

MATERIAL SAFETY DATA SHEET

Trade Name: **NCS 992 LLV**

Revision Date: 2019-03-25

Compilation Date: 2016-07-27

1. PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME

NCS 992 LLV

MANUFACTURER

NCS Resins, Durban Head Office
9 Pineside Road, New Germany 3610
Kwa-Zulu Natal, South Africa

Tel: +27 031 713 0600 Fax: +27 031 705 8430

Emergency Telephone: +27 031 713 0600

SUPPLIER

Aurora Glass Fibre (NZ) Ltd
3/16 Zelanian Drive, East Tamaki,
Auckland 2013, New Zealand

Tel: +64 09 273-3540 Fax: +64 09 273-3565

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

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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

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name Unsaturated Polyester Resin
Chemical Family Synthetic Resin
Chemical Abstracts Registry No. (CAS No.) Mixture

Ingredients contributing to hazard

Styrene	<55%	Xn, R10-20-36/38	CAS 100-42-5
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4. FIRST AID MEASURES

First Aid – Eyes

Immediately flood the eyes with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention urgently.

First Aid – Skin

Wash skin thoroughly with soap and water. Obtain medical attention if blistering occurs or redness persists.

First Aid – Ingestion

Wash mouth with water. Do not induce vomiting. If any materials enter the lungs, for example during swallowing or vomiting, obtain medical attention urgently.

First Aid – Inhalation

Remove from exposure. Keep warm and at rest. If there is difficulty in breathing, give oxygen. If breathing stops or gives signs of failing, give artificial respiration. If heart beat absent, give external cardiac compression (CPR). Obtain medical attention.

Advice to Physicians

Treat symptomatically. Keep under medical surveillance for 48 hours if aspiration could have occurred.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Use water spray, foam (AFFF), dry chemical, or carbon dioxide. Keep containers and surroundings cool with water.

Unsuitable Extinguishing Media

Do not use water jet.

Special Hazard Products

Moderate to severe explosion hazard in confined spaces. Be aware of possibility of re-ignition.

Protection for Fire-Fighters

Wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Consider need for evacuation. Eliminate all sources of ignition. Wear appropriate clothing. Wear respiratory protection. Beware of vapours accumulating to form explosive concentrations.

Environmental Precautions

Try to prevent the material from entering drains or water courses. Advise Authorities if spillage has entered water courses or sewer or has contaminated soil or vegetation.

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Spillages

Contain or absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal. Take precautionary measures against static discharges. Beware of gas accumulating to form explosive concentrations.

7. HANDLING AND STORAGE

Handling

Containers, even those that have been emptied, can contain vapours. Do not cut, drill, weld or similar operations on or near empty containers.

Use in well ventilated area. Adequate ventilation should be provided if there is a risk of vapour build up.

Avoid inhaling vapour. Avoid contact with eyes, skin and clothing.

Never use air pressure to transfer material.

Storage

Storage temperature should be kept below 25°C.

Storage area should be well ventilated. Store away from heat and ignition.

Storage and transfer equipment should be adequately earthed and bonded to prevent accumulation of static charges.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Guidelines:

Occupational Health and Safety Act, 1993

Regulations for Hazardous Chemical Substances, 1995 Table 1.

TWA OEL CL	100ppm (styrene)
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Engineering Control Measures

Provide good mechanical ventilation with a non-sparking, grounded ventilation system exhausting directly to the outside, to control airborne levels below the OEL above, and separate from other exhaust ventilation systems. Care should be taken in controlling the emission of fumes into the environment, to meet the local regulations. Electric lighting and plugs to be explosion proof. Ensure that eyewash stations and safety showers are proximal to the workstation location.

Personal Protection Equipment

Respiratory Protection

If TWA OEL CL level above is exceeded, then suitable respiratory protection must be worn. Up to 500ppm a chemical cartridge respirator with organic cartridge(s). Above 500ppm then full face supplied air respirator, or self-contained breathing apparatus should be used. Note that the IDL (immediately dangerous to life or health) concentration of styrene is 700ppm.

Hand Protection

Impervious gloves. Evaluate the resistance of the product under conditions of use.

Eye Protection

Wear approved safety glasses or chemical goggles or a face shield. Have an emergency eyewash station readily available in the working area.

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Skin and Body Protection

Impervious gloves, coveralls, boots and/or other resistant protective clothing. Have a safety shower/eyewash fountain readily available in the immediate work area.

Personal Protection Comments

Dust generated by grinding or polishing finished products is regarded as hazardous and precautions should be taken to ensure dust concentrations to be maintained below a TWA OEL value of 10mg m⁻³. Where dust concentrations exceed these values, appropriate dust masks should be worn.

