



# SAFETY DATA SHEET

## 1. Product Identification

<b>Product Name</b>	Polyester Resin	
<b>SDS Number</b>	3527	
<b>Restrictions</b>	None known.	
<b>Manufacturer / Supplier Information</b>		
Company Name	AA Composites International Pty Ltd	
Address	Unit 4, 23 Londor Close Hemmant, Q4174 Australia	
Telephone	61444568646	
Website	www.aaci.au	
Email	sales@aaci.au	
Emergency Contact	Des Lawson	Phone 0418 991 337
	Poisons Information Centre	Phone 131 126

## 2. Hazard(s) Identification

### Classification of substance or Mixture / Signal Word

<b>Signal Word</b>	<b>WARNING</b>
<b>Classifications</b>	Flammable Liquids Category 3 Skin Irritant Category 2 Serious Eye Irritation Category 2a Specific Target Organ Systemic Toxicity (Single Exposure) Category 2 Acute Toxicity Category 4



### Hazard Statements

H226 - Flammable liquid and vapour  
 H332 - Harmful if inhaled  
 H315 - Causes skin irritation  
 H319 - Causes serious eye irritation  
 H371 – May cause damage to organs  
 H401 - Toxic to aquatic life

### Precautionary Statements

#### **Prevention**

P102 Keep out of reach of children.  
 P103 Read label before use.

**HAZARD IDENTIFICATION – Precautionary Statements (Continued)**

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, sparks, open flames and hot surfaces. – No smoking
P233	Keep container tightly closed.
P235	Keep cool.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/fumes/gas/mist/vapours/spray.
P264	Wash face, hands and any other exposed skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated clothing should not be allowed out of the workplace.
P273	Avoid release to the environment
P285	In case of inadequate ventilation, wear respiratory protection.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P411	Store at temperatures not exceeding 30°C

**Precautionary Statements**

**Response**

P391	Collect spillage.
P308+P313	If exposed or concerned, get medical advice.
P321	Specific treatment (see supplemental first aid instructions on this label)
P304+P340+P315+	<b>IF INHALED:</b> Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice.
P301 +P310+P331	<b>IF SWALLOWED:</b> Immediately call a POISON CENTRE or doctor. DO NOT induce vomiting.
P306+P362	<b>IF ON CLOTHING:</b> Take off contaminated clothing and wash before re-use.
P370+P378	In case of fire: Use CO2, dry chemical, or foam for extinction.
P305+P351+P315	<b>IF IN EYES:</b> Rinse cautiously with water for several minutes. Get immediate medical attention.
P303 + P361 + P352+	<b>IF ON SKIN (or hair)</b> Take off immediately all contaminated clothing. Wash with plenty of
P363	soap and water. Wash contaminated clothing before reuse.
P333+P313	<b>IF SKIN IRRITATION OR RASH OCCURS:</b> Get medical attention.

**Storage**

P233+P403+P235	Keep container tightly closed. Store in a well-ventilated place. Keep cool.
P405	Store locked up.

**Disposal**

P501	Dispose of contents and container in accordance with all local, regional, national and international regulations.
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**Hazards not otherwise classified (HNOC)**

N/A

**3. Composition / Information on Ingredients**

CHEMICAL NAME	CAS NO.	PROPORTION
Styrene	100-42-5	25 – 55%
Non-hazardous ingredients	N/A	Balance

**4. First Aid Measures**

**General advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**FIRST AID MEASURES – (Continued)**

**Inhalation**

Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical advice/attention. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

**Skin contact**

Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor. Get medical attention if irritation develops and persists. Wash off immediately with soap and plenty of water for at least 15 minutes.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Continue rinsing. Seek immediate medical advice.

**Ingestion**

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Lean victim forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person. Call a doctor. Immediate medical attention is required. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

**Self-Protection of the first aider**

Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing.

**Medical attention and special treatment**

Treat symptomatically. Effects may be delayed and include pulmonary oedema. Aspiration of this product during induced emesis may result in severe lung injury. If evacuation of stomach is necessary, use method least likely to cause aspiration.

