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Material Safety Data



1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY

PRODUCT NAME: **POLYESTER BRUSHING GELCOAT / FLOCOAT**

MANUFACTURER / SUPPLIER: Llewellyn Ryland Ltd.

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INTENDED USE: For brushing use in GRP construction.

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>HAZARDOUS INGREDIENTS</u>	<u>CAS NO.</u>	<u>CLASSIFICATION</u>	<u>%</u>
Styrene	100-42-5	X _n (R10,20,36/38)	25 - 40

3. HAZARDS IDENTIFICATION



Flammable.
Harmful by inhalation.
Irritating to eyes and skin.

4. FIRST AID MEASURES

INHALATION: In extreme cases, move the exposed person to fresh air. Keep warm and at rest and obtain medical attention.

INGESTION: DO NOT INDUCE VOMITING. Give milk or water (not if person is unconscious) and obtain prompt medical attention.

SKIN: Promptly wash affected area with soap and water. Remove contaminated clothing and wash before re-use.

EYES: Hold eyes open for at least 15 minutes under running water and obtain medical attention.

5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	Dry chemical, CO ₂ , foam, sand and water spray.
NOT TO BE USED:	Water jet.
SPECIAL FIRE-FIGHTING PROCEDURES:	Material is flammable and may explode in a fire. Cool containers exposed to flames from the side with water until well after the fire has been extinguished. Do not allow run-off from fire-fighting to enter drains or water courses.
SPECIAL PROTECTIVE EQUIPMENT:	Suitable breathing apparatus may be required.
HAZARDOUS COMBUSTION PRODUCTS:	Oxides of carbon and partially oxidised organic fragments of the product's main components may be produced.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:	Remove all sources of ignition. Wear suitable protective clothing and avoid inhaling vapours. Provide adequate ventilation and evacuate non-essential personnel.
ENVIRONMENTAL PRECAUTIONS:	Confine spill. Do not allow product to enter sewers, rivers or open water.
CLEAN-UP METHODS:	Contain and absorb with inert material and shovel to disposal. The absorbed waste will contain solvent residues and will be flammable. Store in a well-ventilated area. Inform authorities if large amounts are involved.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS:	Use with care and avoid spillage. Do not eat, drink or smoke. Avoid eye and skin contact and the inhalation of vapours.
STORAGE PRECAUTIONS:	Store in a cool, dry, well-ventilated area. Keep in tightly-closed, clearly-labelled containers. Isolate from sources of heat and ignition.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:	Styrene; maximum exposure limit: 430 mg/m ³ (long term exposure, 8 hours) 1080 mg/m ³ (short term exposure, 15 mins)
INHALATION:	Local exhaust ventilation is recommended and suitable respiratory protection may be required for the use of large quantities of this product.
SKIN:	Chemically-resistant gloves should be worn when handling this material. Skin contact should be avoided.
EYES:	Eye or face protection is recommended where a risk of splashing exists.
INDUSTRIAL HYGIENE:	High standards of industrial hygiene are required for the use of this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM:	Liquid	COLOUR:	Various
ODOUR:	Organic solvent	SPECIFIC GRAVITY:	Varies with colour
POUR POINT:	<0 °C	BOILING POINT:	145 °C (styrene)
pH:	Not applicable	MISCIBILITY WITH WATER:	Immiscible
VAPOUR PRESSURE:	4.5 mmHg (@20°C) (styrene)	VAPOUR DENSITY (air=1):	3.6 (styrene)
AUTO-IGNITION TEMPERATURE:	490°C (styrene)	EXPLOSIVE PROPERTIES:	lower 1.1 vol% (styrene) upper 8.0 vol%
FLASH POINT:	Approximately 32°C (closed cup method)		

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Stable under recommended handling and storage conditions.
CONDITIONS TO AVOID:	Sources of heat and ignition.
MATERIALS TO AVOID:	Oxidising agents, strong acids and strong alkalis.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon dioxide, carbon monoxide, oxides of nitrogen and smoke may be produced if material is exposed to high temperatures.

11. TOXICOLOGICAL INFORMATION

The following toxicological assessment is based on a knowledge of the toxicity of the product's components

INHALATION:	High concentrations of vapour are irritating to the respiratory tract and the eyes and may cause headaches, dizziness, anaesthesia and other CNS effects. Styrene: LC ₅₀ (rat,4 hours) = 2770ppm
INGESTION:	Ingestion of large quantities of this material may cause nausea and sickness. Small amounts of liquid aspirated during ingestion or vomiting may cause lung damage. Styrene: LD ₅₀ (oral, rat) = 5000mg/kg (Ref: Sax/Lewis: "Dangerous properties of industrial materials")
SKIN:	Frequent or prolonged exposure may cause de-fatting of the skin and may lead to dermatitis.
EYES:	May cause irritation to the eyes.
CHRONIC EFFECTS:	Repeated or prolonged exposure to vapours may lead to chronic upper respiratory irritation.

12. ECOLOGICAL INFORMATION

MOBILITY:	Mobile liquid. Contains volatile components. Insoluble in water.
PERSISTENCE AND DEGRADABILITY:	Slightly biodegradable.
BIOACCUMULATIVE POTENTIAL:	Not determined.
ECOTOXICITY:	Certain components within the product are designated as being harmful to aquatic organisms. Spills may form a film on water surfaces which may impair oxygen transfer and cause physical damage to organisms. Contains components designated as marine pollutants.

13. DISPOSAL CONSIDERATIONS

Disposal must be in accordance with local and national legislation

PRODUCT:	Material should be removed by approved waste contractors.
EMPTY PACKAGING:	Empty packages may contain flammable and harmful residues and should be disposed of in a manner acceptable to local authorities.

14. TRANSPORT INFORMATION

CLASSIFICATION FOR TRANSPORT: FLAMMABLE LIQUID.

PROPER SHIPPING NAME: RESIN SOLUTION, FLAMMABLE.

UN NO: 1866 PACKING GROUP: III

ROAD / RAIL (ADR / RID) CLASS: 3 AIR (ICAO / IATA) CLASS: 3

SEA (IMO / IMDG) CLASS: 3 MARINE POLLUTANT: Yes

15. REGULATORY INFORMATION

CLASSIFICATION FOR SUPPLY: HARMFUL.

RISK PHRASES: R10 Flammable.
R20 Harmful by inhalation.
R36/38 Irritating to eyes and skin.

SAFETY PHRASES: S37 Wear suitable gloves.
S43 In case of fire use dry chemical, CO₂, foam, sand or water spray (*not* water jet).
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

SDS REF: BRUSHING GELCOAT / FLOCOAT

ISSUE NO: 6 (January 2007)

REPLACES ISSUE: 5 (February 2004)

ISSUED IN ACCORDANCE WITH EU DIRECTIVE 91/155/EEC, as amended by 2001/58/EC.

Note: Where this product is used in applications other than those specified by Llewellyn Ryland Ltd., no responsibility can be accepted for loss or damage incurred.

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.
L5 COSHH 2002 Approved Code of Practice and Guidance.
EH 40/2005 Workplace exposure limits.