Material Safety Data Sheet

HYTHERM EPS

Expanded Polystyrene Insulation

1. Identification

Product Names
HYTHERM EPS 150 / HYTHERM EPS 200 / HYTHERM EPS 300 / HYTHERM EPS ADH / HYTHERM HP EPS

Product Type	Expanded Polystyrene (EPS), Euroclass F and E Non-EPS laminate materials which are used in combination with HYTHERM EPS are covered by separate safety documents.
Supplier Address	Axter Ltd, West Road, Ransomes Europark, Ipswich IP3 9SX
Contact Number	tel: +44 (0) 1473 724056, 8.00 am to 5.30 pm, Monday-Friday **Email:** info@axterltd.co.uk. In the event of a medical enquiry relating to this product, contact your doctor or local hospital accident and emergency department.

2. Composition / Information on ingredients

Description Expanded polystyrene containing residual amounts of Pentane expanding agent. Euroclass E products also contain a polymerised flame retardant.

Dangerous Components/Constituents

Component Name	CAS Number	EINECS	Content	Hazard
Pentane	109-66-0 78-78-4	203-692-4 201-142-8	< 1% wt	H220

Other Information CAS number for polymer component - 900 3-53-6 (polystyrene)

3. Hazards identification

Human Health Hazard

EPS is not known to lead to any skin irritations and is regarded as biologically inert. Residual quantities of Pentane and styrene monomer are insignificant. However during hot wire cutting of EPS if ventilation is not adequate the fumes generated can cause irritation to the respiratory tracts and eyes. Where substantial dust is produced in subsequent processing of EPS (e.g. band sawing or grinding), suitable dust extraction must be provided, to ensure that exposure does not exceed 10 mg/m^3 8 Hours TWA (Occupational Exposure Limit for total inhalable dust).

Safety Hazards

EPS is organic and therefore combustible. The following fire precautions are recommended.

1. Smoking should be prohibited in the storage and processing areas.
2. EPS should be stored away from highly flammable material such as paint or petroleum products.
3. Storage and working areas should be kept free from rubbish which may spread fire or ignite spontaneously.
4. Fire extinguishers and/or hose reels should be available at an easily recognisable fire point and at all times close at hand when welding or burning adjacent to EPS.
5. Polystyrene dust, like other hydrocarbon based polymers in this form, is classified as a Group (a) flammable dust and precautions should be taken as required by Section 31 of the Factories Act 1961.
6. If there is an outbreak of fire, the Fire Brigade should be called immediately and advised that EPS is involved. The area should be evacuated by all personnel, except those fighting the fire.

4. First aid measures

First Aid - Inhalation Only dust produced from machining EPS or small particles are likely to be inhaled. Clear the respiratory tracts. If recovery does not occur obtain medical attention.

First Aid - Skin No specific measures.

First Aid - Eye Flush EPS particles from the eye with water. If rapid recovery does not occur obtain medical attention.

First Aid - Ingestion No specific measures.

First Aid - Fire **Inhalation of smoke or fumes** - Remove from exposure into fresh air. Keep warm and at rest. If there is respiratory distress, give oxygen. If breathing stops or shows signs of failing, apply artificial respiration. Obtain immediate medical attention.

Skin Contact - Molten Material - Immediately flood affected area and adhering molten polymer with plenty of cold water. DO NOT attempt to remove molten or solidified material from the skin.
Obtain immediate medical attention.

5. Fire fighting measures

Specific Hazards Hazardous combustion products may include carbon monoxide and carbon dioxide.

Extinguishing Media Foam, water spray or fog. Dry chemical powder or carbon dioxide.

6. Accidental release measures

The product is in solid form and releases no harmful substances.

Personal Protection No specific measures

Clean up Methods Dispose of in accordance with section 13.

7. Handling and storage

Store under cover in dry conditions taking into account recommendations in section 3 - Fire Precautions. Stockpiles should not contain more than 60 cubic metres (about 1 tonne). If a bigger volume needs to be stored it should be divided into two or more stockpiles at least 20m apart.
EPS stockpiles should be sited so that in the event of a fire flowing or dripping molten material will not cause the spread of fire to other combustible materials or to other areas of a building, in particular staircases and corridors.
Storage should be in a level situation at ground level (not on ramps).

Raised thresholds to doorways or bunds should be provided where storage on upper floors is unavoidable (particularly to the edges of floors without upstands and around staircases). The bund walls should be of fire-resisting and liquid-tight construction.
The capacity of the bund area should be at least 3% of the maximum volume of EPS stored. Stockpiles should be sited in such a manner that permanently marked access ways can be maintained. Stockpiles should not impair the performance of any sprinkler system.

In warehouses or where large quantities of EPS are stored consideration should be given to the use of sprinklered premises.
On building sites EPS should be stored wherever possible in a fenced compound or building which can be secured, under cover protected from high winds and raised above damp surfaces. Protect from direct sunlight. Stack boards flat without bearers.
Storage temperature: Ambient.

8. Exposure controls / personal protection

No specific protection is required when handling EPS

Occupational Exposure Standards
The following are the Maximum Exposure Limits (MEL) for the expansion agent and for the hazardous decomposition products:

Component Name	Limit type	Value	Unit	Other Info.
Expansion agent				
Pentane	TWA 8hr	1770	mg/m³	UK Solvents
Pentane	STEL 15min	2210	mg/m³	UK Solvents
Decomposition products				
Styrene Monomer	TWA 8hr	430	mg/m³	EH40
Styrene Monomer	STEL 15min	1080	mg/m³	EH40

TWA = Time Weighted Average - STEL = Short Term Exposure Limit

8. Physical and chemical properties

Physical State	Cellular Foam
Form	Moulded shapes or sheets
Colour	White, pink, grey (Premium)
Density	Ranges from 10kg/m³ to 60kg/m³
Solubility in water	Not soluble
Solubility in other solvents	Soluble in aromatic, halogenated solvents and ketones
Softening Point	95-100°C
Ignition temperature in air	350°C

9. Stability / reactivity

Stability	Stable under normal use conditions. Decomposition commences above 200°C.
Conditions to avoid	Heat flames and sparks. Strong sunlight for prolonged periods.
Hazardous Decomposition Products	Styrene Monomer and Carbon Monoxide when burned.

10. Toxicological information

Expanded polystyrene is non-toxic and is not irritating to the skin or eyes.

11. Ecological information

All products are not biodegradable and non-toxic.

All products have zero Ozone Depleting Potential (ODP) and virtually zero Global Warming Potential (GWP). Products may contain some residual Pentane that has a very low Global Warming Potential of <0.00044.

12. Disposal considerations

Waste Disposal

Recover or recycle if possible. Scrap expanded polystyrene is not classified as “Notifiable Waste” and may be disposed of in suitable land-fill tips or by incineration under approved conditions. Advice on the preferred method should be obtained at all times.

13. Transport information

UN Number	2211

14. Regulatory information

EC Label Name	Expanded Polystyrene
EUH018	In use, may form flammable/explosive vapour-air mixture
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.

15. Other information

Uses and Restrictions	Insulation of walls roofs and floors in domestic and other buildings. Cut Pieces for Packaging. Civil Engineering and Floatation, Protection of Foundations from Clay Movement.
ISSUE	Edition 26 November 2015
EH&S Distribution	This document contains important information to ensure the safe storage, handling and use of this specific product and cannot be applied to other products. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters. The information is given in good faith and should not be taken as guarantee of specific performance. Users should make their own assessment and be responsible for complying with regulations and standards in force. The wearing of suitable safety equipment is strongly advised and the product should only be used in its design application.