**Indication of any immediate medical attention and special treatment needed – Note to doctors**

Because of the danger of aspiration, emesis or gastric lavage should not be used unless the risk is justified by the presence of additional toxic substances.

## **5. Fire Fighting Measures**

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Flammable liquid Polymerizable if exposed to heat.

**Suitable extinguishing media**

Foam, dry chemical and carbon dioxide extinguishers may be used. Use water spray to cool exposed, closed containers.

**Hazards from combustion products**

Thermal decomposition products include carbon monoxide and carbon dioxide styrene and acrid smoke.

**Special protective equipment and precautions for fire-fighters**

Fire fighters and others exposed to the products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

Vapours are heavier than air and can accumulate in low areas; they may travel a considerable distance to a source of ignition and flash back. The liquid normally contains an inhibitor to prevent polymerisation. At elevated temperatures, such as fire conditions, polymerisation may take place. If polymerisation takes place in a closed container, there is the possibility of a violent rupture of the container. Styrene vapours are uninhibited and may form polymers in vents and flame arresters of storage tanks, resulting in vent blockages.

## 6. Accidental Release Measures

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### Emergency Procedures

Flammable liquid. Vapour may form explosive mixtures with air. Avoid all ignition sources. Keep unprotected people away. Wear appropriate protective equipment to prevent eye and skin contact and inhalation of vapours (See "Personal Protection" section). Increase ventilation. For large spills wear self-contained breathing apparatus and full protective clothing.

### Protective Equipment

Proper PPE includes; Gloves, eye protection, protective clothing, protective footwear and skin protection.

### Environmental precautions

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent contamination of soil and water

### Methods and materials for containment / clean-up

Contain spill and absorb with inert absorbent such as sand, earth or vermiculite and seal in properly labelled containers for disposal. Alternatively, pump to salvage truck. Keep out of sewer, stormwater drains and waterways.

### Containers

Emptied containers retain vapour and product residue and may therefore present explosive vapour and toxic material hazards. Observe all safeguards on label and in this MSDS until container is cleaned, reconditioned or destroyed. DO NOT CUT OR WELD ON OR NEAR THIS CONTAINER. In all cases disposal should be in accordance with regulations.

## 7. Handling and Storage

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### Precautions for safe handling

Flammable liquid. Vapour may form explosive mixtures with air. Avoid all ignition sources. Use only in well ventilated areas. Keep container tightly closed. Flameproof equipment is necessary in area where product is being used. Earth (ground) and bond shipping container transfer line and receiving container. Consult AS1940 for further information on the storage and handling of flammable liquids. Handle in accordance with State or Territory regulations for flammable liquids.

Avoid contact with skin, eyes and clothing. Keep away from incompatible materials. Use only in well ventilated areas. Wash thoroughly after handling. When using products do not eat, smoke or drink.

A waterless hand cleanser followed by a mild soap and water wash is recommended for clean-up. The application of a barrier cream under suitable gloves and moisturizing cream after hand washing is also recommended. These practices can assist in the prevention of dermatitis.

### Conditions for safe storage

The material is a Schedule 5 Poison and must be stored, maintained and used in accordance with relevant regulations.

Keep away from sources of ignition – No smoking. Keep container tightly closed. Store in the shade preferably below 30°C. Store in a well-ventilated area. Keep away from incompatible materials. The product is stable under normal conditions of storage and transport. It has a limited storage life due to inhibitor depletion and should be used within six months of delivery. Rapid polymerization resulting in violent rupture of closed containers and possible fire from flammable vapours may be initiated by high temperatures or certain contaminants. Contamination with alkalis reduces inhibitor concentration and increases the risk of spontaneous polymerization. Exposure to UV radiation (including from light fittings) can initiate slow polymerization that may continue in a sealed container. Oxidising agents (e.g. organic peroxides), strong acids (e.g. sulfuric acid), ferrous salts present in rust and some metal halides, can promote polymerization. Contamination of the product with these substances should therefore be absolutely avoided. Styrene degrades most plastics and rubbers and corrodes copper and copper alloys. Avoid these materials for storage and handling of styrene based resin solutions. Protect storage containers against physical damage. Outside storage or detached storage is preferred. Tanks should be above ground and banded to contain the entire contents. Styrene vapours are uninhibited and may polymerise in vents and flame arresters of storage tanks resulting in blockage of vents.

