

# Expanded Polystyrene MSDS

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<b>Product Identifier</b>	Expanded Polystyrene (EPS), Euroclass F and E.
<b>Identified Use</b>	Various Cordek Products (see <a href="http://www.cordek.com">www.cordek.com</a> )
<b>Supplier of Data Sheet</b>	Cordek Limited, Spring Copse Business Park, Slinfold, West Sussex, RH13 0SZ
<b>Emergency Telephone Number</b>	Tel: (+44) 1403 799600 Open Monday to Friday 8.30am – 5.30pm

## SECTION 2: HAZARDS IDENTIFICATION

<b>Human Health Hazard</b>	<p>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 tract and eyes.</p> <p>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 10mg/m<sup>3</sup> 8 Hours TWA (Occupational Exposure Limit for total inhaleable dust).</p>
<b>Safety Hazards</b>	<p>EPS is organic and therefore combustible. The following fire precautions are recommended:</p> <p>Smoking should be prohibited in the storage and processing areas.</p> <p>EPS should be stored away from highly inflammable material such as paint or petroleum products.</p> <p>When stored or used in enclosed spaces ensure that the area is adequately ventilated for at least 7 days.</p> <p>Storage and working areas should be kept free from rubbish which may spread fire or ignite spontaneously.</p> <p>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.</p> <p>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 32 of the Factories Act 1961.</p> <p>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.</p>

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Description

Expanded Polystyrene containing residual amounts of expanded agent Pentane.  
Euroclass E products also contain a brominated flame retardant, Hexabromocyclododecane (HBCDD).

### Dangerous Components/Constituents

Component Name	CAS Number	Content Range	Hazard
Pentane	109-66-0	< 1% wt	Highly Flammable
HBCDD	25637-99-4	>0.1%wt	Dangerous for the environment



**SECTION 4: FIRST AID MEASURES**

<b>Inhalation</b>	Only dust produced from machining EPS or small particles are likely to be inhaled. Clear the respiratory tract. If recovery does not occur obtain medical attention.
<b>Skin</b>	No specific measures
<b>Eye</b>	Flush EPS particles from the eye with water. If rapid recovery does not occur obtain medical attention.
<b>Ingestion</b>	No specific measures. If significant quantities are swallowed seek medical advice.

**FIRE:**

<b>Inhalation of smoke or fumes</b>	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.
<b>Skin Contact</b>	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.

**SECTION 5: FIREFIGHTING MEASURES**

<b>Specific Hazards</b>	Hazardous combustion products may include carbon monoxide and carbon dioxide. Hydrogen Bromide will also be released from flame retardant (Euroclass E) grades.
<b>Extinguishing Media</b>	Foam, water spray or fog. Dry chemical powder or carbon dioxide.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

<b>Personal Protection</b>	No specific measures
<b>Clean up Methods</b>	Dispose of in accordance with section 13

**SECTION 7: HANDLING AND STORAGE**

Store under cover in dry conditions taking into account recommendations in section 2 – 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 areas 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, if exposure is likely to exceed one week. Stack boards flat without bearers.

Storage Temperatures – Ambient.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

No specific protection is required for the handler of EPS.

**Occupational Exposure Standards**

The following are limits for the expansion agent and for the hazardous decomposition products:

MEL = Maximum Exposure Limit.

Component name	Limit type	Value	Unit	Other information
Expansion Agent				
Pentane	TWA 8 hr	1800	mg/m <sup>3</sup>	EH40/2005
Pentane	STEL 15 min	2210	mg/m <sup>3</sup>	EH40/2005
Decomposition Products				
Styrene Monomer	TWA 8 hr	430	mg/m <sup>3</sup>	EH40/2005
Styrene Monomer	STEL 15 min (MEL)	1080	mg/m <sup>3</sup>	EH40/2005
Hydrogen Bromide (Euroclass E Only)	STEL 15 min	10	mg/m <sup>3</sup>	EH40/2005

TWA = Time Weighted Average

STEL = Short Term exposure Limit

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state</b>	Cellular Foam	Softening Point 95-100°C
<b>Form</b>	Moulded shapes or sheets	Ignition temperature in air 350°C
<b>Colour</b>	White (Claymaster is coloured pink)	
<b>Density</b>	Ranges from 10kg/m <sup>3</sup> to 60kg/m <sup>3</sup>	
<b>Soluble in water</b>	Not Soluble	
<b>Solubility on other solvents</b>	Soluble in aromatic, halogenated solvent and ketones	

**SECTION 10: STABILITY/REACTIVITY**

<b>Stability</b>	Stable under normal conditions. Decomposes above 200°C
<b>Conditions to avoid</b>	Heat flames and sparks. Strong sunlight for prolonged periods
<b>Hazardous decomposition products</b>	Styrene Monomer, Hydrogen Bromide (Euroclass E) products. Carbon Monoxide when burned.

**SECTION 11: TOXICOLOGICAL INFORMATION**

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

**SECTION 12: ECOLOGICAL INFORMATION**

The products are not biodegradable, non toxic but small particles may have physical effects on aquatic and terrestrial organisms.

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.

**SECTION 13: DISPOSAL CONSIDERATIONS****Waste Disposal**

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

Flame retardant (Euroclass E) grades contain a halogen complex flame retardant additive encapsulated in the polystyrene which can give rise to the emission of gases such as hydrogen bromide during incineration of waste product.



**SECTION 14: TRANSPORT INFORMATION**

<b>UN Number</b>	2211
------------------	------

**SECTION 15: REGULATORY INFORMATION**

<b>EC Label name</b>	Expanded Polystyrene
<b>R11</b>	Highly Flammable
<b>R18</b>	In use, may form flammable/explosive vapour-air mixture
<b>S16</b>	Keep away from sources of ignition – No Smoking
<b>R50/53</b>	REACH Regulation (EC) No 1907/2006. Products are an Article. Additional labelling is not necessary. Contains Hexabromocyclododene above 0.1% (w/w) listed in the REACH Substances for Authorisation (18/2/11).

**SECTION 16: OTHER INFORMATION****Uses and Restriction**

A wide range of unique products that deliver innovative solutions for the construction industry along with the marine, leisure, display, and film industries (see [www.cordek.com](http://www.cordek.com)).

This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.

**Issued: 10/2015**

DISCLAIMER: Information contained within this 'Material Safety Data Sheet' is for guidance only, and it is intended for experienced construction industry workers. It contains summaries of aspects of the subject matter and does not provide comprehensive statements of construction industry practice.

As conditions of usage and installation are beyond our control we do not warrant performance obtained. Please contact us if you have any doubt as to the suitability of application. The information provided within this document is based on data and knowledge correct at the time of printing.

**Cordek Ltd**

Spring Copse Business Park, Slinfold, West Sussex  
RH13 0SZ, United Kingdom

Telephone (+44) 1403 799600 Fax (+44) 1403 791718  
E-mail [info@cordek.com](mailto:info@cordek.com)

[www.cordek.com](http://www.cordek.com)

