



SAFETY DATA SHEET

GP POLYESTER LAMINATING RESIN

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY

Product name	High Quality GP Polyester Laminating Resin
Company	Easy Composites Ltd Unit 39 Park Hall Business Village Longton, Stoke-on-Trent ST3 5XA United Kingdom
Email	sales@easycomposites.co.uk
Telephone	+44 (0)1782 454499
Intended Use	As a hand-layup laminating resin for GRP/CFRP composites.

2. HAZARDS IDENTIFICATION

Main hazards	R10- Flammable. R20- Harmful by inhalation. R36/38- Irritating to eyes and skin.
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Harmful Flammable

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredients	Concentration	CAS	CAS Symbols/Risk phrases
Styrene	25 - 40	100-42-5	R10 Xn; R20 Xi; R36/38
1,2-Benzenedicarboxylic acid, bis(2-methylpropyl)ester	0.1 - 0.5	84-69-5	N; R50

4. FIRST AID MEASURES

Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or

waistband.

Ingestion Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

5. FIRE FIGHTING MEASURES

Extinguishing media SMALL FIRE: Use dry chemical powder.
LARGE FIRE: Use water spray or fog. Never direct a water jet into the container in order to prevent any splashing of the product, which could cause the fire to spread. Cool containers with water jet in order to prevent pressure build-up, auto-ignition or explosion. Use dry chemical, CO₂, water spray (fog) or foam.

Not to be used Do not use water jet.

Special fire-fighting procedures Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products Decomposition products may include the following materials:
carbon oxides

Protective equipment Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Clean up methods Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

Handling Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and

processed. Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredient	Occupational Exposure limits
Styrene	EH40-WEL (United Kingdom (UK), 9/2006). WEL 15 min limit: 1080 mg/m ³ 15 minute(s). WEL 15 min limit: 250 ppm 15 minute(s). WEL 8 hrs limit: 430 mg/m ³ 8 hour(s). WEL 8 hrs limit: 100 ppm 8 hour(s).
1,2-Benzenedicarboxylic acid, bis (2-methylpropyl) ester	EH40-WEL (United Kingdom (UK), 9/2006). WEL 8 hrs limit: 5 mg/m ³ 8 hour(s).
Engineering measures	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Respiratory protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Hand protection	Recommended: polyvinyl alcohol (PVA)
Eye protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
Industrial hygiene	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Description	Liquid.
Colour	Blue

Odour	Pungent.
Boiling Point	Not available.
Flash point	Closed cup: 30 to 33°C (86 to 91,4°F)
Density	1,1 to 1,2 g/cm ³
Miscibility in water	Insoluble
Evaporation rate	>1 (n-Butyl acetate = 1)
Vapour density	3,6 [Air = 1]
Vapour pressure	0,6 kPa (4,5 mm Hg)
Explosive properties	The greatest known range is Lower: 1.1% Upper: 8% (Styrene)

10. STABILITY AND REACTIVITY

Chemical stability	Hazardous polymerization may occur under certain conditions of storage or use.
Conditions to avoid	exposure to heat, direct sunlight, UV-light, etc.
Substances to avoid	Reactive or incompatible with the following materials: oxidizing materials. Slightly reactive or incompatible with the following materials: acids and alkalis. (exothermic reaction); Reacts violently with: peroxides
Hazardous decomposition products	Decomposition products may include the following materials: carbon oxides

11. TOXICOLOGICAL INFORMATION

Potential acute health effects

Inhalation	Harmful by inhalation
Ingestion	Irritating to mouth, throat and stomach.
Skin	Irritating to skin.
Eyes	Irritating to eyes.

Acute toxicity

Ingredient name	Test	Species	Result	Exposure
Styrene	LD50	Rat	898 mg/kg	-
	Intraperitoneal			
	LD50 Oral	Rat	2650 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
	LC50 Inhalation	Rat	12000 mg/m ³	4 hours

Chronic Effects

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Styrene	A4	2B	-	-	-	-

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Developmental effects

No known significant effects or critical hazards.

Fertility effects

No known significant effects or critical hazards.

Over-exposure signs/symptoms

Skin contact	Irritation, redness
Eye contact	Irritation, watering, redness
Target organs	Contains material which causes damage to the following organs: lungs, the reproductive system, liver, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

12. ECOLOGICAL INFORMATION

Environmental effects	No known significant effects or critical hazards.
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Ecotoxicity data Aquatic ecotoxicity

Acute toxicity

Ingredient name	Species	Period	Result
Styrene	Selenastrum capricornutum (EC50)	48 hour(s)	0.56 mg/l
	Daphnia magna (EC50)	48 hour(s)	4.7 mg/l
	Pimephales promelas (LC50)	96 hour(s)	4 to 29 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	25.05 mg/l
	Pimephales promelas (LC50)	96 hour(s)	0.9 mg/l
1,2-Benzenedicarboxylic acid, bis (2-methylpropyl) ester	Pimephales promelas (LC50)	96 hour(s)	0.9 mg/l

Other ecological information

Persistence and degradability

Product is biodegradable.

Bioaccumulative potential

Not expected to bioaccumulate.

Ingredient name

LogPow

BCF

Potential

Styrene

2.95

13.5

low

AOX

The product contains organically bound halogens and can contribute to the AOX value in waste water.

13. DISPOSAL CONSIDERATIONS

Methods of disposal

The generation of waste should be avoided or minimised wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

European waste catalogue (EWC)

07 02 99

Hazardous waste

Yes.

Additional information

07 02 00 wastes from the MFSU of plastics, synthetic rubber and man-made fibres

14. TRANSPORT INFORMATION

Classification for transport

FLAMMABLE LIQUID.

Proper Shipping Name

RESIN SOLUTION

ADR/RID

UN 1866

Packing group III

Class 3

Hazard ID 30
LQ7

IMDG

UN 1866

Packing group III

Class 3

Marine pollutant: NO

EmS Code F-E, S-E

IATA

UN 1866

Packing group III

Class 3

Subsidiary risk

Packing Instruction (Cargo)

Packing Instruction (Passenger)

15. REGULATORY INFORMATION

Classification for supply

Harmful

Labelling

The product is classified in accordance with 67/548/EEC.

Symbols



Harmful

Risk phrases

R10 – Flammable
R20- Harmful by inhalation.
R36/38- Irritating to eyes and skin.

Safety phrases

S16- Keep away from sources of ignition - No smoking.
S23- Do not breathe vapour.
S33- Take precautionary measures against static discharges.
S51 - Use only in well ventilated areas.

Statutory Instruments

Health & Safety at Work etc. Act 1974.
Chemicals (Hazards, Information & Packaging for supply) Regulations 2002
Carriage of Dangerous Goods and use of Transportable Pressure Equipment Regulations 2005.
Control of Substances Hazardous to Health Regulations 2002.
Environmental Protection Act 1990.

16. OTHER INFORMATION

Further information

ISSUED IN ACCORDANCE WITH REGULATION (EC) NO: 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL.
The following references (available from the HSE) provide further information on specific aspects:
HS(G) 51 Storage of flammable liquids in containers.
HS(G) 140 The safe use and handling of flammable liquids.
EH 40/2005 Workplace exposure limits.
L5 COSHH 2002 Approved code of practice and guidance.