

nuplex Material Safety Data Sheet**POLYPLEX GP LSE RESIN 45**

Infosafe No. 1HLC2 **Version** 6.8 **ISSUED** October **Status** ISSUED
No. **Date** 2012 by
NUPLEXIN

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name

POLYPLEX GP LSE RESIN 45

Product Code

C200018

Company Name

NUPLEX COMPOSITES a division of Nuplex Industries (Aust) Pty Ltd (ABN 25 000 045 572)

Address

49 - 61 Stephen Road, BOTANY NSW 2019

New Zealand: NUPLEX COMPOSITES a division of Nuplex Industries Limited, Level 3 Millennium Centre, 602C Great South Road Ellerslie 1051

NEW ZEALAND

Emergency Tel.

Australia: 1800 022 037 (24H)

New Zealand: 0800 154 666 (24H)

Telephone/Fax Number

Telephone: Australia: +61 (02) 9839 4000(BH); New Zealand: +64 (09) 583 6500(BH) Fax number: Australia: +61 (02) 9674 6225; New Zealand: +64 (09) 525 3709

Email

compliance@nuplex.com.au

Recommended Use

Composite fabrications

2. HAZARDS IDENTIFICATION

Hazard Classification

Classified as Hazardous according to criteria of National Occupational Health and Safety Commission (NOHSC), Australia.

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

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 In case of insufficient ventilation, wear suitable respiratory equipment.

S24/25 Avoid contact with skin and eyes.

S37/39 Wear suitable gloves and eye/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization

Liquid

Information on Composition

May contain non-hazardous tints/pigments.

Ingredients

Name	CAS	Proportion
Styrene	100-42-5	30-60 %
Polyester resin	Proprietary	30-60 %
Amine and/or aniline derivatives	Proprietary	0-1 %
Quinone and/or phenolic inhibitors	Proprietary	0-0.5 %
Ingredients determined not to be hazardous		Balance

4. FIRST AID MEASURES

Inhalation

If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.

Ingestion

Do not induce vomiting. Wash out mouth thoroughly with water. Seek immediate medical attention.

Skin

Remove all contaminated clothing immediately. Wash affected area thoroughly with soap and water. Wash contaminated clothing before reuse or discard. Seek medical attention.

Eye

If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing for several minutes until all contaminants are washed out completely. Seek medical attention.

First Aid Facilities

Eyewash, safety shower and normal washroom facilities.

Advice to Doctor

Treat symptomatically.

Other Information

For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (131 126)

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Carbon dioxide, dry chemical or foam. Alcohol resistant foam is preferred. If not available normal foam can be used.

Hazards from Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes and gases including oxides of nitrogen, carbon monoxide and carbon dioxide.

Specific Hazards

Flammable liquid and vapour. Heavier than air. Flashback along the vapour trail may occur. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid

vapour concentration higher than the occupational exposure limit.

Hazchem Code

•3Y

Decomposition Temperature

Not available

Precautions in connection with Fire

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. In case of fire the product may be violently or explosively reactive. Use water spray to disperse vapours. This product should be prevented from entering drains and watercourses.

Unsuitable Extinguishing Media

Do not use water jet.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures

Wear appropriate personal protective equipment and clothing to prevent exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert absorbent, non-combustible material onto spillage. Use clean non-sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with skin and eyes. Wear overalls, impervious gloves and safety glasses. Use in designated areas with local exhaust ventilation, away from sparks, flames and other ignition sources. Use approved flammable liquid storage containers in the work area. Prevent release of vapours and mists into workplace air. Keep containers tightly closed. Take precautionary measures against static discharges. Do not empty into drains. Ensure a high level of personal hygiene is maintained when using this product, that is, always wash hands before eating, drinking, smoking or using the toilet facilities.

Conditions for Safe Storage

Store in the shade, in a well-ventilated area preferably below 30°C and well away from sources of ignition. This product should be stored away from foodstuffs, strong oxidising agents and other incompatible materials. Handle and store in accordance with applicable local and national regulations for flammable liquids. The product has a limited storage life due to inhibitor depletion and should be used within six months of delivery. Rapid polymerisation resulting in violent rupture of closed containers and possible fire from flammable vapours may be initiated by high temperatures or certain contaminants. Oxidising agents (e.g. organic peroxides), strong acids (e.g. sulphuric acid), ferrous salts present in rust, and some metal halides promote polymerisation. Alkalis reduce the inhibitor concentration and increase the risk of spontaneous polymerisation. Contamination of the product with these substances should be avoided. Exposure to UV radiation (including from light fittings), can initiate slow polymerisation that may continue in a sealed container. For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids. Reference should also be made to all applicable local and national regulations.

