Material Safety Data Sheet (MSDS)

EXPANDED POLYSTYRENE MOULDED BLOCKS

IDENTIFICATION:

Typically, these expanded polystyrene blocks are moulded to a standard size of 5000 x 1200 x 600mm, range in weight from approximately 50-130kg and are typically for use as thermal insulation for foundations, construction, packaging or are cut into complex and customized shapes.

HAZARD IDENTIFICATION:

This product is not classified as a hazardous substance under the Globally Harmonised System (GHS) of classifications used to classify hazardous chemical under the work health and safety regulations 2011, Work Safe Australia of the National Transport Commission Australia.

Although it is considered non-hazardous, consideration should be given to a freshly moulded (or unconditioned) block that may continue to emit traces of pentane during storage for a short time until conditioned or dried.

COMPOSITION & INFORMATION ON INGREDIENTS:

Component	***Concentration***	***CAS No***
Polystyrene	92-95%	9003-53-6
Pentane	4-7%	109-66-0
Hexabromocyclododecane {Flame Retardant}	1%	25637-99-4

FIRST AID MEASURES:

Skin Contact: Unlikely to be harmful to the skin. If irritation does occur, wash with soap and water. If irritation persists, seek medical advice.

Eye Contact: Unlikely to be harmful to the eyes. If irritation occurs from dust or fumes, rinse thoroughly with water for at least fifteen minutes. If irritation persists, seek medical advice.

Ingestion: Unlikely to present a significant hazard, though if ingestion does occur it may act as an obstruction. If irritation and discomfort are present, seek medical advice.

Inhalation: Unlikely to cause harm though if a person is effected from dust or fumes from cutting, move the effected person/s to fresh air and rest until recovered. Seek medical advice if there is difficulty breathing or if discomfort persists.

FIREFIGHTING MEASURES:

Suitable Extinguishing Equipment: Water, Foam, Dry Chemical, & Carbon Dioxide.

The expanded polystyrene is a thermoplastic material that may melt and drip when exposed to an independently sustained and ignited fuel source. As this product contains a fire-retardant additive, it is unlikely to remain in a state of combustion without an independent fuel source and will self-extinguish once the fuel source has been removed. In the unlikely occurrence of sustained combustion, Fire Fighters and other's who may be exposed to any such fumes or combustion, should be equipped with self-contained breathing apparatus. According to CSIRO information, the toxicity of fumes released is similar to that of burning timber.

ACCIDENTAL RELEASE MEASURES:

Emergency procedures: Normal practise of fire safety and housekeeping should be observed, including:

- Prohibit open flames or potential flame sources in product storage areas.
- Protect product from hot work, such as welding, by a productive fire barrier.
- During such work, have a suitable fire extinguisher handy.
- Dispose of waste product promptly as good housekeeping practise to prevent access to drains and waterways.

HANDLING & STORAGE

Although this product contains a fire retardant, it is still recommended that adequate protection from ignition sources be taken. The product will only to continue to burn if there is an independent fuel source present.

Handling: Expanded Polystyrene flame-retardant products are not classified as Dangerous Goods for transport, storage or handling. Establish good housekeeping practises to prevent build build-up of dust in the work atmosphere. Avoid inhalation of dust, and skin or eye contact.

Storage: Store in a well-ventilated area away from heat and sources of ignition, out of direct sunlight and moisture. Take precautions against static electricity discharges for unconditioned blocks and store away from oxidizing materials.

EXPOSURE CONTROLS:

National exposure standards determined by Safe Work Australia

Pentane	600ppm 1700mg/m3 TWA (8hrs)
	750ppm 2210mg/m3 STEL (15mins)

Exposure to airborne pentane and dust are not likely to exceed Work Safe Australia exposure standards.

Biological limit values: NONE

Engineering Controls: Special ventilation is not normally required when handling this product though if hot wiring is conducted in a non-ventilated area, it is recommended that fans or extraction fans are used.