## 8. Exposure Controls / Personal Protection

### Exposure Controls

Chemical Name	8hr TWA	STEL 15 mins
Styrene	50 ppm	100 ppm

### Engineering Control Measures

Provide good mechanical ventilation with a non-sparking, grounded ventilation system exhausting directly to the outside, to control airborne levels below the OEL above, and separate from other exhaust ventilation systems. Care should be taken in controlling the emission of fumes into the environment, to meet the local regulations. Electric lighting and plugs to be explosion proof. Ensure that eyewash stations and safety showers are proximal to the workstation location. Exposure to aerosols and mists when material is sprayed may present a greater risk of injury from component because higher concentrations are in the atmosphere than result from vapour alone. Provide adequate ventilation and if necessary respiratory protection

### Personal Protection

#### Eye Protection

Wear approved safety glasses or chemical goggles or a face shield. Do not wear contact lenses. Have an emergency eyewash station readily available in the working area.

#### Hand Protection

Wear impervious gloves, preferably with cotton inners to prevent skin contact. Supplier data indicates polyvinyl alcohol and Viton gloves are suitable for prolonged contact with styrene. Other glove types, such as nitrile rubber, may be suitable as disposable gloves for brief or intermittent contact only.

#### Skin and body protection

Wear coveralls and safety boots where potential for skin contact is low. A disposable suit (e.g. Tyvek) and polyethylene boots and glove covers may be practical options during application of the resin. Wear impervious clothing such as PVC apron. PVC splash suit or Saranex disposable suit and PVC boots as appropriate for the operation where the potential for skin contact is high.

#### Respiratory Protection

Avoid breathing vapours and/or spray mist. If inhalation risk exists, wear air-purifying respirator fitted with organic vapour/particulate filters, self-contained breathing apparatus or air-supplied respirator meeting AS/NZS1716 and selected and used in accordance with AS/NZS1715. Full face equipment is recommended and if used replaces the need for face shield and/or chemical splash goggles.

#### Other Personal Protection

Protective clothing/equipment should meet and be selected and used in accordance with relevant Australian Standards. Consult protective equipment/clothing suppliers to determine appropriate type equipment/clothing for a given application. Avoid contact with eyes, skin and clothing. Use only in well ventilated areas. Wash thoroughly after handling. When using do not eat, smoke or drink. Protective equipment and clothing should be decontaminated before storage and/or use. Solvents should not be used to remove resin from skin. A waterless hand cleanser is recommended for clean-up followed by a mild soap and water wash. The application of a barrier cream under suitable gloves and moisturizer cream after hand washing is also recommended. These practices can assist in the prevention of dermatitis. Flammability liquid vapour may form explosive mixtures with air. Avoid all ignition sources. Use only in well ventilated areas. Keep container tightly closed. Flameproof equipment is necessary in area where product is being used. Earth (ground) and bond shipping container transfer line and receiving container. Consult AS1940 for further information on the storage and handling of flammable liquids. Handle in accordance with State or Territory regulations for flammable liquids.

## 9. Physical and Chemical Properties

Appearance	Clear - cloudy
Colour	Clear
Form	Viscous Liquid

**PHYSICAL AND CHEMICAL PROPERTIES (Continued)**

<b>Odour</b>	Sweet or sharp aromatic odour.
<b>Odour threshold</b>	Approx. 0.1ppm
<b>Boiling Point (°C)</b>	145°C at 760mm Hg
<b>Freezing Point (°C)</b>	-30.6°C
<b>Vapour Pressure</b>	0.60 kPa at 20°C 0.81 kPa at 25°C
<b>Density at 25°C</b>	1.09 – 1.11 g cm <sup>3</sup>
<b>Relative Vapour Density (Air=1)</b>	3.6
<b>Flashpoint (°C)</b>	31°C
<b>Autoignition temperature</b>	490°C
<b>Flammability Limits (%) in Air</b>	Upper Flammability Limit – 6.1% Lower Flammability Limit – 1.1%
<b>Solubility in Water</b>	Practically insoluble 0.03%
<b>Viscosity of Mix</b>	No information available.
<b>Volatile Organic Compounds Content</b>	No information available.
<b>Decomposition Temperature</b>	No information available.
<b>PH (1:1 water mixture)</b>	Not applicable

## 10. Stability and Reactivity

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**Chemical Stability**

The product is stable under the normal conditions of storage and transport.

