

Expanded Polystyrene MSDS

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

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

SECTION 2: HAZARDS IDENTIFICATION

Human Health Hazard	<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/m³ 8 Hours TWA (Occupational Exposure Limit for total inhaleable dust).</p>
Safety Hazards	<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 Polymerised Flame Retardant.

Dangerous Components/Constituents

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



SECTION 4: FIRST AID MEASURES

Inhalation	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.
Skin	No specific measures
Eye	Flush EPS particles from the eye with water. If rapid recovery does not occur obtain medical attention.
Ingestion	No specific measures. If significant quantities are swallowed seek medical advice.

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.

SECTION 5: FIREFIGHTING 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.

SECTION 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

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	1770	mg/m ³	UK Solvents
Pentane	STEL 15 min	2210	mg/m ³	UK Solvents
Decomposition Products				
Styrene Monomer	TWA 8 hr	430	mg/m ³	EH40
Styrene Monomer	STEL 15 min (MEL)	1080	mg/m ³	EH40

TWA = Time Weighted Average

STEL = Short Term exposure Limit

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

SECTION 10: STABILITY/REACTIVITY

Stability	Stable under normal conditions. Decomposes 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.

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.

SECTION 14: TRANSPORT INFORMATION**UN Number**

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SECTION 15: 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

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).

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.

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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

www.cordek.com

