



## MATERIAL SAFETY DATA SHEET

# GELCOAT

Effective Date : March 2012

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## I. Identification

**MANUFACTURER:** Norski Holdings Ltd, 10 Northpoint Street, Plimmerton, 5024 New Zealand

**PRODUCT NAME:** Gelcoat

**PRODUCE CODE:** Gelcoat

**RECOMMENDED USE:** Composites fabrication.

## II. Hazard Classification

**NEW ZEALAND:** Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001. Classified as Dangerous Goods for transport, according to the New Zealand Standard NZS5433:2007 Transport of Dangerous Goods on Land.

### HSNO CLASSIFICATION:

- 3.1C – Substance that is a flammable liquid: medium hazard.
- 6.1D – Substance that is moderate acutely toxic by inhalation.
- 6.3A – Substance that is irritating to the skin.
- 6.4A – Substance that is irritating to the eye.
- 6.6B – Substance that is a suspected human mutagen.
- 6.7B – Substance that is a suspected human carcinogen.
- 6.8B – Substance that is a suspected human reproductive or developmental toxicant.
- 6.9A – Substance that is toxic to human target organs or systems.
- 9.1A – Substance that is very ecotoxic in the aquatic environment.
- 9.3B – Substance that is ecotoxic to terrestrial vertebrates.

### HAZARD STATEMENT CODE:

- H226 – Flammable liquid and vapour.
- H332 – Harmful if inhaled.
- H315 – Causes skin irritation.
- H320 – Causes eye irritation.
- H341 – Suspected of causing genetic defects.
- H351 – Suspected of causing cancer.
- H361 – Suspected of damaging fertility or the unborn child.
- H370 – Causes damage to organs.
- H410 – Very toxic to aquatic life with long lasting effects.
- H432 – Toxic to terrestrial vertebrates.

### PRECAUTIONARY STATEMENT CODES – PREVENTION:

- P102 – Keep out of reach of children.
- P103\* – Read label before use. This statement applies only where the substance is available to the general public.
- P104 – Read Safety Data Sheet before use.
- P201 – Obtain special instructions before use.
- P202 – Do not handle until all safety precautions have been read and understood.
- P210 – Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P233 – Keep container tightly closed.
- P240 – Ground/bond container and receiving equipment.
- P241 – Use explosion-proof electrical/ventilating/lighting equipment.

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P242 – Use only non-sparking tools.

P243 – Take precautionary measures against static discharge.

P260 – Do not breathe mist/vapours/spray.

P264 – Wash skin thoroughly after handling.

P270 – Do not eat, drink or smoke when using this product.

P271 – Use only outdoors or in a well-ventilated area.

P273 – Avoid release to the environment. This statement does not apply where this is the intended use.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P281 – Use personal protective equipment as required.

#### PRECAUTIONARY STATEMENT CODES – RESPONSE:

P101\* – If medical advice is needed, have product container or label at hand. This statement applied only where the substance is available to the general public.

#### INHALATION:

P304+P340 If inhaled – Remove to fresh air and keep at rest in a position comfortable for breathing.

P312 – Call a Poison Centre or doctor/physician if you feel unwell.

P331 – Do NOT induce vomiting.

#### INGESTION:

P331 – Do NOT induce vomiting.

#### SKIN:

P302+P352 If on Skin – Wash with plenty of soap and water.

P303+P361+P353 If on Clothing – Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

P332+P313 If skin irrigation occurs – Get medical advice/attention.

P362 – Take off contaminated clothing and wash before re-use.

#### EYES:

P305+P351+P338 If in Eyes – Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists – Get medical advice/attention.

P370+P378 In case of fire – Use foam, CO<sub>2</sub>, dry chemical for extinction.

P391 – Collect spillage.

#### PRECAUTIONARY STATEMENT CODES:

##### Storage:

P403+P235 – Store in a well-ventilated place. Keep cool.

P405 – Store locked up.

##### Disposal:

P501 - \*In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided.

#### RISK PHRASE(S):

R10 – Flammable.

R20 – Harmful by inhalation.

R36/38 – Irritating to eyes and skin.

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#### SAFETY PHRASE(S):

- S16 – Keep away from sources of ignition – no smoking.
- S23 – Do not breathe gas/fumes/vapour/spray.
- S38 – If insufficient ventilation, wear suitable respiratory equipment.
- S24/25 – Avoid contact with skin and eyes.
- S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection.

### III. Composition/Information on Ingredients

Name	CAS	Proportion
Styrene Monomer	100-42-5	30-60%
Fumed Silica	7631-86-9	0-10%
Ingredients determined not to be hazardous		Balance

### IV. First Aid Measures

**INHALATION:** Remove the source of contamination or move the affected person to fresh air. Ensure airways are clear. Keep at rest. Apply artificial respiration if not breathing. Seek medical attention.

