MATERIAL SAFETY DATA SHEET

Trade Name: POLYLITE 2035 PASLSE LV

Revision Date: 2019-03-26 Compilation Date: 2016-02-25

1. PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME **POLYLITE 2035 PASLSE LV**

MANUFACTURER

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SUPPLIER

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Emergency Telephone No. +64 09 273-3540

Poisons Information Centre **0800 764 766** (from anywhere in New Zealand)

2. HAZARD IDENTIFICATION

Classified as Hazardous according to the New Zealand Hazardous Substances Regulations. Classified as Dangerous Goods for transport according to New Zealand Standard.

DG Classification: Class 3
UN Number: 1866, Resin Solution, Flammable
EPA New Zealand Approval Code: HSR001221

HSNO Classification:

3.1C	Flammable Liquid
6.1E	Acute Toxicity, Oral/Dermal
6.1D	Acute Toxicity, Inhalation
6.3A	Substance that is corrosive or irritating to the skin
6.4A	Substance that is corrosive or irritating to the eye
6.6B	Suspected human mutagen
6.7B	Suspected human carcinogen
6.9B	May cause damage to target organs through prolonged/repeated exposure
9.1C	Aquatic ecotoxicity, Fish

Hazard Statement:

H226	Flammable liquid and vapour
H315	Causes skin irritation
H317	May cause an allergic reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child

H372	Causes damage to organs through prolonged or repeated exposure

Prevention:

P201	Obtain special instruction before use
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
P240	Ground/bond container and receiving equipment
P241	Use explosion-proof electrical ventilating, lighting and other equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P260	Do not breath fumes, mists, vapours or spray
P262	Do not get in eyes, on skin, or on clothing
P270	Do not eat, drink or smoke when using this product
P280	Wear protective gloves, protective clothing and eye or face protection

Response:

P314	Get medical advice or attention if you feel unwell
P330	Rinse mouth
P362	Take off contaminated clothing and wash before reuse
P301+P312	IF SWALLOWED: Call a Poison Centre or doctor
P302+P352	IF ON SKIN: Wash with plenty of soap and water
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
P308+P313	If exposed or concerned: Get medical advice
P333+P313	If skin irritation or rash occurs: Get medical advice
P337+P313	If eye irritation persists: Get medical advice
P370+P378	In case of fire, use carbon dioxide, dry chemical, water fog. Alcohol resistant foam is the preferred firefighting medium, but if it is not available, normal foam can be used

Storage:

P405	Store locked up
P422	Store contents below 25°C
P403+P233	Store in well ventilated place. Keep container tightly closed

Disposal:

P501	Dispose of contents to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other Information

Unknown acute toxicity 66.0% of the mixture consists of ingredient(s) of unknown toxicity.
Unknown aquatic toxicity 66.7% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Polyester Resin	Proprietary	60 - 70
Styrene	100-42-5	30 - 40

4. FIRST AID MEASURES

Eye Contact
Immediately flush for at least 15 minutes. Get medical attention.

Skin Contact
Wash off with warm water and soap. Remove contaminated clothing and shoes. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

Inhalation
Remove person to fresh air. If signs/symptoms continue, get medical attention. Keep patient warm and at rest. If not breathing, give artificial respiration. If breathing is laboured, administer oxygen. Get medical attention immediately.

Ingestion
Do no induce vomiting. Potential for aspiration if swallowed. This material may enter the lungs during vomiting. Never give anything by mouth to an unconscious person. GET IMMEDIATE MEDICAL ATTENTION.

Most important symptoms and effects, both acute and delayed
No information available.

Indication of any immediate medical attention and special treatment needed
Notes to Physician: Treat symptomatically

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media
Carbon dioxide (CO2), Foam, Dry Chemical, Water Spray.

Unsuitable Extinguishing Media
Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical
Hazardous combustion products
Combustion may produce carbon monoxide, carbon dioxide and irritating or toxic vapours and gases
Combustion/Explosion Hazards
Flammable. Vapours may form explosive mixture with air. Flash back possible over considerable distance. This material may polymerize (react) when its container is exposed to heat (as during a fire). This polymerization increases pressure inside a closed container and may result in the violent rupture of the container. Empty containers may retain product residue (liquid and/or vapor). Do not pressurize, cut, weld, braze, solder, drill, grind or expose these containers to heat, flame, sparks, static electricity, or other sources of ignition as the container may explode and may cause injury or death.

Protective Equipment and Precautions for Fire-Fighters
Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use. Evacuate all person from the fire area to a safe location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the blaze. DO NOT extinguish a fire resulting from the flow of this flammable liquid until the flow of liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished. Use water spray to cool fire-exposed containers.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Remove all sources of ignition. Evacuate personnel to safe areas. Avoid contact with skin and eyes. Use personal protective equipment as required. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Other Information
All equipment used when handling the product must be grounded.

Environmental Precautions
Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Soak up with inert absorbent material and dispose of as hazardous waste. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Methods for Containment
Prevent spilled material from contaminating soil, entering sanitary sewers, storm sewers, and drainage systems and entering bodies of water or ditches that lead to waterways. Prevent spreading over a wide area (e.g. by containment or oil barriers).