Storage Temperatures

Store below 30°C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**National
Exposure
Standards**

Substance	Regulations	Exposure Duration	Exposure Limit	Units	Notes
Styrene	Safe Work Australia	TWA	50	ppm	
	Safe Work Australia	TWA	213	mg/m3	
	Safe Work Australia	STEL	100	ppm	
	Safe Work Australia	STEL	426	mg/m3	
Quinone and/or phenolic inhibitors	Safe Work Australia	TWA	0.1	ppm	(Quinone)
	Safe Work Australia	TWA	0.44	mg/m3	

Biological Limit Values

Name: styrene [100-42-5]

Determinant: Mandelic acid plus phenylglyoxylic acid in urine

BEI@: 400 mg/g creatinine

Sampling time: end of shift.

Source: American Conference of Industrial Hygienists (ACGIH)

Engineering Controls

This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. A flame-proof exhaust ventilation system is required. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn. Refer to relevant regulations for further information concerning ventilation requirements.

Refer to AS 1940 - The storage and handling of flammable and combustible liquids and AS/NZS 60079.10.1:2009 Explosive atmospheres - Classification of areas - Explosive gas atmospheres, for further information concerning ventilation requirements.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian 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, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. i.e. methods of handling or according to risk assessments undertaken.

Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material such as laminated film. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken.

Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection

Suitable protective work wear, e.g. cotton overalls or overalls of anti-static, flame retardant material, buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled. Wear safety footwear. Final choice will vary according to individual circumstances.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form

Liquid

Appearance

Viscous liquid

Odour

Styrene odour

Decomposition Temperature

Not available

Melting Point

Not available

Boiling Point

145°C (styrene) May polymerise below boiling point.

Solubility in Water

insoluble

Specific Gravity

0.95-1.15

pH Value

Not applicable

Vapour Pressure

5 mmHg (20°C) (styrene)

Vapour Density (Air=1)

3.6 (styrene)

Evaporation Rate

0.49 (styrene)

Odour Threshold

Not available

Viscosity

Refer to Section 9: Kinematic Viscosity and Dynamic Viscosity

Colour

Clear to hazy, may be tinted

Volatile Component

Not applicable

Octanol/Water Partition Coefficient

Not available

Flash Point

31°C (Tag Closed Cup) (styrene)

Flammability

Flammable Liquid

Auto-Ignition Temperature

490°C (styrene)

Flammable Limits - Lower

1.1% (styrene)

Flammable Limits - Upper

6.1% (styrene)

Explosion Properties

Not available

Oxidising Properties

Not applicable

Kinematic Viscosity

Not available

Dynamic Viscosity

Not available

10. STABILITY AND REACTIVITY

Stability and Reactivity

Refer to Section 10: Possibility of hazardous reactions

Chemical Stability

Stable under normal conditions of storage and handling.

Conditions to Avoid

Heat, open flames and other sources of ignition. Prevent the build up of mists or vapours in the work atmosphere. Avoid prolonged storage above 38°C.

Incompatible Materials

Alkylation catalysts and strong acids (H₂S₀₄, H₃P₀₄, BF₃, AlCl₃), halogens and hydrogen halides. Contact with copper and copper alloys. Oxidising agents

Hazardous Decomposition Products

Thermal decomposition may result in the release of toxic and/or irritating fumes including oxides of nitrogen, carbon dioxide and carbon monoxide .

Hazardous Reactions

Reacts with incompatible materials.

Hazardous Polymerization

May occur in the presence of polymerisation accelerators.

11. TOXICOLOGICAL INFORMATION

Toxicology Information

Toxicity data for ingredients given below.

Inhalation

Harmful by inhalation. Inhalation of product dust/vapours can cause irritation of the nose, throat and respiratory system.

Ingestion

Ingestion of this product may irritate the gastric tract causing nausea and vomiting.

Skin

Irritating to skin. Skin contact will cause redness, itching and swelling. Repeated exposure may cause skin dryness and cracking and may lead to dermatitis.

Eye

Irritating to eyes. On eye contact this product will cause tearing, stinging, blurred vision, and redness.

Chronic Effects

Prolonged inhalation of vapours may cause respiratory tract obstruction and lung damage. Long-term exposure to styrene may cause peripheral neuropathy, CNS depression, and damage to the liver and kidneys.