**INGESTION:** Do not induce vomiting. Immediately wash mouth with water and then give water to drink. Seek medical attention.

**SKIN:** Wash affected area thoroughly with copious amounts of running water. Remove contaminated clothing and wash before reuse. Seek medical attention.

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

**FIRST AID FACILITIES:** Eye wash station, safety shower and normal washroom facilities.

**ADVICE TO DOCTOR:** Treat symptomatically.

**EMERGENCY:** 0800 POISON (764 766)

### V. Fire-fighting Measures

**SUITABLE EXTINGUISHING MEDIA:** Extinguish fire with foam, dry chemical powder or carbon dioxide.

**HAZARDS FROM COMBUSTION PRODUCTS:** Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide and carbon dioxide.

**SPECIFIC HAZARDS:** This product is flammable. Keep storage tanks, pipelines, fire-exposed surfaces etc cool with water spray. Shut off any leak if safe to do so and remove sources of re-ignition. Vapour/air mixtures may ignite explosively. Flashback along the vapour trail may occur. Runoff to sewer may create fire or explosion hazard.

**PRECAUTIONS IN CONNECTION WITH FIRE:** Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode. Water spray may be used to keep fire exposed containers cool.

**HAZCHEM:** 3Y.

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### VI. Accidental Release Measures

**EMERGENCY PROCEDURES:** Exclude sources of ignition and ventilate the area. Clear area of all unprotected personnel. Slippery when spilled. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye exposure and inhalation of vapours. Contain/prevent runoff into drains and waterways. Use absorbent (soil, sand or other non-combustible material). Collect and seal in properly labelled containers for disposal. If contamination of sewers or waterways occurs inform the local water authorities and EPA in accordance with local regulations.

### VII. Handling and Storage

**PRECAUTIONS FOR SAFE HANDLING:** Use only in a well ventilated area. DO NOT store or use in confined spaces. Keep tank covered and containers sealed when not in use. Build up of mists or vapours in the atmosphere must be prevented. Avoid inhalation of vapour and mists. Do not use near welding or other ignition sources and avoid sparks. Do NOT pressurise, cut, heat or weld containers as they may contain hazardous residues. Do not smoke. Wear appropriate protection. It is essential that all who come into contact with this material maintain high standards of personal hygiene ie washing hands prior to eating, drinking, smoking or using toilet facilities.

**CONDITIONS FOR SAFE STORAGE:** Store in a cool, dry, well-ventilated area away from sources of ignition, oxidising agents, foodstuffs, and clothing and out of direct sunlight. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Always keep in containers made of the same material as the supply container. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. 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 State and Federal regulations.

### VIII. Exposure Controls/Personal Protection

New Zealand Occupational Safety and Health Service (OSH) Workplace Exposure Standards:

Substance                      TWA  
STEL                              Notices

Substance	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Styrene, monomer	50	213	100	
426 Sk				
Fumed silica dust	-	2 Respirable		

**TWA (Time Weighted Average):** The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

**STEL:** (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

**Sk NOTICE:** Absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

**BIOLOGICAL LIMIT VALUES:** No biological limit allocated.

**ENGINEERING CONTROLS:** Ensure ventilation is adequate to maintain concentrations below exposure standards. The use of a local exhaust ventilation system, drawing vapours/mists away from workers' breathing zone, is normally required. The ventilation and exhaust system

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must be approved for use with flammable materials.

**RESPIRATORY PROTECTION:** If engineering controls are not effective in controlling airborne exposure, then an approved respirator with a replaceable organic vapour filter should be used. Reference should be made to Australian/New Zealand Standards AS/NZS1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

**EYE PROTECTION:** Safety glasses with side shields or chemical goggles should be worn. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform with Australian/New Zealand Standard AS/NZS1337 – Eye Protectors for Industrial Applications.

**HAND PROTECTION:** Wear impervious gloves conforming to AS/NZS2161: Occupational protective gloves. Laminated film gloves offer good protection for prolonged contact with the liquid. Consult a glove supplier to determine other appropriate glove types, and if necessary, test gloves before use.

**BODY PROTECTION:** Suitable protective clothing should be worn eg cotton overalls buttoned at neck and wrist. When large quantities are handled the use of plastic aprons and rubber boots is recommended.

