

ALEC TIRANTI LIMITED

TOOLS, MATERIALS & EQUIPMENT FOR MODELLING, CARVING, SCULPTURE
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Material Safety Data Sheet

MULTI-PURPOSE POLYESTER RESIN

1. IDENTIFICATION OF PREPARATION

Material / Trade Name: Multi-Purpose Polyester Resin
Intended Use: Laminating and casting resin

2. COMPOSITION / INFORMATION ON INGREDIENTS

Unsaturated Polyester Resin in Styrene
Component or Impurities Contributing to Hazards
 Styrene (conc. Range 42%-46%)
 Symbol: Xn, R-Phrases: R10, R20, R36/38, S Phases: S23.
 EEC No. 601-026-00-0. Cas No. 100-42-5

3. HAZARDS IDENTIFICATION

R20 – Harmful by inhalation
 R36/38 – Irritating to Eyes
 R10 – Flammable

4. FIRST AID MEASURES

General: In cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation: Remove to fresh air, keep patient warm and at rest. Give oxygen in cases of breathing difficulty. If breathing stops give artificial respiration. If unconscious, place in recovery position and call emergency medical care.
Eye Contact: Irrigate copiously with water for at least 15 minutes, holding eyelids apart. Get medical attention.
Skin Contact: Wash thoroughly with soap and water or use recognised skin cleanser. DO NOT use solvents or thinners.
Ingestion: Do **not** induce vomiting, keep at rest. Obtain medical attention immediately.

5. FIRE FIGHTING MEASURES

Suitable Extinguishers: Carbon dioxide, foam, powder
Unsuitable Extinguishers: Water
Protection of Fire-Fighters: Wear individual breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear protective equipment
Environmental precautions: Do not discharge into sewers
Methods of Cleaning Up/Recovery: Recover product by fixing with an absorbent. Collect the product in a container pending future destruction.
Disposal: Burn in an approved installation.

Exclude sources of ignition and ventilate area. Avoid breathing vapour. Refer to protective measures listed in Sections 7 & 8. Contain and collect spillage with non-combustible materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations. Do not allow to enter drains or watercourses. Clean preferably with detergents, but avoid use of solvents. If product contaminated lakes, rivers, or sewage inform the appropriate authorities in accordance with local regulations.

7. HANDLING & STORAGE

Handling: Do not store beyond shelf life. Efficient ventilation is required in working area to prevent worker exposure. Close containers after use to prevent fire and explosion possibilities.
Storage: Stable under normal storage conditions. Keep containers tightly closed, away from the sun and away from heat. Keep away from sources of ignition – no smoking.
Incompatible Materials: Keep container away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures: Provide adequate ventilation. Where practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentration of particles and/or solvent vapours below the relevant occupational exposure limits suitable respiratory equipment should be worn.

Exposure Limits: (TLV-TWA, TLV-STEL)

Substance	Occupational Exposure Limits				according to:
	8 hours (VME)		Short Periods (VLE)		
Styrene	ppm	mg/m ³	ppm	mg/m ³	
	100		250 (10mn)		UK

Personal Protection:

Respiratory Protection:	Wear mask. In case of insufficient ventilation wear suitable respiratory equipment.
Hand Protection:	Wear solvent proof gloves
Eye Protection:	Wear a face shield or chemical goggles. Contact lenses should not be worn.
Skin Protection:	Wear impermeable apron.

Maximum Exposure Limits and Occupational Exposure Limits are taken from the publication **HSE 40/94 Occupational Exposure Limits 1994** or later issue, but Limits should be checked in the latest issue.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Pink thixotropic liquid
Odour:	Aromatic
Ph:	nd
Boiling Point Range:	>145°C
Flash Point:	31°C
Auto-ignition temperature:	490°C
Explosive Properties & Flammability:	lower = 1.1 upper = 6.1
Vapour Pressure:	6.52mb (652N/M2) at 20°C (styrene)
Relative Density:	1.12
Solubility in water:	Insoluble in water
Solubility in organic solvents:	Soluble in aromatic and aliphatic solvents.
Viscosity:	0.5 – 4.5 poise

10. STABILITY AND REACTIVITY

Stability:	Stable under normal storage conditions
Materials to avoid:	Hazardous reaction with strong oxidizing agents and peroxides
Conditions to avoid:	Light and heat

11. TOXICOLOGICAL INFORMATION

Acute Toxicity LD50:	An oral LD50 in rats of 5g/kg has been reported for styrene.
LC50:	LC50 values in rats ranging between 2770 – 6000 ppm are reported for styrene
Skin Irritation:	Irritating to skin
Eye Irritation:	Irritating to eyes
Inhalation:	Harmful by inhalation
Carcinogenicity:	No evidence that styrene is carcinogenic in humans.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity:	Marine Hazard
Possible Environmental Impact:	Harmful to aquatic organisms. Do not discharge into drains or the environment, dispose of to an authorised waste collection point.

13. DISPOSAL CONSIDERATIONS

Incinerate in approved installation. Discharge prohibited into sewers and natural environments. Cleaned packaging may be recycled.

14. TRANSPORT INFORMATION

Sea (IMDG):	<i>Proper Shipping Name:</i>	Resin Solution
	<i>Page IMDG Code:</i>	3179
	<i>Un Number:</i>	1866 Class 3. Packing Group 3. Label 070. EMS No.: 3 – 05 MFAG 310
Air (ICAO/IATA):	<i>Marine Pollutant (P or PP):</i>	P
	<i>UN/ID No:</i>	1866
	<i>Proper Shipping Name:</i>	Resin Solution
Land (RID/ADR, RTMDR/RTMDF):	<i>Class/Division:</i>	3. Label 070. Packing Group 3.
	<i>Transport name:</i>	Resin Solution Class 3. Label 070.

15. REGULATORY INFORMATION

EEC REGULATIONS / EEC LABELLING

The information in this safety sheet does not constitute the user's own assessment of workplace risks as are required by other health and safety legislation. The provisions of the Health and Safety at Work etc. Act and the Control of Substances Hazardous to Health Regulations apply to the use of this product at work.

R Phrases: R10 Flammable, R20 Harmful by inhalation, R36/38 Irritating to eyes and skin.
S Phrases: S23 Do not breathe vapour.
Symbols: Xn Harmful and F Flammable
English Regulation: The packaging and Labelling of Dangerous Substance Regulations 1978 (S.I. 1978/209).

16. OTHER INFORMATION

The information contained in this Safety Data Sheet is provided in accordance with the requirements of the Chemicals (Hazard Information and Packaging) Regulations.

This product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use are outside the supplier's control, the user is responsible for ensuring that the requirements of the relevant legislation are

complied with. The information contained in this Safety Data Sheet is based on the present state of knowledge and current national legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of material properties, of technical performance or suitability for particular applications.

Further information can be found in:

- The Control of Substances Hazardous to Health Regulations 1988 (SI 1988:1657)
 - The Manual Handling Operations Regulations 1992 (SI 1992: 2793)
 - The Environmental Protection (Duty of Care) Regulations 1992 (SI 1992: 2839)
 - The publication HSE EH40/94 Occupational Exposure Limits 1994 or latest issue.
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