Other Protective Measures

Remove contaminated clothing immediately. Keep contaminated clothing in closed containers. Discard or launder before re-wearing. Inform laundry personnel of contaminated hazards.

Hygiene Measures

Do not eat, drink or smoke in workplace. Wash hands before eating.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Slightly viscous liquid	
Colour	Blue/Green	
Odour	Pungent	
pH	Not applicable	
Boiling Point/Range	145 – 148°C	Styrene
Freezing Point	-30.6°C	Styrene
Flash Point	31°C	Styrene (closed cup)
Flammability	1.1 – 6.1 % v/v	Styrene
Auto Ignition Temperature	490°C	Styrene
Explosive Properties	LEL 1.1% UEL 6.1%	Styrene
Oxidising Properties	None	
Vapour Pressure	0.60 kPa at 20°C	Styrene
	0.81 kPa at 25°C	Styrene
Density	1.09 – 1.11 g cm ⁻³	
Solubility – Water	Practically insoluble 0.03%	Styrene
Vapour Density (Air)	4.33	Styrene

10. STABILITY AND REACTIVITY

Stability

Stable under normal storage conditions, below 25°C.

Conditions to Avoid

Heat, sparks, open flames, ignition sources.

Materials to Avoid

Oxidising agents. Mineral acids. Alkalis. Phosphorous pentoxide. Peroxides. Ferrous chloride and other metal halides.

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Hazardous Decomposition Products

Heating to decomposition may cause the emission of thick irritating and acrid fumes, resulting in zero visibility. Styrene may form styrene oxide as decomposition product.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Acute oral LD 50 (rat) is 5000 mg.kg⁻¹
Inhalation 4h LD 50 (rat) >2800ppm
Harmful by Inhalation

Irritation

Skin and Eye Contact – causes moderate irritation to skin and eyes.

Inhalation – excessive exposure may cause irritation of upper respiratory tract.

Chronic or Long Term Toxicity

Carcinogenicity

The IARC (International Agency for Research on Cancer) assessment: this product (styrene) is possibly carcinogenic to humans (Group 2B). The EEC Commission have reviewed the available data for styrene and have concluded that there is insufficient evidence to warrant classification of styrene as a carcinogen.

Mutagenicity

Most studies conducted on styrene have proven inconclusive.

Reproductive Toxicity

Studies in laboratory animals have shown no effect on foetal development in the following species: rats, rabbits.

Developmental effects were seen in laboratory animals only on dose levels that were maternally toxic. The following species were affected: rats- oral.

Studies in laboratory animals have shown no effects on fertility in the following species: rats.

12. ECOLOGICAL INFORMATION

Mobility

This product is insoluble in water.

Persistence / Degradability

Styrene is readily biodegradable. BOD20 = 87% of ThOD

BOD20 (salt water) = 80% of ThOD

Bio Accumulation

May cause tainting of fish and shellfish.

Ecotoxicity

Styrene is rated as slightly toxic to aquatic species.

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Aquatic Toxicity - Bluegills	96h LC50 of 65mg/litre	(styrene)
Aquatic Toxicity - Daphnia magna (water flea)	Acute LC50 23 – 255mg/litre	(styrene)
Growth Inhibition Threshold in Bacteria	72mg/litre	(styrene)

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Disposal of liquid resin should only occur under conditions approved by local authorities. See also section 6. It may be necessary to wet dust generated from polishing or grinding finished products in order to avoid airborne dispersal thereof.

Disposal of Packaging

Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near to the container. Empty containers may contain hazardous residues and should be disposed of under conditions approved by local authorities. Contaminated containers must not be treated as household waste. Contaminated containers must not be incinerated. Contaminated containers must not be re-used.

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 SABS 0229	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.		<u>3-05</u>
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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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

Reference: NCS Resins South Africa MSDS on NCS 992 LLV 27 July 2016
BP Chemicals MSDS on STYRENE 14/7/95
DOW Europe SA MSDS on STYRENE Nov 97
Occupational Health and Safety Act, 1993 Annexure 1.
Regulations for Hazardous Chemical Substances, 1995.
SANS 10228-2006 The identification and classification of dangerous substances and goods.
SANS 10232-3:2000 Annexure A – Emergency Response Handbook.
NCS Resins Application Sheet APP 025/021 – Bulk storage and handling of polyester resins.

Compiled by: Aurora Glass Fibre (NZ) Ltd

Preparation Date: 25 March 2019

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