



Revision Date: 2019-03-26 Compilation Date: November 2016

PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME ARMORFLEX 953 GELCOAT NEUTRAL

MANUFACTURER

Polynt Composites Australia Pty Ltd Tel: +64 03 9339-7300 Level 1, 16-20 Tullamarine Park Road Fax: +64 03 9338-1393

Tullamarine, VIC 3043 Emergency Telephone: +64 02 8014-4558

Australia

1.

SUPPLIER

Aurora Glass Fibre (NZ) Ltd Tel: +64 09 273-3540 Fax: +64 09 273-3565

3/16 Zelanian Drive, East Tamaki,

Auckland 2013, New Zealand 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. This product is classified as: Xn, Harmful. Xi, irritating. F, Flammable. Hazardous according to the criteria of SWA. Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

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 Substance that is corrosive or irritating to the eye

6.6B Suspected human mutagen6.7B 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





MATERIAL SAFETY DATA SHEET

Trade Name: ARMORFLEX 953 GELCOAT NEUTRAL

Revision Date: 2019-03-26 Compilation Date: November 2016

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

Emergency Overview

Physical Description & Colour: Translucent liquid

Odour: Moderate aromatic

Major Health Hazards: Acute exposure to styrene in humans results in respiratory effects, such as mucous membrane

irritation, eye irritation, and gastrointestinal effects.

Styrene vapour causes mild irritation of the nose and throat at concentrations around 100 ppm, definite irritation at 350-500 ppm and severe irritation at about 500 ppm. Symptoms such as headache, dizziness and fatigue (similar in some ways to





Revision Date: 2019-03-26 Compilation Date: November 2016

drunkenness) are reported at concentrations above 100-200 ppm. Other symptoms such as slower reaction times, reduced manual dexterity, and impaired co-ordination and balance can be observed at concentrations above 200 ppm.

Styrene liquid can cause mild to severe irritation of the eyes in splashing occurs.

Styrene liquid defats the skin and can cause dermatitis.

Irritating to eyes, respiratory system and skin, harmful if inhaled, possible skin sensitiser.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS No	Conc, %	TWA (mg/m³)	STEL (mg/m³)
Styrene	100-42-5	36.87	213	426
Methyl methacrylate	80-62-6	5.0-10	208	416
Solvent naphtha (petroleum), light arom.	64742-95-6	0.1-1.0	not set	not set
Ethyl benzene	100-41-4	0.1-1.0	434	543
Other non-hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non-hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hours working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

4. FIRST AID MEASURES

General information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 (in Australia) or 0800 764 766 (in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation

If irritation occurs, contact a Poisons Information Centre, or call a doctor. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. In severe cases, symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

Skin Contact

Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.

Eye Contact

Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

Ingestion

If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or in in doubt contact a Poisons Information Centre or a doctor.





Revision Date: 2019-03-26 Compilation Date: November 2016

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards

The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is a moderate risk of an explosion from this product if commercial quantities are involved in a fire. Firefighters should take care and appropriate precautions. Any explosion will likely spread the fire to surrounding materials. Water spray may be used to cool drums involved in a fire, reducing the chances of an explosion.

Extinguishing Media

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. Try to contain spills, minimise spillage entering drains or water courses. Avoid the use of coarse water spray.

Fire Fighting

If a significant quantity of this product is involved in a fire, call the fire brigade. There is a danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus. Cool closed, undamaged containers exposed to fire with water spray.

Flash Point: 26°C
Upper Flammability Limit: No data
Lower Flammability Limit: No data
Autoignition Temperature: No data

Flammability Class: Flammable Category 3 (GHS); Flammable (AS1940)

6. ACCIDENTAL RELEASE MEASURES

Accidental Release

In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self-contained breathing apparatus. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC, Viton. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours, or mists are likely to build up in the clean-up area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other sustainable absorbent material. If spill is too large or is absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Avoid using sawdust or other combustible material. Any electrical equipment should be non-sparking. Any equipment capable of building an electrostatic charge should be electrically grounded. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.





Revision Date: 2019-03-26 Compilation Date: November 2016

7. HANDLING AND STORAGE

Handling

Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage

This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in a cool, well ventilated area, and make sure that surrounding electrical devices and switches are suitable. Check containers periodically for leaks. Containers should be kept closed in order to minimise contamination and possible evaporation. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. If you keep more than 10000kg or L of Dangerous Goods of Packaging Group III, you may be required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging – there may be further storage instructions on the label.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The following Australian Standards will provide general advice regarding safety clothing and equipment: Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: **AS/NZS 4501** set 2008, Industrial Eye Protection: **AS 1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS 2210**.

SWA Exposure Limits	TWA (mg/m³)	STEL (mg/m ³)
Styrene	213	426
Methyl Methacrylate	208	416
Ethyl Benzene	434	543

No special equipment is needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation

This product should only be used in a well-ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection

Protective glasses or goggles must be worn when this product is being used. Failure to protect your eyes may lead to severe harm to them or to general health. Emergency eye wash facilities must also be available in an area close to where this product is being used.

