



Material Safety Data Sheet

Styron Australia Pty Ltd

Product Name: STYRON* 470 Natural Polystyrene

Issue Date: 05.08.2010
Print Date: 31 May 2012

Styron Australia Pty Ltd encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name

STYRON* 470 Natural Polystyrene

Use of the substance/preparation

A polystyrene plastic - For industrial conversion as a raw material for manufacture of articles or goods.

COMPANY IDENTIFICATION

Styron Australia Pty Ltd
ABN 54141196330
541-583 Kororoit Creek Road
Altona, VI 3018
Australia

Customer Information Number:

+613 9226 3668
SDSQuestion@styron.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1800-033-882

Local Emergency Contact: 1800 033 882

For advice, contact a doctor (at once) or the Australian Poisons Information Centre: 131 126

2. Hazards Identification

HAZARDOUS SUBSTANCES CLASSIFICATION: Not classified as hazardous to health according to the criteria of the National Occupational Health and Safety Commission, Australia

3. Composition Information

Component	Amount	Classification:	CAS #	EC #
White mineral oil (petroleum)	<= 5.0 %	Not classified.	8042-47-5	232-455-8
Styrene, 1,3-butadiene copolymer	>= 95.0 %	Not classified.	9003-55-8	Polymer

®(TM)*Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

4. First Aid Procedures

Eye Contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Skin Contact: Wash skin with plenty of water. Seek first aid or medical attention as needed. If molten material comes in contact with the skin, do not apply ice but cool under ice water or running stream of water. DO NOT attempt to remove the material from skin. Removal could result in severe tissue damage. Seek medical attention immediately. Safety shower should be located in immediate work area.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Ingestion: If swallowed, seek medical attention. May cause gastrointestinal blockage. Do not give laxatives. Do not induce vomiting unless directed to do so by medical personnel.

Notes to Physician: If burn is present, treat as any thermal burn, after decontamination. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Emergency Personnel Protection: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

5. Fire Fighting Measures

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. If material is molten, do not apply direct water stream. Use fine water spray or foam. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Unusual Fire and Explosion Hazards: Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is produced when product burns.

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon dioxide. Carbon monoxide.

See Section 9 for related Physical Properties

6. Accidental Release Measures

Steps to be Taken if Material is Released or Spilled: Contain spilled material if possible. Sweep up. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

Personal Precautions: Spilled material may cause a slipping hazard. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. Handling and Storage

Handling

General Handling: No smoking, open flames or sources of ignition in handling and storage area. Good housekeeping and controlling of dusts are necessary for safe handling of product. Avoid breathing process fumes. Use with adequate ventilation. When appropriate, unique handling information for containers can be found on the product label. Workers should be protected from the possibility of contact with molten resin. Do not get molten material in eyes, on skin or clothing. Keep away from heat, sparks and flame. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Storage

Store in a dry place. Store in accordance with good manufacturing practices.

8. Exposure Controls / Personal Protection

Exposure Limits

Although some of the components of this product may have exposure guidelines, no exposure would be expected under normal handling conditions due to the physical state of the material.

Personal Protection

Eye/Face Protection: Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

Skin Protection: No precautions other than clean body-covering clothing should be needed. When handling hot material, a safety shower should be located in the immediate work area.

Hand protection: Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized. Use gloves to protect from mechanical injury. Selection of gloves will depend on the task. Use gloves with insulation for thermal protection, when needed.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. Use an approved air-purifying respirator when vapors are generated at increased temperatures or when dust or mist is present. The following should be effective types of air-purifying respirators: When dust/mist are present use a/an Particulate filter. When combinations of vapors, acids, or dusts/mists are present use a/an Organic vapor cartridge with a particulate pre-filter.

Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls

Ventilation: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Other Information

Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:

AS/NZS 1336: Recommended practices for eye protection in the industrial environment.

AS/NZS 1337: Eye protectors for industrial applications.

AS/NZS 1715: Selection, use and maintenance of respiratory protective devices.

AS/NZS 2161: Occupational protective gloves.
 AS/NZS 2210: Occupational protective footwear.
 AS 2919: Industrial clothing.

