

# ECCLESTON

&  
HART

## SAFETY DATA SHEET

(Issued under the Health & Safety at Work Act 1974 and the Consumer Protection Act)

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product: Expanded Polystyrene (EPS), Euroclass F and E

| Application   | Uses  |
|---|---|
| White Bead  | Bean Bag Filling - Cavity Wall Filling  |
| Blocks: 2540 x 1270 x 1040mm or<br>2540 x 1250 x 655 mm | Construction, Graphics, Display & Packaging Products  |
| Supplier's Address                                      | Eccleston & Hart Ltd, 804 Kingsbury Road, Erdington,<br>Birmingham, B24 9PS Tel: 0121 683 0300 Fax: 0121 683 0301 |
| Technical Information                                   | Sales Department 0121 683 0300 E-mail:<br>sales@ecclestons.com  |

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

|              |   |
|--------------|---|
| Description: | Expanded polystyrene (EPS) contains residual amounts of Pentane blowing agent (<1%wt), Styrene Monomer and Hydrogen Bromide Type E (FRA Grades only identified by our part number F). |
|--------------|---|

#### Dangerous components/constituents

| Component Name         | CAS No.  | Content range | EC Hazard F      | Risk Phrase |
|------------------------|--|---------------|------------------|-------------|
| Pentane                | 109-66-0   | < 2 wt-% max  | Highly Flammable | R11         |
| Other information      | CAS number for polymer component (>97 wt-%) : 9003-53-6 (Polystyrene ) |               |                  |             |
| Hexabromocyclododecane | 25637-99-4 or 3194-55-6  | <1 wt-% max   | -                | -           |

### 3. HAZARDS IDENTIFICATION

#### Human Health Hazard

EPS is not known to lead to any skin irritations, is chemically stable, biologically inert and non-toxic. EPS is flammable and contains residual amounts of pentane and styrene monomer. Precautions must be taken in storing, cutting with hot wire, bandsaws, sanding discs and applying the polystyrene material to ensure protection against ignition, contact with solvent

based products and PVC-e.g. Electrical cable Insulation-due to the migration properties of plasticisers in PVC. Where substantial dust is produced in subsequent re-working or processing of EPS (e.g. band sawing or grinding), suitable dust extraction should be provided, to ensure that exposure does not exceed 10mg/m<sup>3</sup> 8 hours TWA (Occupational Exposure) and adequate fume extraction must be considered dependant on any hot wire process used.

#### 4. FIRST AID

|                                 |   |
|---------------------------------|---|
| <b>Inhalation:</b>              | If dust produced from machining EPS or small particles have been inhaled. Clear the respiratory tracts. If recovery does not occur obtain medical attention. If fumes from hot wire cutting have been inhaled, treat as per Fire Inhalation below.  |
| <b>Skin &amp; Skin contact:</b> | No specific measures but maintain good standards of hygiene during use. 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. |
| <b>Eyes:</b>                    | Rinse eye with plenty of clean water or emergency eyewash (Sodium Chloride pH Eur 0.9%w/v), if EPS dust particles come into contact with the eye. If rapid recovery does not occur obtain medical attention.  |
| <b>Ingestion:</b>               | No specific measures. If swallowed consult medical advice   |
| <b>Fire Inhalation:</b>         | Remove from exposure into fresh air. Keep warm and at rest. If rapid recovery does not occur obtain medical attention   |

#### 5. FIRE FIGHTING MEASURES

Specific Hazards When subjected to fire, EPS will produce carbon monoxide and carbon dioxide. The FRA versions will also release hydrogen bromide.

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

IF IT IS NECESSARY TO SUMMON ASSISTANCE, ADVISE THE FIRE SERVICE THAT EXPANDED POLYSTYRENE IS INVOLVED

#### 6. ACCIDENTAL RELEASE MEASURES

The product is solid form and releases no harmful substances

Personal Protection No specific measures

Measures for clean up Refer to section 13

#### 7. HANDLING AND STORAGE

Expanded polystyrene (EPS) is a CFC and HCPC free material and is physically and chemically inert. It contains no known biological or physiological irritant.

Static build up whilst transferring EPS Bead can create a fire risk. Ensure EPS bead is transferred at slowest speed possible and that all transfer equipment is suitably earthed. EPS is organic and therefore combustible. Although not exhaustive the following guide line and recommendations should be included when assessing the fire precautions of EPS product.

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 and therefore no smoking and naked flames must be avoided.

