

SAFETY DATA SHEET

SDS: 0071008
Date Prepared: 03-Jan-2023

Version: 2
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1. IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product Name: **STYRENE MONOMER**
Product Description: Monomer
Intended/Recommended Use: Recommended for Industrial and/or Professional use only
Uses advised against: Not available

Supplier: New Zealand Fibreglass (2025) Limited
Address: 109 Morrin Road, St Johns, Auckland 1072

For Product and all Non-Emergency Information

Call us on 0800 100 098 or +64 (09) 570 8999 or email us at info@nzfg.co.nz

EMERGENCY TELEPHONE NUMBER (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:

| National Poison Line: 0800 764 766 | CareChem: +64 (09) 929 1483 | Emergency Services: 111 |
See Section 16 for Emergency phone numbers for other regions.

2. HAZARDS IDENTIFICATION

Regulatory information

Classified as Hazardous according to the Hazardous Substances (Minimum Degrees of Hazard) Notice 2020

EPA New Zealand HSNO approval code or group standard: HSR001221

GHS Classification

Flammable Liquids Category 3
Reproductive Toxicity Category 2
Acute Toxicity (Inhalation) Category 4
Specific Target Organ Toxicity - Repeated Exposure Category 1
Specific Target Organ Toxicity - Single Exposure Category 3
Skin Irritation Category 2
Serious Eye Damage / Eye Irritation Category 2
Aspiration Hazard Category 1
Hazardous to the Aquatic Environment Chronic Category 3

LABEL ELEMENTS



Signal Word
Danger

Hazard Statements

Flammable liquid and vapour
Suspected of damaging fertility or the unborn child
Harmful if inhaled
Causes damage to organs through prolonged or repeated exposure
May cause respiratory irritation
Causes skin irritation
Causes serious eye irritation
May be fatal if swallowed and enters airways
Harmful to aquatic life with long lasting effects

Precautionary Statements**Prevention**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take action to prevent static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapours/spray. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.

Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. In case of fire: Use CO₂, dry chemical, or foam to extinguish. IF exposed or concerned: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Specific treatment (see supplemental first aid instructions on this label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. 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 SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Storage

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

Disposal

Dispose of contents/container in accordance with local and national regulations.

OTHER HAZARDS

Polymerisation may occur from excessive heat, contamination or exposure to direct sunlight.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Substance or Mixture?:	Substance
Component / CAS No.	%
Styrene	100
100-42-5	

4. FIRST-AID MEASURES**Emergency telephone number**

Poisons Information Centre, New Zealand: 0800 764 766

First-aid Measures**Inhalation:**

Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

Keep patient warm and at rest. If unconscious, place in recovery position and seek medical advice. Aspiration into lungs can produce severe lung damage.

Skin Contact:

Remove contaminated clothing and shoes without delay. Wash immediately with plenty of water and soap. In the case of skin irritation or allergic reactions see a doctor. Wash contaminated clothing before reuse. Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Eye Contact:

Material not expected to be harmful by eye contact. In case of eye contact, flush eyes with plenty of water. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area.

Ingestion:

Material is not expected to be harmful by ingestion. No specific first aid measures are required. Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Call a doctor.

Most Important Symptoms and Effects, Acute and Delayed

Coughing and/ or wheezing. Burning sensation. Difficulty in breathing. Dizziness.

Immediate Medical Attention and Special Treatment

Not applicable.

Notes To Physician:

Because of the danger of aspiration, emesis or gastric lavage should not be used unless the risk is justified by the presence of additional toxic substances.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Use water spray, alcohol foam, carbon dioxide or dry chemical to extinguish fires. Water stream may be ineffective.

Unsuitable Extinguishing Media:

full water jet.

Protective Equipment:

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required. Wear full firefighting protective clothing. See SDS Section 8 (Exposure Controls/Personal Protection).

Special Hazards:

Flammable. May be ignited by heat, sparks or flames. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Keep product and empty container away from heat and sources of ignition. Exposure to heat and moisture can cause decomposition to flammable and explosive vapor of carbon disulfide.

HAZCHEM Code: 3Y

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Use personal protective equipment as required. Ensure adequate ventilation. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Take action to prevent static discharge. Keep people away from and upwind of spill/leak. All equipment used when handling the product must be grounded. Ventilate the area. Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8 (Exposure

Controls/Personal Protection), wear impermeable boots.