9. Physical and Chemical Properties

Physical State	Pellets or Granules
Color	Natural
Odor	Odorless
Odor Threshold	No test data available
Flash Point - Closed Cup	Not applicable
Flammability (solid, gas)	No
Flammable Limits In Air	Lower: Not applicable Upper: Not applicable
Autoignition Temperature	No test data available
Vapor Pressure	Not applicable
Boiling Point (760 mmHg)	Not applicable.
Vapor Density (air = 1)	Not applicable
Specific Gravity (H ₂ O = 1)	1.045 <i>Literature</i>
Freezing Point	Not applicable
Melting Point	No test data available
Solubility in water (by weight)	Negligible
pH	Not applicable
Decomposition Temperature	No test data available
Partition coefficient, n-octanol/water (log Pow)	No data available for this product.
Evaporation Rate (Butyl Acetate = 1)	No test data available
Kinematic Viscosity	No test data available

10. Stability and Reactivity

Stability/Instability

Stable under recommended storage conditions. See Storage, Section 7.

Conditions to Avoid: Avoid temperatures above 300 °C. Exposure to elevated temperatures can cause product to decompose.

Incompatible Materials: None known.

Hazardous Polymerization

Will not occur.

Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials. Processing may release fumes and other decomposition products. At temperatures exceeding melt temperatures, polymer fragments can be released. Fumes can be irritating. Decomposition products can include and are not limited to: Combustible gases.

11. Toxicological Information

Acute Toxicity**Ingestion**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. May cause choking if swallowed.

Single dose oral LD50 has not been determined.

Typical for this family of materials. Estimated. LD50, Rat > 5,000 mg/kg

Aspiration hazard

Based on physical properties, not likely to be an aspiration hazard.

Dermal

No adverse effects anticipated by skin absorption.

The dermal LD50 has not been determined.

Typical for this family of materials. Estimated. LD50, Rabbit > 2,000 mg/kg

Inhalation

Dust may cause irritation to upper respiratory tract (nose and throat). Vapors released during thermal processing may cause respiratory irritation.

The LC50 has not been determined.

Eye damage/eye irritation

Solid or dust may cause irritation or corneal injury due to mechanical action. Elevated temperatures may generate vapor levels sufficient to cause eye irritation. Effects may include discomfort and redness.

Skin corrosion/irritation

Prolonged contact is essentially nonirritating to skin. Mechanical injury only. Under normal processing conditions, material is heated to elevated temperatures; contact with the material may cause thermal burns.

Sensitization**Skin**

No relevant information found.

Respiratory

No relevant information found.

Repeated Dose Toxicity

Additives are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

Chronic Toxicity and Carcinogenicity

No relevant information found.

Developmental Toxicity

No relevant information found.

Reproductive Toxicity

No relevant information found.

Genetic Toxicology

No relevant information found.

12. Ecological Information**ENVIRONMENTAL FATE****Movement & Partitioning**

No bioconcentration of the polymeric component is expected because of its high molecular weight. In the terrestrial environment, material is expected to remain in the soil. In the aquatic environment, material will sink and remain in the sediment.

Persistence and Degradability

This water-insoluble polymeric solid is expected to be inert in the environment. Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

ECOTOXICITY

Not expected to be acutely toxic, but material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life.

13. Disposal Considerations

For uncontaminated material the disposal options include mechanical and chemical recycling or energy recovery. In some countries landfill is also allowed. For contaminated material the options remain the same, although additional evaluation is required. For all countries the disposal methods must be in compliance with national and provincial laws and any municipal or local by-laws. All disposal methods must be in compliance with the EU framework Directives 91/156/EEC, 91/689/EEC and their subsequent adaptations, as implemented in National Laws and Regulations, as well as EU Directives dealing with priority waste streams. Transboundary shipment of wastes must be in compliance with EU Regulation 259/93 and subsequent modifications. For non-EU countries, transboundary shipments of wastes must be in compliance with the Basel Convention, as implemented nationally. As a service to our customers, we can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Please contact our Customer Information Group (telephone number in Section 1 of this document) for further details.

14. Transport Information

ADG

|| NOT REGULATED

IMDG

|| NOT REGULATED

ICAO/IATA

|| NOT REGULATED

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

Australia. Industrial Chemical (Notification and Assessment) Act

The principal components and additives of this product are included in the Australian Inventory of Chemical Substances (AICS) or comply with the requirements of the Industrial Chemicals (Notification and Assessment) Act 1989.

Classification and User Label Information

No regulatory requirements known.

16. Other Information

Product Literature

Additional information on this product may be obtained by calling your sales or customer service contact.

Revision

Identification Number: 79723 / 4801 / Issue Date 05.08.2010 / Version: 4.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation

Styron Australia Pty Ltd urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.