



Material Safety Data Sheet

Dow Chemical (Australia) Ltd

Product Name: ROOFMATE(TM) SL-X Extruded Polystyrene Foam **Issue Date:** 02.04.2012
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Dow Chemical (Australia) 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
ROOFMATE™ SL-X Extruded Polystyrene Foam

Identified uses
Thermal insulation.

COMPANY IDENTIFICATION
Dow Chemical (Australia) Ltd
A Subsidiary of The Dow Chemical Company
ABN 72 000 264 979
541-583 Kororoit Creek Road
Altona 3018
Australia

Customer Information Number: 1800-780-074
SDSQuestion@dow.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 #
1,1,1,2-Tetrafluoroethane	< 8.0 %	Not classified.	811-97-2	212-377-0
Ethanol; ethyl alcohol	< 3.0 %	F: R11	64-17-5	200-578-6

See Section 16 for full text of R-phrases.
Extruded polystyrene foam containing a halogenated flame retardant system.

®(TM)*Trademark

4. First Aid Procedures

Description of first aid measures

General advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

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

Skin Contact: Wash skin with plenty of water.

Eye Contact: If irritation occurs, 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.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed

No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire Fighting Measures

Suitable extinguishing media

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

Special hazards arising from the substance or mixture

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. In smoldering or flaming conditions, carbon monoxide, carbon dioxide and carbon are generated. Combustion products may include and are not limited to: Hydrogen fluoride. Hydrogen bromide. Based on combustion toxicity testing, the effects of combustion from this foam are not more acutely toxic than the effects of combustion from common building materials such as wood.

Unusual Fire and Explosion Hazards: Container may vent and/or rupture due to fire. When product is stored in closed containers, a flammable atmosphere can develop. Mechanical cutting, grinding or sawing can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate. This product contains a flame retardant to inhibit accidental ignition from small fire sources. This plastic foam product is combustible and should be protected from flames and other high heat sources. For more information, contact Dow. Dense smoke is produced when product burns.

Advice for firefighters

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.

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.

See Section 9 for related Physical Properties

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: There are no special required instructions.

Environmental precautions: There are no special required instructions.

Methods and materials for containment and cleaning up: Recover spilled material if possible. See Section 13, Disposal Considerations, for additional information.

7. Handling and Storage

Handling

General Handling: Fabrication methods which involve cutting into this product may release the blowing agent(s) remaining in the cells. Provide adequate ventilation to assure localized concentrations in release areas are maintained below the lower flammable limit. Mechanical cutting, grinding or sawing can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate. This product is combustible and may constitute a fire hazard if improperly used or installed. When installed, this product should be adequately protected as directed by national building regulations or instructions in the specific application brochure.

Storage

In order to prevent buildup of combustible vapors, do not store large quantities of this product in unventilated spaces. Transport bulk shipments of this product in ventilated vehicles. During shipment, storage, installation and use, this material should not be exposed to flame or other ignition sources. This material contains a halogenated flame retardant additive system to inhibit accidental ignition from small fire sources. Gas fired recirculating air furnaces or heaters, gas heaters, etc., drawing air from areas where there may be a presence of the blowing agents emitted from this foam during storage or fabrication, can be subject to rust and corrosion problems as a result of thermal decomposition of the blowing agents to hydrogen fluoride.

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
Ethanol; ethyl alcohol	AU OEL	TWA	1,880 mg/m ³ 1,000 ppm
	ACGIH	STEL	1,000 ppm
1,1,1,2-Tetrafluoroethane	AIHA WEEL	TWA	4,240 mg/m ³ 1,000 ppm
	AU OEL	TWA	4,240 mg/m ³ 1,000 ppm

Concentrations of the blowing agents anticipated incidental to proper handling are expected to be well below those which cause acute inhalation effects and below exposure guidelines.

Personal Protection

Eye/Face Protection: Eye protection should not be necessary. For fabrication operations safety glasses (with side shields) are recommended. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin Protection: No precautions other than clean body-covering clothing should be needed.

Hand protection: Use gloves to protect from mechanical injury. Selection of gloves will depend on the task.

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. In dusty or misty atmospheres, use an approved particulate respirator. When respiratory protection is required for certain operations, including but not limited to saw, router or hot-wire cutting, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Ingestion: No precautions necessary due to the physical properties of the material.