Personal protective equipment: This product may generate dust or fumes when processing involves sanding, sawing or hot wiring. It is recommended that safety glasses with side shields or chemical goggles and an approved respirator with a replaceable particulate/vapour filter are worn for these processes.

PHYSICAL & CHEMICAL PROPERTIES:

Form: Rigid cellular foam blocks, slabs, sheets & shapes.

Colour: White

Boiling Point: N/A

Vapour Pressure: N/A

Vapour Density: N/A

Volatiles by Volume: <4% (pentane & water)

Evaporation Rate: None

Odour: Very slight hydrocarbon odour

Softening Temperature: 80Deg Celsius

Density: 0.6PCF to 3.0PCF

Melting Point: 120Deg Celsius

Solubility in Water: Insoluble

Solubility in organic solvents: Soluble in hydrocarbons e.g. petrol and mineral turpentine, esters and ketones.

STABILITY & REACTIIVITY

Stability: Stable under normal conditions of storage and handling.

Conditions to avoid: Avoid fire, high temperatures, ignition sources, hot works and keep away from strong oxidizing agents.

Incompatibility: Keep away from strong oxidizing agents, most organic solvents and some insecticides, aldehydes and amines.

Hazardous Decomposition: Thermal decomposition (hot wiring) may result in the release of toxic or irritating fumes and gases including carbon monoxide and carbon dioxide.

Hazardous Reactions: None known

TOXICOLOGICAL:

Principal health hazards and signs and symptoms of exposure:

Eye Contact: Dust particles may cause mechanical eye irritation.

Inhalation: Dust from hot wire cutting or sanding may cause upper respiratory irritation. Fumes generated from hot wire cutting may also cause irritation to the nose and throat.

Skin Contact: Not a skin irritant. May produce slight skin irritation in a few individuals.

Ingestion: Biologically inert. May act as an obstruction if swallowed but no significant effects are expected.

Chronic effects: None.

ECOLOGICAL INFORMATION

General: Classified as "Harmful to aquatic life, may cause long lasting aquatic effects to aquatic life." This is due to the <1%HBCDD fire-retardant ingredient encapsulated in the Polystyrene.

The EPS product has small particles that may have effects on aquatic and terrestrial organisms. May cause sewer and waterway obstruction. Marine life may swallow beads or small pieces, which may obstruct their digestive tract.

The HBCDD fire-retardant is <0.5%w/v of the EPS foam final article and is only slowly released and is not expected to be an environmental problem in landfills. The HBCDD (if released from being encapsulated) is very toxic to aquatic organisms and may cause long term, adverse effects in an aquatic environment.

Environmental Mobility: Floats on water. Product should be recovered from water and land.

Degradability: Non-biodegradable waste. Polystyrene is stable when buried in soil but is slowly degraded by sunlight.

DISPOSAL CONSIDERATIONS:

Dispose of in accordance with local, State & Federal waste regulations

EPS can be recycled or used as landfill in appropriate, in an approved facility or site.

Polystyrene Products can be contacted for recycling options.

TRANSPORT INFORMATION

This product is not classed as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by road and rail (ADG Code) or the National Transport Commission (Australia)

REGULATORY INFORMATION

Work Health and Safety Regulations 2011

Work Safe Australia

Australian Dangerous Goods Code (National Transport Commission -Australia)

Australian Inventory of Chemical Substances (AICS)

OTHER INFORMATION

With the discontinued use of HBCD as the fire-retardant expected to be implemented during late 2019, this MSDS will be updated prior to the standard expiry date stated below.

Any information provided by this MSDS is provided as general information only and contains the known knowledge of any health and safety information at the time of issue. Polystyrene Products accepts no responsibility for the accuracy or completeness of the information contained herein and accepts no responsibility for any liability, loss or damage as a result of the use of this MSDS.

The responsibility for the product as sold, is covered by the Company's Standards terms and conditions. A copy of this is provided to our customers and is also available upon request.

DATE OF ISSUE: 1st August 2018

EXPIRY DATE: 1st August 2023