Methods For Containment:

Keep out of drains, sewers, ditches and waterways. Do not touch or walk through spilled material. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. A vapor suppressing foam may be used to reduce vapors. Stop leak if safe to do so. Dyke far ahead of spill to collect run-off water. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods For Cleaning Up:

Remove sources of ignition. All equipment used when handling the product must be grounded. Stop leak if possible if it can be done without risk. Prevent entry into waterways, sewers, basements or confined areas. Dam up. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

Environmental Precautions:

None known.

References to other sections:

See Sections 7, 8 and 13 for additional information.

7. HANDLING AND STORAGE

Handling

Precautions: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take action to prevent static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapours/spray. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.

Special Handling Statements: Remove contaminated clothing and shoes without delay. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take action to prevent static discharge. Keep in an area equipped with sprinklers. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use personal protection equipment. Ensure adequate ventilation. Use according to package label instructions. Use spark-proof tools and explosion-proof equipment. Do not eat, drink or smoke when using this product. Avoid excessive heat, contamination or exposure to direct sunlight to prevent polymerization.

Storage

Avoid temperatures above 40°C (104°F). Keep container tightly closed and dry in a cool, well-ventilated place. Do not store near combustible materials. Store locked up. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in an area equipped with sprinklers. Vapours may form explosive mixtures with air. Hazardous polymerisation may take place during a fire due to heat. Closed containers could violently rupture. Store in accordance with the particular national regulations. Keep in properly labelled containers.

Storage Temperature: Store at < 35 °C 95 °F

Reason: Higher storage temperature reduces shelf life and also increases risk of hazardous polymerization.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

CONTROL PARAMETERS - Limits**Styrene 100-42-5**

New Zealand:

20 ppm (TWA)
85 mg/m³ (TWA)
40 ppm (STEL)

ACGIH (TLV): 170 mg/m³ (STEL)
 20 ppm (STEL)
 10 ppm (TWA)

Biological Exposure Limit(s)

Styrene 100-42-5

Biological Exposure Indices 400 mg/g creatinine (urine - end of shift)
 40 µg/L (urine - end of shift)

Engineering Measures:

Ensure adequate ventilation, especially in confined areas.

Respiratory Protection:

Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure. For operations where inhalation exposure can occur use an approved respirator. Recommendations are listed below. Other protective respiratory equipment may be used based on user's own risk assessment. Where respiratory protection is required, use a respirator selected and in accordance with AS/NZS 1715 and AS/NZS 1716.

Recommended:

Full Face Mask with organic vapor cartridge, Type A filter (BP >65°C)

Eye protection:

Wear eye/face protection such as chemical splash proof goggles or face shield. Eyewash equipment and safety shower should be provided in areas of potential exposure.

Skin Protection:

Wear impermeable gloves and suitable protective clothing. Avoid skin contact. Wear protective Neoprene™ gloves. Wear rubber gloves.

Hand protection:

Wear impermeable gloves. Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility etc) is noticed. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

Additional Advice:

It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment. Work clothing and shoes should not be taken home. Wear suitable gloves and eye/face protection. Wash hands before breaks and after work. Regular cleaning of equipment, work area and clothing is recommended. Contaminated work clothing should not be allowed out of the workplace. Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance: clear liquid
Colour: colorless to yellow
Odor: characteristic sweet aromatic
Odor Threshold: See Section 8 for exposure limits.
Melting Point: -31 °C
Boiling Point: 145 °C
Flammability: Not an explosive
Flammable Limits (% By Vol): Lower: 0.9 Upper: 6.8

Flash point:	31 @ 1.013 hPa
Autoignition temperature:	490
Decomposition Temperature:	Not available
pH:	Not available
Viscosity (Kinematic):	0.77 mm ² /s @ @ 25 °C
Viscosity (Dynamic):	0.696 mPa.s @ 25 °C
Solubility In Water:	0.32 g/L @ 25
Solubility In Solvent:	Not available
Partition coefficient (n-octanol/water):	2.96 @ 25 °C (Log Pow)
Vapor Pressure:	6.67 hPa @ 20 Derived from solvent
Specific Gravity/Density:	0.91 g/cm ³ @ 20
Vapour density:	3.6 (air = 1)
Particle characteristics:	Not applicable

9.2 OTHER INFORMATION

9.2.1 Information with regard to physical hazard classes

Not applicable

9.2.2 Other safety characteristics

Not applicable

10. STABILITY AND REACTIVITY

Reactivity:	No information available
Stability:	Stable
Conditions To Avoid:	Heat, flames and sparks.
Polymerization:	May occur
Conditions To Avoid:	Avoid contact with oxidizing agents, free radical initiators.
Materials To Avoid:	Strong acids Strong bases Peroxides, metallic compounds, strong oxidizing agents. Copper, brass and other copper alloys, precious metals
Hazardous Decomposition Products:	Carbon dioxide Carbon monoxide toxic gases/vapors acid vapors and fumes

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Respiratory System, Eyes, Skin, Oral.

