

# Safety Data Sheet

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## 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

### Product Identifier

Product Description: NORPOL VBC H

### Other Means of Identification:

Sage Code: VBCH-----X---K000.0

Chemical Family: Vinylester Resin

### Recommended use of the chemical and restrictions on use:

Intended use: Pigmented brush barriercoat

Uses advised against: No information available.

### Details of the supplier of the Safety Data Sheet

#### Manufacturer / Supplier

Durban Head Office	TEL 031 713 0600	9 Pineside Road, New Germany 3610
	FAX 031 705 9858	
Durban Sales	TEL 031 713 0678	42 Henwood Road, New Germany 3610
Cape Town	TEL 021 935 1788	6 Reuben Kaye Rd, Parow Industria 7764
Johannesburg	TEL 011 451 8900	12 Plantation Road, Eastleigh, Edenvale 1610
Port Elizabeth	TEL 041 451 2571	19 Dudley Street, Neave Township 6020

EMERGENCY TELEPHONE No.: 031 7130600

#### Supplier

AURORA GLASS FIBRE NZ LTD  
3/16 Zelanian Drive, East Tamaki  
Auckland 2013, NZ  
TEL +64 9 273-3540

EMERGENCY TELEPHONE No.: +64 9 273-3540

## 2. HAZARDS IDENTIFICATION

### Classification

GHS Classification

Health

Acute toxicity - Dermal Category 4

Acute toxicity - Inhalation (Vapors) Category 4

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2A

Carcinogenicity Sub-category 1B

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Specific target organ toxicity (single exposure) Category 3  
Specific target organ toxicity (repeated exposure) Category 1

Environmental

Chronic aquatic toxicity Category 3

## Physical

Flammability - Hazard category 3 Flammable liquid and vapour

## GHS Labels / Pictograms



**Appearance:** Grey

**Physical State:** Liquid

**Odour:** Pungent

## Emergency Overview Statements

### Danger

#### Hazard Statements

**Harmful if inhaled**

**Causes skin irritation**

**Causes serious eye irritation**

**May cause cancer**

**May cause respiratory irritation**

**Causes damage to hearing through prolonged or repeated exposure if inhaled**

**Harmful to aquatic life with long lasting effects**

**Flammable liquid and vapor**

## Precautionary Statements - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Use personal protective equipment as required

Use only outdoors or in a well-ventilated area

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Do not breathe mist, vapors, spray

Do not eat, drink or smoke when using this product

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting equipment

Use only non-sparking tools

Take precautionary measures against static discharge

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Keep cool  
Avoid release to the environment  
Contaminated work clothing should not be allowed out of the workplace

## Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention  
If skin irritation occurs: Get medical advice/attention  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse  
If skin irritation or rash occurs: Get medical advice/attention  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
In CASE OF FIRE: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

## Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

## Precautionary Statements - Disposal

Do not discharge into lakes, streams, ponds and ground water supply .Dispose of in accordance with local statutory regulations

## 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 components(s) of unknown hazards to the aquatic environment.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Polyester Resin	Proprietary	80 - 85
N,N-dimethylaniline	121-69-7	< 0.2
Cobalt bis (2-ethylhexanoate)	136-52-7	< 0.3
Styrene	100-42-5	< 30

## 4. FIRST - AID MEASURES

### First Aid Measures

**Eye Contact** Immediately flush eyes 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.

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<b>Inhalation</b>	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 labored, administer oxygen. Get medical attention immediately.
<b>Ingestion</b>	Do not 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

**Most Important Symptoms and Effects.** 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 (CO<sub>2</sub>), 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

<b>Hazardous combustion products</b>	Combustion may produce carbon monoxide, carbon dioxide and irritating or toxic vapors and gases
<b>Combustion/Explosion Hazards</b>	Flammable. Vapors 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 Firefighters:

Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use. Evacuate all persons 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.

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## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**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 vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

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

### Environmental Precautions

**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 vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

### Methods and material for containment and cleaning up

**Methods for Containment** Prevent spilled material from 1) contaminating soil, 2) entering sanitary sewers, storm sewers, and drainage systems, and 3) 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

### Precautions for Safe Handling

**Handling** Do not breathe vapor 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 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. 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 the product.