Skin Protection

You should avoid contact even with mild skin irritants. Therefore, you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

Protective Material Types

We suggest that protective clothing made from the following materials: Viton, butyl, rubber, neoprene.





Revision Date: 2019-03-26 Compilation Date: November 2016

Respirator

Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Eyebaths or eyewash stations and safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Description & Colour Translucent Liquid
Odour Moderate aromatic

Boiling Point No data Freezing/Melting Point No data **Volatiles** No data **Vapour Pressure** No data **Vapour Density** No data **Specific Gravity** 1.133 **Water Solubility** Insoluble рΗ No data Volatility No data **Odour Threshold** No data **Evaporation Rate** No data **Coeff Oil/Water Distribution** No data **Autoignition Temp** No data

10. STABILITY AND REACTIVITY

Reactivity

This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid

This product should be kept in a cool place, preferably below 30°C. Keep away from sources of sparks or ignition. Handle and open containers carefully. Any electrical equipment in the area of this product should be flame proofed. Protect this product from light. Store in the closed original container in a dry place, cool, well-ventilated area out of direct sunlight.

Incompatibilities

Oxidising agents, polymerisation initiators. Styrene reacts violently with chlorosulfonic acid, oleum, sulfuric acid, chlorine + iron(II) chloride and can react vigorously with oxidizing materials. Dissolves rubber. Corrosive to copper and copper alloys. Incompatible with peroxides, aluminium chloride, strong acids, metallic salts, halogens, polymerization catalysts and accelerators.

Fire Decomposition

Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgement, and unconsciousness followed by coma and death.





Revision Date: 2019-03-26 Compilation Date: November 2016

Polymerisation

This product may undergo polymerisation in the presence of certain chemical reagents. See incompatibilities above. Polymerisation is often accompanied by liberation of heat, and may lead to a dangerous or explosive situation. If the product is seen to be heating up, treat as a fire incident.

11. TOXICOLOGICAL INFORMATION

Toxicity

Chronic exposure to styrene in humans results in effects on the Central Nervous System (CNS), with symptoms such as headache, fatigue, weakness, depression, CNS dysfunction (reaction time, memory, visuomotor speed and accuracy, intellectual function), and hearing loss, peripheral neuropathy, minor effects on some kidney enzyme functions and on the blood.

Animal studies have reported effects on the CNS, liver, kidney, and eye and nasal irritation from inhalation exposure to styrene. Liver, blood, kidney and stomach effects have been observed in animals following chronic oral exposure. Several epidemiologic studies suggest that there may be an association between styrene exposure and an increased risk of leukaemia and lymphoma. However, the evidence is inconclusive due to multiple chemical exposures and inadequate information on the levels and duration of exposure.

There is inadequate evidence to show that styrene is carcinogenic in humans.

Where workers are exposed to styrene for more than eight hours a day or for more than 40 hours a week, the allowable exposure should be reduced by a suitable factor to ensure adequate worker protection.

Atmospheric styrene monitoring is suggested in all cases where worker exposure values need to be established and biological monitoring when overexposure is suspected. This product may attack central nervous system, kidneys and liver. Methyl Methacrylate is classed by SWA as potential sensitiser by skin contact.

Classification of Hazardous Ingredients

Ingredient Risk Phrases

Styrene: Conc>=25%, Xn; R40; R20; R48/20; R36/37/38

- Flammable liquid category 3
- Acute toxicity category 4
- Carcinogenicity category 2
- Eye irritation category 2A
- Skin irritation category 2
- Specific target organ toxicity (single exposure) category 3
- Specific target organ toxicity (repeated exposure) category 2

Methyl Methacrylate: Conc>=1% Conc<20%: Xi; R43

- Flammable liquid category 2
- Specific target organ toxicity (single exposure) category 3
- Skin irritation category 2
- Skin sensitisation category 1

Solvent Naphtha (petroleum), Light Arom:

Aspiration hazard – category 1

Ethyl Benzene:

- Flammable liquid category 2
- Acute toxicity category 4
- Eye irritation category 2A
- Skin irritation category 2





Revision Date: 2019-03-26 Compilation Date: November 2016

Styrene:

LD₅₀ Oral, Rat 1000mg/kg LC₅₀ Inhalation, Rat = 11.7mg/L/4hr

Methyl Methacrylate: LD₅₀ Oral, Rat 7900mg/kg

Solvent Naphtha (petroleum), Light Arom:

LD₅₀ Dermal, Rabbit = >2000mg/kg

Ethyl Benzene:

LD₅₀ Oral, Rat 3500mg/kg LD₅₀ Dermal, Rabbit = 15400mg/kg LC₅₀ Inhalation, Rat = 17.2mg/L/4hr

Potential Health Effects

Persons sensitised to methacrylate esters should avoid contact with this product.

Inhalation

Short Term Exposure: This product is an inhalation irritant. Symptoms may include headache, irritation of nose and throat and increased secretion of mucous in the nose and throat. Other symptoms may also become evident, but they should disappear after exposure has ceased if treatment is prompt.

Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However, product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact

Short Term Exposure: This product is a severe eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms such as swelling of eyelids and blurred vision may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment is likely to cause permanent damage.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion

Short Term Exposure: This product is unlikely to cause any irritation problems in the short or long term.

Long Term Exposure: No data for health effects associated with long term ingestion.

Carcinogen Status

SWA: No significant ingredient is classified as carcinogenic by SWA. **NTP:** No significant ingredient is classified as carcinogenic by NTP. **IARC:** Styrene is classed 2b IARC – possibly carcinogenic to humans.

Methyl Methacrylate is Class 3 – unclassifiable as to carcinogenicity to humans.

Ethyl Benzene is classed 2b IARC – possibly carcinogenic to humans.

See the IARC website for further details. A web address has not been provided as addresses frequently change.





Revision Date: 2019-03-26 Compilation Date: November 2016

12. ECOLOGICAL INFORMATION

This product is biodegradable. It will not accumulate in the soil or water or cause long term problems. Styrene evaporates when exposed to air. It dissolves only slightly when mixed with water. Most releases of styrene to the environment are to air. It can also evaporate from water and soil exposed to air. Once in air, styrene breaks down to other chemicals. Microorganisms that live in water and in soil can also break down styrene. Because it is a liquid that does not bind well to soil, styrene that makes its way into the ground can move through the ground and enter groundwater. Plants and animals are not likely to store styrene.

13. DISPOSAL CONSIDERATIONS

Disposal

This product may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. If neither of these options is suitable in-house, consider controlled incineration, or contact a specialist waste disposal company.

14. TRANSPORT INFORMATION

Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

UN No. UN1866, RESIN SOLUTION, Flammable

Hazchem Code 3Y Special Provisions 223

Limited quantities: ADG 7 specifies a Limited Quantity value of 5L for this class of product.

Dangerous Goods Class: Class 3: Flammable Liquids.

Packing Group: III

Packing Instruction: P001, IBC03, LP01

Class 3 Flammable Liquids shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 2.1 (Flammable Gases where flammable liquids and flammable gases are both in bulk), 2.3 (Toxic Gases), 4.2 (Spontaneously Combustible Substances), 5.1 (Oxidising Agents), 5.2 (Organic Peroxides), 6 (Toxic Substances, except, Flammable Liquid is nitromethane), and 7 (Radioactive Substances). They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.1 (Flammable Gases except where the Flammable Liquids and Flammable Gases are in bulk), 2.2 (Non- Flammable Non-Toxic Gases), 4.1 (Flammable Solids), 4.3 (Dangerous When Wet Substances), 6 (Toxic Substances, where Flammable Liquid is nitromethane), 8 (Corrosive Substances), 9 (Miscellaneous Dangerous Goods), Foodstuffs or foodstuff empties.

15. REGULATORY INFORMATION

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredient: Styrene, is mentioned in the SUSMP.





MATERIAL SAFETY DATA SHEET

Trade Name: ARMORFLEX 953 GELCOAT NEUTRAL

Revision Date: 2019-03-26 Compilation Date: November 2016

16. OTHER INFORMATION

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)

AICS Australian Inventory of Chemical Substances

SWA Safe Work Australia, formerly ASCC and NOHSC

CAS Number Chemical Abstracts Service Registry Number

especially firefighters

IARC International Agency for Research on Cancer

NOS Not otherwise specified

NTP National Toxicology Program (USA)

R-Phrase Risk Phrase

SUSMP Standard for the Uniform Scheduling of Medicines and Poisons

UN Number United Nations Number

Reference: Polynt Composites Australia Pty Ltd MSDS on Armorflex 953 Gelcoat Neutral November 2016

Compiled by: Aurora Glass Fibre (NZ) Ltd

Preparation Date: 26 March 2019

THIS INFORMATION IS PROVIDED IN GOOD FAITH AND IS CORRECT TO THE BEST OF AURORA GLASS FIBRE NZ LTD'S KNOWLEDGE AS OF THE DATE HEREOF AND IS DESIGNED TO ASSIST OUR CUSTOMERS; HOWEVER, AURORA GLASS FIBRE NZ LTD MADES NO REPRESENTATION AS TO ITS COMPLETENESS OR ACCURACY. OUR PRODUCTS ARE INTENDED FOR SALE TO INDUSTRIAL AND COMMERCIAL CUSTOMERS. WE REQUIRE CUSTOMERS TO INSPECT AND TEST OUR PRODUCTS BEFORE USE AND TO SATISFY THEMSELVES AS TO SUITABILITY FOR THEIR SPECIFIC APPLICATIONS. ANY USE WHICH AURORA GLASS FIBRE NZ LTD CUSTOMERS OR THIRD PARTIES MAKE OF THIS INFORMATION, OR ANY RELIANCE ON, OR DECISIONS MADE BASED UPON IT, ARE THE RESPONSIBILITY OF SUCH CUSTOMER OR THIRD PARTY. AURORA GLASS FIBRE NZ LTD DISCLAIMS ANY RESPONSIBILITY FOR DAMAGES, OR LIABILITY, OF ANY KIND FROM THE USE OF THIS INFORMATION.