Individual storage areas on building and civil engineering sites, generally, should not contain more than 60 cubic metres (about 1 tonne) of material. If a bigger volume needs to be stored, it should be divided into 2 or more areas, at least 20 metres apart. If stored outside for more than 1 week it should be covered and at all times stored in a fenced compound to avoid arson.

Large stockpiles should have consideration to siting so that if a fire occurs the molten liquid generated is adequately banded

and cannot flow down slopes, stairs etc. The bund needs to be liquid tight and fire-resisting and have capacity 3% of the total area. Wherever possible do not store on floors above ground level. The use of sprinkler systems should be considered and adequate access ways provided.

EPS should be stored away from highly inflammable material such as paint, solvents or petroleum products. Care should also be taken to avoid contact with aromatic, oils, and materials such as coal tar, pitch and creosote.

Expanded polystyrene (EPS) insulation boards tend to be relatively light and can easily be handled on site. Although the boards can be lifted by a single person, it is recommended that the polystyrene boards are carried by two people (especially in windy conditions) to avoid injury to the carrier or damage to the boards.

When forming, cutting or shaping expanded polystyrene (EPS) care must be taken to avoid ignition by burning or hot-wire cutting methods. Adequate ventilation must be provided to prevent respiratory tract and eye irritation which may be caused by any fumes which may be generated. Forming and shaping of expanded polystyrene (EPS) must be undertaken away, and at a safe distance from, the main stockpile to minimise any risk of fire or flame spread.

## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

Further protection required when handling expanded polystyrene, other than those stated under Section 2 should not normally be required however individual exceptions may be established as the end user should ensure a suitable and sufficient risk assessment is undertaken when interacting with Polystyrene (EPS) and its processors or operations.

Occupational exposure standards:

The following are the Occupational Exposure Limits for the expansion agent and for decomposition products.

| Component Name                 | Limit Type      | Value | Unit  | Other Info. |
|--------------------------------|-----------------|-------|-------|-------------|
| Pentane                        | TWA 8hr         | 600   | ppm   | ACGIH       |
| Pentane                        | STEL 15min      | 750   | ppm   | ACGIH       |
| Styrene Monomer                | TWA 8hr         | 430   | mg/m3 | EH40/00     |
| Styrene Monomer                | TEL 15min (MEL) | 1050  | mg/m3 | EH40/00     |
| Hydrogen Bromide (Type A only) | STEL 15min      | 10    | mg/m3 | EH40/00     |

TWA = Time Weighted Average STEL = Short Term Exposure Limit MEL = Maximum exposure limit

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Cellular Foam  
Form: Moulded / Cut shapes, sheets or small spherical beads  
Colour: White  
Density: Ranges from 9 kg/m<sup>3</sup> to 55 kg/m<sup>3</sup>  
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

## 10. STABILITY/REACTIVITY

Stability: EPS is stable under normal use conditions and decomposes above 200°C.  
Conditions to avoid: Heat, flames and sparks. Strong sunlight for prolonged periods  
Hazardous Decomposition Products: Styrene Monomer, Carbon Monoxide, Carbon Dioxide when burned Hydrogen Bromide (FRA Grade)

## 11. TOXICOLOGICAL INFORMATION

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

## 12. ECOLOGICAL INFORMATION

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

## 13. DISPOSAL

Recover or recycle if possible using a registered re-cycler. Scrap expanded polystyrene is not classified as "Notifiable Waste" and may be disposed of at suitable landfill sites or by incineration under approved conditions. The Local Authority Waste Disposal Officer should be contacted for advice on the correct method to be used.

Flame retardant 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. Unofficial dumping or incineration of polystyrene waste is not allowed.

European Waste catalogue number:170604

## 14. TRANSPORT INFORMATION

**U.N. Number** (United Nations) 2211

EPS products may contain residual amounts of pentane so good ventilation should be provided during transportation.

No smoking and controls against exposure to ignition sources should be enforced whilst transporting, loading and unloading operations.

## 15. REGULATORY INFORMATION

**EC Label Name:** Expanded Polystyrene

Reach regulations (EC)

FRA material grades contain Hexabromocyclododecane above 0.1%(w/w) listed on the candidate list for authorization established in accordance with article 59.1

## 16. OTHER INFORMATION

**Uses range** - 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.

**Manufactures Safety Data Sheet Listing** - Edition 02 Revised October 09

**Safety Data Sheet Distribution** -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.