**Conditions to avoid**

Keep away from sunlight, heat and sources of ignition.

**Incompatible materials**

Avoid contamination with materials such as alkylation catalysts (sulphuric acid, phosphoric acid, boron trifluoride, aluminium trichloride), halogens and hydrogen halides, alkali metal-graphite compounds and butyl lithium and organic peroxides which catalyse rapid polymerization of styrene monomer. Styrene degrades most plastics and corrodes copper and copper alloys.

**Hazardous Decomposition Products**

Thermal decomposition products may include carbon monoxide and carbon dioxide, styrene and acrid smoke.

**Hazardous Reactions**

May undergo hazardous polymerization in closed containers at elevated temperatures and in the presence of initiating contaminants.

## 11. Toxicological Information

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**INFORMATION ON THE LIKELY ROUTES OF EXPOSURE:** Eyes, skin, inhalation and ingestion.

**Acute – Swallowed**

No adverse health effects expected if the product is handled in accordance with this Materials Safety Data Sheet and the product label. Symptoms that may arise if the product is mishandled are;

**Acute - Eyes:**

May cause irritation, experienced as discomfort or pain and seen as excess redness and possible swelling of the eye and possible injury to the cornea.

**Acute - Skin:**

May cause irritation and discomfort and seen as local redness and possible swelling. Prolonged contact as with clothing wetted with material may cause severe irritation and discomfort. Scientific studies indicate that absorption of styrene from skin contact with liquid resin during normal use is unlikely to add significantly to exposure.

**TOXICOLOGICAL INFORMATION (Continued)****Acute – Inhaled**

Inhalation of styrene may cause irritation to the upper respiratory tract and central nervous system effects (dizziness, drowsiness, and euphoria, loss of co-ordination, headache, nausea and vomiting). In poorly ventilated areas or confined spaces, unconsciousness and asphyxiation may result. Inhalation may result in the absorption of potentially harmful amounts of material

**Chronic**

Repeated skin contact may cause irritant contact dermatitis (itching, drying, redness). Repeated inhalation may cause lung damage. Prolonged and repeated overexposure may cause damage to the liver and kidney.

**OTHER HEALTH EFFECTS INFORMATION:****Styrene Component**

Carcinogenicity (Capability to Cause Cancer) Chronic (lifetime) inhalation studies on rats and mice exposed to styrene vapours showed evidence of lung tumours in mice but not in rats. Further research is in progress to determine the relevance of these mouse tumours to humans. It should be noted, however, that several workplace exposure (epidemiological) studies investigating the incidence of cancer in a large number of workers employed in the styrene, polystyrene and reinforced plastics industries have shown no increased incidence of cancer risk due to workplace exposure to styrene.

The International Agency for Research on Cancer (IARC) has evaluated styrene and classified it as “Possibly Carcinogenic to Humans” under group 2B. The National Occupational Health and Safety Commission (NOHSC) has not classified styrene as a carcinogen under any category.

**Developmental and Reproductive Toxicity**

Laboratory studies investigating human developmental and reproductive toxicity of styrene have indicated that styrene exposures either as vapour, oral or drinking water, do not result in any specific developmental or reproductive toxicity. Although some minor developmental effects were noted in some studies, these effects were either within the historical range for these effects or were secondary to maternal toxicity from exposure to relatively high levels of styrene.

**Neurological (Nervous System)**

Effects Some evidence of hearing loss was observed in rats repeatedly exposed to high concentrations of styrene vapour. Effects on human hearing are not expected from workplace exposures to styrene. Slight effects on colour discrimination have been detected in workers exposed to styrene vapours. These subtle effects are unlikely to be noticed by those affected. Other nervous system effects have been noted in humans exposed to styrene. However, these effects have not been consistently or reliably observed in animal studies.