Methods for Clean-Up
Soak up with inert absorbent material. Remove from surface water (e.g. by skimming or siphoning). Dispose of contaminated material as waste according to item 13.

7. HANDLING AND STORAGE

Handling
Do not breathe vapour or mist. Avoid contact with eyes, skin and clothing. Take off contaminated clothing and wash before reuse. Ensure adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion-proof equipment. Consult your supplier of promoters and catalysts for additional instructions on proper mixing and usage. Empty containers may retain product residue (liquid and/or vapour). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose these containers to heat, flame, sparks, static electricity, or other sources of ignition as the container may explode and may cause injury or death. Empty drums should be completely drained and properly bunged. Empty drums should be promptly returned to a drum reconditioner or properly disposed. Do not use compressed air for filling, discharging or handling. Wash hands before breaks and immediately after handling product.

Storage
Keep away from heat and sources of ignition. No smoking. Keep away from direct sunlight. Keep containers tightly closed in a cool, well-ventilated place. To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below 77°F (25°C).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Guidelines:

Components with workplace control parameters
Styrene (CAS #: 100-42-5)
Occupational Health and Safety Act, 1993
Regulations for Hazardous Chemical Substances, 1995 Table 1.

TWA OEL CL	100ppm (styrene)
STEL OEL CL	200ppm

Legend
TWA – Time-Weighted Average
STEL – Short Term Exposure Limit
OEL – Occupational Exposure Limit

Appropriate engineering controls

Engineering Controls
Use general ventilation to maintain airborne concentrations to levels that are below regulatory and recommended occupational exposure limits. Local ventilation may be required during certain operations. Use explosion-proof equipment.

Individual protection measures, such as personal protective equipment

Respiratory Protection
None required if hazards have been assessed and airborne concentrations are maintained below the exposure limits listed in Section 8. Wear an approved air-purifying respirator with organic vapour cartridges and particulate filters where airborne concentrations may exceed exposure limits in Section 8 and/or there is exposure to dust or mists due to sanding, grinding, cutting or spraying. Use and approved positive-pressure air-supplied respirator with emergency escape provisions if there is any potential for an uncontrolled release, airborne concentrations are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Eye/Face Protection
Safety glasses with side-shields. If splashes are likely to occur: Tight sealing safety goggles. Ensure that eyewash stations and safety showers are close to the workstation location.

Skin Protection
Wear protective nitrile rubber or Viton™ gloves. Gloves made of nitrile rubber or polyvinyl chloride (PVC) may be used for splash protection and brief or intermittent contact with styrenated polyester resin. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Impervious clothing. Rubber or plastic boots.

General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Opaque Blue
Odour	Pungent
Odour Threshold	0.2 ppm (Styrene)
pH	Not applicable
Boiling Point/Range	146°C / 295°F (Styrene)
Melting/Freezing Point	No information available
Flash Point	32°C / 89°F
Flash Point Method	Seta closed cup

Autoignition Temperature	490°C / 914°F (Styrene)
Flammability Limit in Air	
Lower	1.1% (Styrene)
Upper	6.1% (Styrene)
Explosive Properties	No information available
Oxidising Properties	No information available
Vapour Pressure	5 mmHg @ 20°C (Styrene) 6.7 hPa (Styrene)
Vapour Density	3.6 (Air = 1) (Styrene)
Solubility	Insoluble (Water)
Specific Gravity	1.06 – 1.10 @ 25°C
Evaporation Rate	0.49 (BuAc = 1) (Styrene)
Percent Volatile, wt.%	40 – 50% by weight
VOC Content	364 g/l (calculated) product as supplied
Viscosity	1000 – 14000 cps @ 25°C
Decomposition Temperature	No information available

10. STABILITY AND REACTIVITY

Reactivity
No dangerous reaction known under conditions of normal use.

Chemical Stability
Stable under normal conditions. Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Hazardous Polymerization
Polymerization can occur. Hazardous polymerization will occur if contaminated with peroxides, metal salts and polymerization catalysts. Hazardous polymerization may occur upon depletion of inhibitor – may cause heat and pressure build-up in closed containers. Product will undergo hazardous polymerization at temperatures about 65°C.

Conditions to Avoid
Heat, flames and sparks. Contamination by those materials referred to under incompatible materials. Unstable upon depletion of inhibitor. Elevated temperatures.

Incompatible Materials
Strong acids. Strong oxidising agents. Metal salts. Polymerization catalysts.

Hazardous Decomposition Products
Hydrocarbons. Carbon monoxide. Carbon dioxide (CO2). Thermal decomposition can lead to release of irritating and toxic gases and vapours.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Primary Routes of Entry
Eye contact, Ingestion, Inhalation, Skin Contact, Skin absorption

Acute Toxicity
Styrene

Oral LD50	= 5000 mg/kg (Rat)
Dermal LD50	> 2000 mg/kg (Rat)
Inhalation LC50	= 11.8 mg/l (4 H) (Rat)

Information on toxicological effects
Symptoms
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Eyes
Irritating to eyes.