## IX. Physical and Chemical Properties

**APPEARANCE:** Coloured (as paints), paste-like, liquid with a characteristic styrene odour.

**MELTING POINT:** Not available.

**BOILING POINT:** 145°C (for Styrene).

**SOLUBILITY IN WATER:** Insoluble.

**SPECIFIC GRAVITY:** 0.95 – 1.15 (water = 1). Dependant on non-volatile content.

**pH VALUE:** Not applicable.

**VAPOUR PRESSURE:** 0.6 kPa at 20°C (for styrene).

**VAPOUR DENSITY:** 3.6 (Air = 1) (for styrene).

**EVAPORATION RATE:** 0.49 (Butyl acetate = 1) (for styrene).

**FLASH POINT:** 31°C TCC (for styrene).

**FLAMMABILITY:** Flammable liquid.

**AUTO-IGNITION TEMPERATURE:** Not available.

**FLAMMABLE LIMITS – LOWER:** 1.1% (for styrene).

**FLAMMABLE LIMITS – UPPER:** 6.1% (for styrene).

## X. Stability and Reactivity

**CHEMICAL STABILITY:** Stable under normal conditions.

**CONDITIONS TO AVOID:** Heat, direct sunlight, open flames or other sources of ignition. Avoid contamination and prolonged storage above 38°C.

**INCOMPATIBLE MATERIALS:** Alkylation catalysts and strong acids (H<sub>2</sub>SO<sub>4</sub>, H<sub>3</sub>PO<sub>4</sub>, BF<sub>3</sub>, AlCl<sub>3</sub>), 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 carbon monoxide and carbon dioxide.

**HAZARDOUS REACTIONS:** May undergo hazardous polymerisation in closed containers at elevated temperatures and in the presence of initiating contaminants.

**HAZARDOUS POLYMERIZATION:** May occur if contaminated, or at elevated temperatures.

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## XI. Toxicological Information

**TOXICOLOGY INFORMATION: FOR STYRENE:** LD50 (inhalation, rat) = 2770 ppm/4h (11.8 mg/L/4H).

LD50 (dermal, rabbit) > 5,010 mg/kg

Styrene is classified as 'possibly carcinogenic to humans (Group 2B)' by the International Agency for Research on Cancer (IARC).

Group 2B includes substances on which there is inadequate evidence of carcinogenicity in humans, but there is limited evidence of carcinogenicity in experimental animals.

**INHALATION:** Harmful by inhalation. Vapour can cause severe irritation to the respiratory tract. Styrene at 400 ppm is irritating to all parts of the respiratory tract. Styrene possesses narcotic-like properties; excessive exposure may result in headache, dizziness, incoordination, fatigue, nausea, loss of appetite and loss of consciousness.

**INGESTION:** Ingestion may cause nausea, vomiting, abdominal pain and CNS depression with symptoms including dizziness, drowsiness, weakness, headache. Fatigue, confusion and possible unconsciousness.

**SKIN:** Irritating to skin. Contact with skin may cause redness, discomfort and blistering. Repeated contact may have a defatting effect causing dryness and cracking of skin.

**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 classified as 'possibly carcinogenic to humans (Group 2B)' by the International Agency for Research on Cancer (IARC).

## XII. Ecological Information

**ECOTOXICITY:** Not available.

**PERSISTENCE/DEGRADABILITY:** Not available.

**MOBILITY:** Not available.

**ENVIRONMENT PROTECTION:** Prevent this material entering waterways, drains and sewers.

## XIII. Disposal Considerations

Dispose of waste according to regulations.

## XIV. Transport Information

This material is classified as a Class 3 – Flammable Liquid according to NZS 5433:2007 Transport of Dangerous Goods on Land.

It must not be loaded in the same freight container or on the same vehicle with:

- Class 1, Explosives
- Class 2.1, Flammable gases
- Class 2.3, Toxic gases
- Class 4.2, Spontaneously combustible substances

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- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides, or
- Class 7, Radioactive materials unless specifically exempted.

It must not be loaded in the same freight container; and on the same vehicle must be separated horizontally by at least three metres unless all but one are packed in separate freight containers with:

- Class 4.3, Dangerous when wet substances.

Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:

- Class 4.2, Spontaneously combustible substances
- Class 4.3, Dangerous when wet substances
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides

**UN NUMBER:** 1866

**PROPER SHIPPING NAME:** Resin Solution

**DG CLASS:** 3

**HAZCHEM CODE:** .3Y

**PACKING GROUP:** III

**EPG NUMBER:** 3A1

**IERG NUMBER:** 14

## XV. Regulatory Information

**NATIONAL AND/OR INTERNATIONAL REGULATORY INFORMATION:** Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001. Additives, Process Chemicals and Raw Materials (Flammable, Toxic [6.7]) Group Standard 2006.

**HSNO APPROVAL NUMBER:** HSR002502.

**HAZARD CATEGORY:** Harmful, Irritant.

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