### Conditions for safe storage, including any incompatibilities

**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).

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational Exposure Limits:

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	100 ppm	(styrene)
STEL OEL CL	200ppm	
TWA OEL CL	0.1mg/m <sup>3</sup>	(cobalt bis (2-ethylhexanoate)
TWA OEL CL	5 ppm	(N,N-dimethylaniline)

### **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**

**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.

**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 vapor 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 an 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

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

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Grey
Odor	Pungent
Odor Threshold	0.2 ppm (Styrene)
Physical State	Liquid
pH	Not applicable
Flash Point	32 °C / 89 °F
Flash Point Method	Seta closed cup
Autoignition Temperature	490°C / 914°F (Styrene)
Boiling point / boiling range	146°C / 295°F (Styrene)
Melting point / Freezing point	No information available
Flammability Limit in Air	
Lower	1.1% (Styrene)
Upper	6.1% (Styrene)
Specific Gravity	1.4 -1.5 @ 25°C
Solubility	Insoluble (Water)
Evaporation Rate	0.49 (BuAc = 1) (Styrene)
Vapor Pressure	5 mmHg @ 20°C (Styrene)
	6.7 hPa (Styrene)
Vapor Density	3.6 (Air = 1) (Styrene)
Explosive Properties	No information available
Oxidizing Properties	No information available
Percent Volatile, wt. %	30 - 40 % by weight
Viscosity	160 - 270 Ps @ 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 above 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 oxidizing agents. Metal salts. Polymerization catalysts.



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## Hazardous Decomposition Products

Hydrocarbons. Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 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)

#### N,N-dimethylaniline

Oral LD50 1120 mg/kg (rat)  
Dermal LD50 1770 mg/kg (rabbit)

### 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 vapor concentrations can cause CNS-depression and narcosis.

**Ingestion** Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. 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 color 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  
IARC

Group A4 - Not classifiable as a human carcinogen.  
Group 2B - Possibly Carcinogenic to Humans



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**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 consists 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-vapor)** 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) (96 h) flow-through  
LC50 19.03 - 33.53 mg/L (Lepomis macrochirus) (96 h) static  
LC50 6.75 - 14.5 mg/L (Pimephales promelas) (96 h) static  
LC50 58.75 - 95.32 mg/L (Poecilia reticulata) (96 h) static  
Water Flea EC50 3.3 - 7.4 mg/L 48 h

#### N,N-dimethylaniline

Log Pow 2.62

### Aquatic toxicity

#### Styrene

LC50 (48h) 23 mg/l (Daphnia magna)

LC50 (96h) 32 mg/l (Pimephales promelas)

#### N,N-dimethylaniline

EC50 (48h) 5 mg/l (Daphnia magna)

LC50 (96h) 65.6 mg/l (Pimephales promelas)

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## 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 container 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.

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<b>IATA - SHIPPING NAME</b>	Resin solution
<b>IATA _ CLASS</b>	Class 3
<b>IATA - SUBSIDIARY RISK(S)</b>	None
<b>IATA - PACKAGING GROUP</b>	111
<b>IATA - PACKAGING INSTRUCTION Passenger</b>	309
<b>IATA - PACKAGING INSTRUCTION Cargo</b>	310
<b>TREMCARD No.</b>	Not available

## 15. REGULATORY INFORMATION

**EEC HAZARD CLASSIFICATION** Flammable. Harmful. Irritant. [R10; Xn; Xi] (Styrene)

**RISK PHRASES** Flammable. Harmful by inhalation. Irritating to eyes and skin.  
[R: 10, 20, 23/24/25, 36/38, 40, 43, 51/53]

**SAFETY PHRASES** Do not breathe vapour. [S: 9, 23, 26, 36/37, 43, 60]

**NATIONAL LEGISLATION** South African Hazardous Substance Act 15 of 1973  
South African Occupational Health & Safety Act (85 of 1993)

## 16. OTHER INFORMATION

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

### Relevant R-phrases

- 10 Flammable.
- 20 Harmful by inhalation.
- 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
- 36/38 Irritating to eyes and skin.
- 38 Irritating to skin.
- 40 Limited evidence of a carcinogenic effect
- 43 May cause sensitization by skin contact.
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

**Prepared By:** S. Gounden & based on data from Reichhold Product Regulatory Department and in accordance with GHS format

**Phone Number:** 031- 713 0600

**Date:** 16 May 2016

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**End of Safety Data Sheet**

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