HEALTH HAZARD INFORMATION

Acute toxicity - oral: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Acute toxicity - dermal: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Acute toxicity - inhalation: Harmful if inhaled

Skin corrosion / irritation: Causes skin irritation

Serious eye damage / eye irritation: Causes serious eye irritation

Respiratory sensitization: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Skin sensitization: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Carcinogenicity: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Germ cell mutagenicity: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Reproductive toxicity: Suspected of damaging fertility or the unborn child

Specific target organ toxicity (single exposure): May cause respiratory irritation.

Specific target organ toxicity (repeated exposure): Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard: May be fatal if swallowed and enters airways

PRODUCT TOXICITY INFORMATION

ACUTE TOXICITY DATA

oral	rat	Acute LD50	> 2000	mg/kg
dermal	rabbit	Acute LD50	> 2000	mg/kg
inhalation	rat	Acute LC50	4 hr	11.8 mg/l (Vapors)

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	Skin	Irritating
Acute Irritation	eye	Irritating

ALLERGIC SENSITIZATION

Sensitization	Skin	No data
Sensitization	respiratory	No data

Specific target organ toxicity (repeated exposure): Causes damage to ears through prolonged or repeated exposure by inhalation.

GENOTOXICITY

Assays for Gene Mutations

Ames Salmonella Assay No data

Contains a known or suspected reproductive toxin

Avoid repeated exposure. Contains a known or suspected reproductive toxin. May cause adverse liver effects.

OTHER INFORMATION

The product toxicity information above has been estimated.

HAZARDOUS INGREDIENT TOXICITY DATA

Styrene has acute oral LD50 (rat) and acute dermal LD50 (rat, rabbit) values of >5000 and >2000 mg/kg, respectively. The inhalation LC50 (rat) has been reported as 11.8 mg/L (vapor) following a 4-hour exposure. Acute overexposure to styrene vapor may cause moderate eye and nasal irritation as well as drowsiness, headache and central nervous system depression. Styrene is a moderate skin irritant. No allergic reactions were observed in animal studies. In animal studies, styrene induced micronuclei, sister chromatid exchanges and DNA strand breaks. In vitro tests

showed styrene to cause sex- linked recessive lethal mutations in *Drosophila* (fruit flies). Styrene has been shown to cause lung tumors in mice. Epidemiological studies of styrene exposure in humans are not conclusive due to the inadequate control of variables. Causes damage to ears through prolonged or repeated exposure by inhalation. Ingestion of styrene can initiate an aspiration hazard. The International Agency for Research on Cancer (IARC) lists styrene as an IARC 2B carcinogen (possibly carcinogenic to humans). Animal studies have shown some adverse developmental effects.

12. ECOLOGICAL INFORMATION

Aquatic Chronic Toxicity: Harmful to aquatic life with long lasting effects

ECOTOXICITY

Not available

ALGAE TEST RESULTS

Test: Acute Algae Toxicity

Duration: 72 hr

Species: *Pseudokirchneriella subcapitata*

4.9 mg/l EC50

FISH TEST RESULTS

Test: Acute toxicity, freshwater fish

Duration: 96 hr.

Species: Fathead Minnow (*Pimephales promelas*)

4.02 mg/l LC50

INVERTEBRATE TEST RESULTS

Test: Acute Invertebrate Toxicity, fresh water

Duration: 48 hr

Species: Water Flea (*Daphnia magna*)

4.7 mg/l EC50

BIOACCUMULATIVE POTENTIAL

Not available

PERSISTENCE AND DEGRADABILITY

Not available

MOBILITY IN SOIL

Not available

OTHER ADVERSE EFFECTS

HAZARD TO THE OZONE LAYER

Not available

HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Fish
Styrene (100-42-5)	LC50 = 3.24 - 4.99 mg/L - Pimephales promelas (96h)

Component / CAS No.	Toxicity to Water Flea
Styrene (100-42-5)	EC50 = 4.7 mg/L - Daphnia magna (48h) NOEC = 1.01 mg/L - Daphnia magna (21d) LC50 = 9.5 mg/L - Hyalella azteca (96h)

Component / CAS No.	Toxicity to Algae
Styrene (100-42-5)	EC50 = 6.3 mg/L - Pseudokirchneriella subcapitata (96h)

Component / CAS No.	Partition coefficient
Styrene (100-42-5)	2.96

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods**

The company encourages the recycle and reuse of products and packaging, where possible and permitted.