Skin
Harmful by skin absorption. Contact causes skin irritation. Prolonged skin contact may defat the skin and produce dermatitis.

Inhalation
Harmful by inhalation. May cause irritation of respiratory tract. Inhalation of high vapour concentrations can cause CNS-depression and narcosis.

Ingestion
Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Aspiration hazard if swallowed – can enter lungs and cause damage. Ingestion is not an anticipated route of exposure for this material in industrial use.

Sensitization
Not sensitizing.

Repeated dose toxicity
In humans, styrene may cause a transient decrease in colour discrimination and effects on hearing. Repeated or prolonged exposure may cause skin irritation and dermatitis, due to defatting properties of the product. May cause damage to the liver, eyes, brain, respiratory system, central nervous system through prolonged or repeated exposure if inhaled. May cause damage to the kidneys, liver, eyes, brain, respiratory system, central nervous system through prolonged or repeated exposure if inhaled.

Mutagenic effects
Styrene has given mixed positive and negative results in a number of mutagenicity tests. Styrene was not mutagenic without metabolic activation but gave negative and positive mutagenic results with metabolic activation.

Carcinogenicity
Styrene

ACGIH	Group A4 – Not classified as human carcinogen.
IARC	Group 2B – Possibly carcinogenic to humans.

NTP Reasonably anticipated to be human carcinogen.

Legend *IARC – International Agency for Research on Cancer*
NTP – National Toxicology Program

Reproductive Toxicity No information available.

Neurological Effects No information available.

STOT – single exposure No information available.

STOT – repeated exposure No information available.

Target organ(s) Liver, Central Nervous System (CNS), Respiratory System, Kidney.

Aspiration Hazard No information available.

Numerical measures of toxicity – Product Information
Unknown acute toxicity 60 – 70% of the mixture of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document.
ATEmix (oral) 2923 mg/kg
ATEmix (dermal) 1967 mg/kg
ATEmix (inhalation-vapour) 11.4 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

Styrene

Log Kow	2.95
Bioconcentration factor (BCF)	74
Algae	EC50 = 1.4 mg/L (Pseudokirchneriella subcapitata) (72h)
	EC50 0.46 – 4.3 mg/L (Pseudokirchneriella subcapitata) (72h)
	Fish LC50 3.24 – 4.99 mg/L (Pimephales promelas) (96h) flow-through
	LC50 19.03 – 33.53 mg/L (Lepomis macrochirus) (96h) static
	LC50 6.75 – 14.5 mg/L (Pimephales promelas) (96h) static
	LC50 58.75 – 95.32 mg/L (Poecilia reticulata) (96h) static
	Water Flea EC50 3.3 – 7.4 mg/L (48h)

Unknown Aquatic Toxicity
66.7% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Persistence/Degradability No Information available.

Bioaccumulation No information available.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal Considerations
Hazardous waste. Can be incinerated, when in compliance with local regulations.

Contaminated Packaging
Empty containers retain residue (liquid and/or vapour) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean containers since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

14. TRANSPORT INFORMATION

NOT TO BE SENT BY MAIL

TARIFF No.		3907
UN No.		1866
Substance Identity No. S.I.N.	**SANS 10232-3**	1866
Emergency Action Code EAC	**SANS 10232-3**	26
SANS 10228:2006	**S.I.N.**	1866
SANS 10228:2006	**Technical Name**	Resin Solution immiscible with water
SANS 10228:2006	**Class**	3
SANS 10228:2006	**Danger Group**	111
SANS 10228:2006	**Subsidiary Risks**	Nil
SANS 10228:2006	**Packaging Methods SANS 10229**	13.3
IMDG – Shipping Name		Resin Solution
IMDG – Code		Page 3379
IMDG – Class		Class 3.3
IMDG – Packaging Group		111
IMDG – Marine Pollutant		Yes
IMDG – EMS No.		3-05
IMDG – MFAG Table No.		310
IATA – Shipping Name		Resin Solution
IATA – Class		Class 3
IATA – Subsidiary Risk(s)		None
IATA – Packaging Group		111
IATA – Packaging Instruction – Passenger		309
IATA – Packaging Instruction – Cargo		310
Tremcard No.		Not available

15. REGULATORY INFORMATION

ECC Hazard Classification Flammable. Harmful. Irritant. [R10; Xn; Xi] (Styrene)

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Trade Name: POLYLITE 2035 PASLSE LV

Revision Date: 2019-03-26 Compilation Date: 2016-02-25

Risk Phrases	Flammable. Harmful by inhalation. Irritating to eyes and skin. [R: 10, 20, 36/38]
Safety Phrases	Do not breathe vapour. [S: 23]
National Legislation	South African Hazardous Substance Act 15 of 1973. South African Occupational Health & Safety Act (85 of 1993).

16. OTHER INFORMATION

NFPA Rating **Health** 2 **Flammability** 3 **Instability** 1

Reference: NCS Resins South Africa MSDS on Polylite 2035 PASLSE LV 25 February 2016
Compiled by: Aurora Glass Fibre (NZ) Ltd
Preparation Date: 26 March 2019