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

Appearance

Physical State	Board
Color	Blue
Odor	Odorless
Odor Threshold	Odorless
pH	Not applicable
Melting Point	> 75 °C <i>Literature</i>
Freezing Point	Not applicable
Boiling Point (760 mmHg)	Not applicable.
Flash Point - Closed Cup	346 °C <i>Literature</i>
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	No
Flammable Limits In Air	Lower: 3.5 %(V) <i>Literature</i> Ethanol. Upper: Not applicable
Vapor Pressure	Not applicable
Vapor Density (air = 1)	Not applicable
Specific Gravity (H₂O = 1)	Not applicable
Solubility in water (by weight)	not soluble
Partition coefficient, n-octanol/water (log Pow)	No data available for this product.
Autoignition Temperature	491 °C <i>Literature</i>
Decomposition Temperature	No test data available
Kinematic Viscosity	Not applicable
Explosive properties	no data available
Oxidizing properties	no data available
Solid Density	20 - 70 kg/m ³ <i>Literature</i>
Softening point/range:	> 75 °C <i>Literature</i>

10. Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical stability

Thermally stable at typical use temperatures.

Possibility of hazardous reactions

Polymerization will not occur.

Conditions to Avoid: Avoid temperatures above 300°C (572°F) Exposure to elevated temperatures can cause product to decompose. Avoid direct sunlight.

Incompatible Materials: Avoid contact with oxidizing materials. Avoid contact with: Aldehydes. Amines. Esters. Liquid fuels. Organic solvents.

Hazardous decomposition products

Does not normally decompose. Evolution of small amounts of hydrogen halides occur when heated over 250°C (482°F). Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aromatic compounds. Aldehydes. Ethylbenzene. Hydrogen bromide. Hydrogen fluoride. Polymer fragments. Styrene. Under high heat, non-flaming conditions, small amounts of aromatic hydrocarbons such as styrene and ethylbenzene are generated.

11. Toxicological Information

Acute Toxicity

Ingestion

Swallowing is unlikely because of the physical state. Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Aspiration hazard

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

Dermal

Skin absorption is unlikely due to physical properties.

As product: The dermal LD50 has not been determined.

Inhalation

Dust may cause irritation to upper respiratory tract (nose and throat). Fumes/vapors released during thermal operations such as hot wire cutting may cause respiratory irritation. Based on the available data, narcotic effects were not observed.

As product: The LC50 has not been determined.

Eye damage/eye irritation

Solid or dust may cause irritation due to mechanical action. Fumes/vapor released during thermal operations such as hot-wire cutting may cause eye irritation.

Skin corrosion/irritation

Essentially nonirritating to skin. Mechanical injury only.

Sensitization

Skin

No relevant data found.

Respiratory

No relevant data found.

Repeated Dose Toxicity

Contains component(s) which have been reported to cause effects on the following organs in humans: Central nervous system. Liver. The component(s) is/are: Ethanol. Testing has indicated that normal handling and cutting are unlikely to result in exposure levels sufficient to cause the listed effects.

Chronic Toxicity and Carcinogenicity

No relevant data found.

Developmental Toxicity

Contains component(s) which did not cause birth defects in animals; other fetal effects occurred only at doses toxic to the mother. Testing has indicated that normal handling and cutting are unlikely to result in exposure levels sufficient to cause the listed effects.

Reproductive Toxicity

No relevant data found.

Genetic Toxicology

No relevant data found.

12. Ecological Information

Toxicity

Not expected to be acutely toxic to aquatic organisms.

Persistence and Degradability

Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

Bioaccumulative potential

Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Mobility in soil

Mobility in soil: In the terrestrial environment, material is expected to remain in the soil.

13. Disposal Considerations

All efforts to recycle material should be made. However, this material contains a halogenated flame retardant and should not be recycled with other non-flame retarded plastics. This material may be disposed of preferably by incineration under approved conditions or, in some countries, in approved landfills. Customers are advised to check their local legislation governing the disposal of waste materials. If incinerated, it is recommended that the flue gases be treated by a scrubber before exhausting to the atmosphere.

14. Transport Information

ADG Non-Bulk

NOT REGULATED

ADG Bulk

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.

European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory or are exempt from inventory requirements.

Classification and User Label Information

No regulatory requirements known.

16. Other Information

Risk-phrases in the Composition section

R11 Highly flammable.

Revision

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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

Dow Chemical (Australia) 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.