Product disposal

When recycle or reuse is not possible, the company recommends that our products, especially when classified as hazardous, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

Packaging disposal

Handle contaminated packages in the same way as the product itself. Disposal of emptied and cleaned packaging must be made in accordance with applicable local and national regulations.

Disposal-relevant information

Do not release directly or indirectly to surface water, ground water, soil or public sewage system.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

Road transport

Dangerous Goods? X

PROPER SHIPPING NAME: STYRENE MONOMER, STABILIZED

Hazard Class: 3

UN Number: UN2055

Packing Group: III

Transport Label Required: Flammable liquid

HAZCHEM Code: 3Y

IERG: 19P

IMO

Dangerous Goods? X

UN PROPER SHIPPING NAME:	STYRENE MONOMER, STABILIZED
Transport Hazard Class:	3
UN Number:	UN2055
Packing Group:	III
Transport Label Required:	Flammable liquid

ICAO / IATA

Dangerous Goods? X

UN PROPER SHIPPING NAME:	STYRENE MONOMER, STABILIZED
Transport Hazard Class:	3
Packing Group:	III
UN Number:	UN2055
Transport Label Required:	Flammable liquid

SPECIAL PRECAUTIONS FOR USER

Protect from freezing and protect against external heat sources above +35°C. Protect from direct sunlight.

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

Ozone Depleting Substances (Regulation (EC) No 1005/2009): Not applicable

Persistent Organic Pollutants (Regulation (EC) No 850/2004): Not applicable

EPA New Zealand HSNO approval code or group standard: HSR001221

Health and Safety at Work Hazardous Substances Regulations 2017

Tracking:

This product does not require tracking

Certified Handler:

This product does not require a certified handler.

Controlled Substance: This product does not require a Controlled Substance Licence

Inventory Information

New Zealand: This product is approved or exempt under the Hazardous Substances and New Organisms (HSNO) Act.

Australia: All components of this product are included in the Australian Inventory of Industrial Chemicals (AIIC) or are not required to be listed on AIIC.

European Economic Area (including EU): When purchased and shipped from an Allnex legal entity based in the EEA (EU or Norway), this product is compliant with the registration of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt and/or registered.

United States (USA): All components of this product are designated as "Active" on the TSCA Inventory or are not required to be listed.

Canada: All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

China: All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

Korea: All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory. When purchased from Allnex Korea or Chemart distributor this product is compliant with the ARECs (the Act on the Registration and Evaluation, etc. of Chemical Substances). All its components are either excluded, exempt, pre-notified and/or registered. When purchased from another allnex entity, please contact PSRA-KREACH@allnex.com to check the possibility to be covered by our Only Representative.

Taiwan: All components of this product are included in the Taiwan chemical substance inventory or are not required to be listed on the Taiwan chemical substance inventory (TCSI).

16. OTHER INFORMATION

Reasons for Issue: Revised Section 9

Date Prepared: 03-Jan-2023

Date of last significant revision: 06-Mar-2022

Emergency phone numbers for other regions

Asia Pacific

Australia: +61 1800 022 037 (Allnex Australia)

China (PRC): +86(0)532 8388 9090 (NRCC)

India: 000 800 100 7479 (toll free) or +65 3158 1198 (Carechem 24)

Indonesia: 007 803 011 0293 (Carechem 24)

Japan: 0120 015 230 (toll free) (Carechem24)

Korea: +82 2 3479 8401 (Carechem 24)

Malaysia: +60 3 6207 4347 (Carechem 24)

Philippines: +63 2 231 2149 (Carechem 24)

Taiwan: +886 2 8793 3212 (Carechem 24)

Vietnam: +84 8 4458 2388 (Carechem 24)

All Others: +65 3158 1074 (Carechem 24)

Europe

+44 (0) 1235 239 670 (Carechem 24)

Middle East, Africa

+44 (0) 1235 239 671 (Carechem 24)

Latin America

Brazil: +55-800-707-7022 (toll free) or +55-11-98149-0850 (Suatrans 24)

Chile: +56 2 2582 9336 (Carechem 24)

Mexico and all others: +52-555-004-8763 (Carechem 24)

Canada and USA

+1-866-928-0789 (toll free) or +1-215-207-0061 (Carechem 24 - Allnex29003-NCEC)

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Prepared By: Product Sustainability & Regulatory Affairs Department, <http://www.allnex.com/contact>
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