Carcinogenicity

Styrene is listed as a Group 2B: Possibly carcinogenic to humans according to International Agency for Research on Cancer (IARC).

Acute Toxicity - Oral

Styrene :
LD50 (rat): 2650 mg/kg

Acute Toxicity - Dermal

Styrene :
LD50 (rabbit): >5, 010 mg/kg

Acute Toxicity - Inhalation

Styrene :
LD50 (rat): 2770 ppm/4h

12. ECOLOGICAL INFORMATION

Ecotoxicity

The available ecological data is given below.

Persistence / Degradability

Styrene:
Not expected to persist in the environment.
Styrene:
Volatility (Henry's law constant): 0.00275 atm m³/mol (25°C)

Mobility

Styrene:
Expected to bind to soils and sediments.
Styrene:
log Koc:2.42-2.96 (estimated)

Bioaccumulative Potential

Moderate potential to bioaccumulate
Styrene:Partition Coefficient: n-octanol/water
log Kow=2.95

Environmental Protection

Do not discharge this material into waterways, drains and sewers.

Acute Toxicity - Fish

LD50 (Fathead minnow): 10 mg/L/48h (styrene)

Acute Toxicity - Daphnia

EC50 (Daphnia magna): 4.7 mg/L/48h (styrene)

Acute Toxicity - Algae

EC50 (Green algae): 0.72 mg/L/48h (styrene)

13. DISPOSAL CONSIDERATIONS

Disposal Considerations

Dispose of waste according to applicable local and national regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near containers. Empty containers may contain flammable residues. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers. Advise flammable nature. Controlled incineration is recommended. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations.

14. TRANSPORT INFORMATION

Transport Information

This material is a Class 3 - Flammable Liquid according to The Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Class 3 - Flammable Liquids are incompatible in a placard load with any of the following:

Class 1: Explosives

Division 2.1: Flammable Gases, if both the Class 3 and Division 2.1 dangerous goods are in bulk.

Division 2.3: Toxic gases

Division 4.2: Spontaneously combustible substances

Division 5.1: Oxidising substances

Division 5.2: Organic peroxides

Class 6 Toxic or Infectious Substances

Class 7: Radioactive materials unless specifically exempted

U.N. Number

1866

Proper Shipping Name

RESIN SOLUTION

DG Class

3

Packing Group

III

Hazchem Code

•3Y

IERG Number

14

UN Number (Air Transport, ICAO)

1866

IATA/ICAO Proper Shipping Name

RESIN SOLUTION

IATA/ICAO Hazard Class

3

IATA/ICAO Packing Group

III

IATA/ICAO Symbol

Flammable liquid.

IMDG UN No

1866

IMDG Proper Shipping Name

RESIN SOLUTION

IMDG Hazard Class

3

IMDG Pack. Group

III

IMDG Marine Pollutant

No

IMDG EMS

F-E, S-E

15. REGULATORY INFORMATION

Regulatory Information

Classified as Hazardous according to criteria of National Occupational Health and Safety Commission (NOHSC), Australia.

Classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poisons Schedule

S5

Hazard Category

Harmful, Irritant, Flammable

16. OTHER INFORMATION

Date of preparation or last revision of MSDS

SDS amendment: November 2013

1. Identification of the Material and Supplier

SDS amendment: September 2013

1. Identification of the Material and Supplier

SDS amendment: August 2013

1. Identification of the Material and Supplier

SDS amendment: February 2013

8. Exposure controls/personal protection

SDS amendment: January 2013

1. Identification of the Material and Supplier

SDS amendment: November 2012

1. Identification of the Material and Supplier

SDS Reviewed: October 2012, Supersedes: November 2007

Contact Person/Point

IMPORTANT ADVICE: This MSDS summarizes 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 MSDS and consider the information in the context of how the product will be handled and used in the workplace including its use 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 the supplier listed in section 1 of the SDS. 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.

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Literature References

Standard for the Uniform Scheduling of Medicines and Poisons.

Approved criteria for classifying hazardous substances [NOHSC:1008(2004)].

National Code of Practice for the Preparation of Material Safety Data Sheets [NOHSC:2011 (2003)].

Australian Code for the Transport of Dangerous Goods by Road & Rail.

Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Workplace exposure standards for airborne contaminants, Safe work Australia.

American Conference of Industrial Hygienists (ACGIH)

Technical Contact Numbers

For further information ask for: For specialist advice in emergencies: 1800 022 037

End of MSDS

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