prolonged contact with the liquid. Consult glove suppliers to determine other appropriate glove types and, if necessary, test gloves before use.				
Body Protection	Suitable protective clothing should be worn e.g. cotton overalls buttoned at neck and wrist. When large quantities are handled the use of plastic aprons and rubber boots is recommended.				

8. EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont.)

Hygiene Measures Ensure a high level of personal hygiene is maintained when using this

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product. Always wash hands after handling the product and before eating, drinking, smoking or using the toilet facilities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear to hazy liquid with a characteristic styrene odour.(May be tinted).
Melting Point	Not available
Boiling Point	145°C (for Styrene)
Solubility in Water	Not soluble
Specific Gravity	0.95-1.15 (Dependent upon pigment/extender types, and non-volatile content).
pH Value Vapour Pressure	Not applicable
Pressure	0.6 kPa at 20°C (for Styrene)
Vapour Density (Air=1)	3.6 (air=1) (for Styrene)
Evaporation Rate	0.49 (n-butyl acetate=1) (for Styrene)
Colour	Dependent upon pigments used.
Flash Point	31°C TCC (for Styrene)
Flammability	Flammable liquid. This product should be stored and used in a well-ventilated area away from naked flames, heat, sparks and other sources of ignition. Electrically link and ground metal containers for transfers of the product to prevent accumulation of static electricity. Keep the container tightly closed.
Flammable Limits - Lower	1.1% (for Styrene)
Flammable Limits - Upper	6.1% (for Styrene)

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions of use and handling.
Conditions to Avoid	Ignition sources, contamination and prolonged storage above 38°C.
Incompatible Materials	Alkylation catalysts and strong acids (H ₂ SO ₄ , H ₃ P ₀ 4, BF ₃ , AlCl ₃), halogens and hydrogen halides. Copper and copper alloys. Oxidising agents.
Hazardous Polymerization	May occur if contaminated, or at elevated temperatures.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	For Styrene: LD50 (oral, rat) = 2,650mg/kg LD50 (inhalation, rat) = 2770 ppm/4h
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	LD50 (dermal, rabbit) > 5,010 mg/kg
	Eye irritation (Rabbit) (Standard Draize); moderate to severe Skin irritation (Rabbit) (Standard Draize); mild to moderate
	Styrene is classified as 'possibly carcinogenic to humans (Group 2B)' by the International Agency for Research on Cancer (IARC). Group 2B includes substances on which there is inadequate evidence of carcinogenicity in humans, but there is limited evidence of carcinogenicity in experimental animals.
Inhalation	Harmful by inhalation. Vapour can cause severe irritation to the respiratory tract. Styrene at 400 ppm is irritating to all parts of the respiratory tract. Styrene possesses narcotic-like properties; excessive exposure may result in headache, dizziness, incoordination, fatigue, nausea, loss of appetite and loss of consciousness.
Ingestion	Ingestion of this product may irritate the gastric tract causing nausea and vomiting.
Skin	Will cause irritation in contact with skin. Prolonged contact with skin may cause blistering, and repeated contact may have a defatting effect causing dryness and cracking.
Eye	Irritating to eyes. On eye contact this product will cause tearing, stinging, blurred vision, redness and possible conjunctivitis.
Chronic Effects	Continued exposures to levels near 400 ppm can cause respiratory tract irritation; prolonged inhalation of vapours can cause respiratory tract obstruction. Long-term exposure to styrene may cause peripheral neuropathy and CNS depression.
Carcinogenicity	Styrene is classified as 'possibly carcinogenic to humans (Group 2B)' by the International Agency for Research on Cancer (IARC).

12. ECOLOGICAL INFORMATION

Ecotoxicity	Not available
Persistence/Degradability	Not available
Mobility	Not available
Bioaccumulative Potential	Not available
Environment Protection	Prevent this material entering waterways, drains and sewers.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	The spilled or waste material must be disposed of in accordance with relevant local, state and federal regulations. Uncleaned packaging must be disposed of in the same manner as the material.
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14. TRANSPORT INFORMATION

Transport Information Australia:	This material is a Class 3 - Flammable Liquid according to The Australian Code for the Transport of Dangerous Goods by Road and Rail. Class 3 - Flammable Liquids are incompatible in a placard load with any of the following: - Class 1, Explosives - Class 2.1, Flammable Gases, if both the Class 3 and Class 2.1 dangerous goods are in bulk
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- Class 2.3, Toxic Gases
- Class 4.2, Spontaneously Combustible Substances
- Class 5.1, Oxidising Agents and Class 5.2, Organic Peroxides
- Class 6, Toxic Substances (where the flammable liquid is nitromethane)
- Class 7, Radioactive Substances.

New Zealand:

This material is classified as a Class 3 - Flammable Liquid according to NZS 5433:1999 Transport of Dangerous Goods on Land. It must not be loaded in the same freight container or on the same vehicle with:

- Class 1, Explosives
- Class 2.1, Flammable gases
- Class 2.3, Toxic gases
- Class 4.2, Spontaneously combustible substances
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides or
- Class 7, Radioactive materials unless specifically exempted.

It must not be loaded in the same freight container; and on the same vehicle must be separated horizontally by at least 3 metres unless all but one are packed in separate freight containers with:

- Class 4.3, Dangerous when wet substances

Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:

- Class 4.2, Spontaneously combustible substances
- Class 4.3, Dangerous when wet substances
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides

U.N. Number	1866
Proper Shipping Name	RESIN SOLUTION
DG Class	3
Hazchem Code	3[Y]
Packaging Method	3.8.3RT1,RT7
Packing Group	III
EPG Number	3A1
IERG Number	14

15. REGULATORY INFORMATION

Regulatory Information Australia: Classified as hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC). Classified as Scheduled Poison (S5), according to the Standard for the Uniform Scheduling of Drugs and Poisons, 2004. (No. 19).

Regulatory Information New Zealand: Not scheduled according to the Toxic Substances Regulations 1983.

Poisons Schedule S5

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Hazard Category

New Zealand: Not Scheduled
Harmful, Irritant

16. OTHER INFORMATION

CONTACT POINT

Contact Point
Technical Manager 03 9579 2044.

Disclaimer: The information herein is to the best of our knowledge, correct and complete. It describes the safety requirements for this product and should not be construed as guaranteeing specific properties. Since methods and conditions are beyond our control we do not accept liability for any damages resulting from the use of or reliance on, this information in inappropriate contexts.