**Medical conditions generally aggravated by exposure**

Because of styrene’s defatting properties, prolonged and repeated skin contact may aggravate an existing dermatitis (skin condition). Repeated overexposure may aggravate or enhance existing nervous system dysfunction. Repeated overexposure may aggravate existing respiratory, liver or kidney disease.

**12. Ecological Information**

No data available on product.

**Ecotoxicity**

Styrene is moderately toxic to fish and daphnia and highly toxic to algae.

**Aquatic Toxicity**

Toxicity to...	Results
Fish	LC50 (fathead minnow): 10mg/L Exposure time: 96h
Daphnia Magna	EC50 (Daphnia magna): 4.7 mg/lL Exposure time: 48 h
Green Algae	EC50 (Green algae): 0.72mg/L Exposure time: 96

**Mobility**

Styrene is expected to bind to soils and sediments and have low mobility. The estimated organic carbon/water partition co-efficient (log Koc) =2.42 – 2.96

### **ECOLOGICAL INFORMATION (Continued)**

#### **Persistence and degradability**

##### **Persistence and Biodegradability**

Styrene has been shown to undergo slow but nearly complete biodegradation in laboratory studies. Styrene released to soil will have low mobility (see above) and will biodegrade. Styrene released to water will float and volatilize (Henry's Law constant = 0.00275 atm m<sup>3</sup>/mole at 25°C) and will biodegrade. Styrene vapour will degrade rapidly in the ambient atmosphere. Styrene is not expected to persist in the environment.

##### **Potential to Bioaccumulate**

Although the octanol/water partition co-efficient (log K<sub>ow</sub>) for styrene has been determined to be 2.95, indicating a moderate potential to bioaccumulate, the bioconcentration factor (log BCF) in goldfish has been determined to be 0.83 to 1.13 indicating a reduced bioconcentration potential in aquatic organisms.

## **13. Disposal Considerations**

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### **Disposal methods**

The product is considered to be a hazardous waste because of its flammability and toxicity. If feasible, recycle. Liquid waste resin may be solidified by heating in an approved heating chamber. The properly cured solid may be disposed of in a chemical landfill. Otherwise, dispose of by burning in an approved incinerator. In all cases, disposal should be in accordance with regulations.

### **Special precautions for landfill or incineration**

Emptied containers retain vapour and product residue and many therefore present explosive vapour and health hazards. Observe all safeguards on label and in this MSDS until container is cleaned, reconditioned or destroyed. **DO NOT CUT OR WELD ON OR NEAR THIS CONTAINER.** In all cases disposal should be in accordance with regulations.

## **14. Transport Information**

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<b>UN Number</b>	UN1866
<b>Proper Shipping Name</b>	Resin Solution
<b>Dangerous Good Class</b>	3
<b>Hazchem Code</b>	3Y
<b>Poisons Schedule</b>	5
<b>Packaging Group</b>	III

### **Dangerous Goods Segregation (ADG Code)**

Do not load and pack with Class 1 (Explosives). Class 2.1 (Flammable gases – where flammable liquids/gases are in bulk). Class 2.3 (Toxic Gases). Class 4.2 (Spontaneously Combustible Substances). Class 5.1 (Oxidising Agents). Class 5.2 (Organic Peroxides). Class 7 (Radioactive Substances). Transport in accordance with State and Territory regulations for Dangerous Goods.

**SDS Continues on the next page**



**OTHER INFORMATION INCLUDING DATE OF PREPARATION**

**Date of preparation**                      11 June 2023

**Authorisation**

<b>Name</b>	Des Lawson
<b>Title</b>	Product Manager
<b>Issue Date</b>	11 June 2023

The information contained herein summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace, including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request. All information contained in this SDS is as accurate and up-to date as possible. No Warranty expressed or implied is made as to its accuracy, reliability or completeness. AA Fibreglass supplies assumes no responsibility for injury from the use of the product described herein.

**End of SDS**