Expanded Polystyrene (EPS)
1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Generic product name : Expanded Polystyrene Foam (EPS) for insulation

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Insulation / building material

1.3. Details of the supplier of the safety data sheet

Producer : Knauf Insulation
Head Office,
Am Bahnhof
97346 Iphofen
Germany
Web: www.knaufinsulation.com

Region Contact Telephone number Email
UK Head Office +32 (0) 104 88460 sds@knaufinsulation.com
Country Contact +44 (0) 1744 766 666 chris.roughneen@knaufinsulation.com

1.4. Emergency telephone number

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

European directive 67/548/EEC : The product is not classified.
Regulation (CE) n° 1272/2008 : The product is not classified.

2.2. Label elements

: None

2.3. Other hazards

Most important hazards : Polystyrene melts at high temperature and molten droplets may cause skin burns.
Specific hazards : Non hazardous in finished form. Residual quantities of process chemicals, styrene and blowing agents are insignificant. The product is organic and therefore combustible if exposed to intense heat or a fire.
3. COMPOSITION / INFORMATION on INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>C.A.S. number(2)</th>
<th>weight (%)</th>
<th>Classification and labelling (Regulation (CE) n°1272/2008)</th>
<th>Classification and labelling (European directive 67/548/EEC as amended 97/69/EC)</th>
<th>EC number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expanded Polystyrene [EPS] (1)</td>
<td>9003-53-6</td>
<td>&gt; 0.1%</td>
<td>Not Classified</td>
<td>Not Classified</td>
<td>500-008-9</td>
</tr>
<tr>
<td>Hexabromocyclododecane (HBCD) flame retardant(3)</td>
<td>3194-55-6</td>
<td></td>
<td></td>
<td>R50/53</td>
<td>221-695-9</td>
</tr>
</tbody>
</table>

(1): Expanded Polystyrene Foam (EPS)
(2): C.A.S.: Chemical Abstract Service
(3): The ingredients are bound in the polymatrix. Because they are encapsulated in the matrix, they are not expected to create any unusual hazards when handled and processed according to good manufacturing and industrial hygiene practises and the guidelines provided in this SDS.

Possible facing materials: none

Expanded Polystyrene Foam (EPS) REACH Registration number: not applicable

4. FIRST AID MEASURES

4.1 Description of first aid measures

- **Exposure route:**
  - **Inhalation**: Dust particles from cutting are unlikely to be of inhalable dimensions unless power tools are used. If problems are experienced, remove to fresh air and drink water.
  - **Skin contact**: After use, wash with soap and water. If in contact with molten material treat affected area immediately with cold water and seek medical attention. Do not attempt to remove any molten or solidified material from the skin.
  - **Eye contact**: If dust particles enter the eye, wash with water. If any irritation symptoms persist seek medical advice.
  - **Ingestion**: Drink plenty of water if accidentally ingested.

4.2 Most important symptoms and effects, both acute and delayed

Polystyrene melts at high temperature and molten droplets may cause skin burns.

4.3. Indication of any immediate medical attention and special treatment needed

If any adverse reaction or discomfort continues from any of the above exposures, seek professional medical advice.
5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
- Water, foam, carbon dioxide (CO$_2$) and dry powder.
- Sand or earth may be used for small fires.

5.2. Special hazards arising from the substance or mixture

- Those normally associated with combustion of organic hydrocarbons and should be considered toxic. Will include carbon monoxide, carbon dioxide and hydrogen bromide. Trace amounts of styrene can also be released.

5.3. Advice for firefighters

- Dense smoke will be generated and suitable breathing apparatus should be worn along with full protective clothing when fighting fires.
- Keep adjacent products cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions:
The product is in solid form and poses no hazard.

6.2. Environmental precautions

Environmental protection:
The product is in solid form and poses no hazard.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up:
- n/a

6.4. Reference to other sections

- For waste disposal, see section 13.

7. HANDLING and STORAGE

7.1. Precautions for safe handling

- Technical measures:
  - Hand cutting tools should be used when possible. If using power tools, suitable dust extraction should be used and/or respiratory and eye protection.

- Precautions:
  - When cutting, ensure adequate ventilation of workplace is available.
  - Be aware of strong winds especially at working at heights.

- Safe handling advice:
  - No special requirements.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures:
  - Avoid exposure to heat, flames and other ignition sources.

- Suitable storage condition:
  - Do not store near to any sources of heat or ignition. Avoid prolonged exposure to sunlight.

- Incompatible materials:
  - Resistant to many chemicals but not to solvents. Care should be taken in choice of adhesives used.

- Packaging material:
  - Delivered on pallets, packed in polyethylene film or open.

7.3. Specific end use(s):

- not relevant
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure Limit Value : None at European level, refer to member state guidelines and legislation:-

UK: Not relevant.

8.2. Exposure controls

Engineering controls : No specific requirements

Individual protection equipments:

- Respiratory protection : Wearing a disposable face mask type in accordance with EN 149 FFP1 or FFP2 is recommended to improve comfort.

- Hand protection : No special precautions but gloves may be worn for comfort.

- Eye protection : Goggles especially if cutting with power tools or working above shoulders. Eye protection to EN 166 is advised.

- Skin protection : None

- Hygiene measures : After contact, wash hands with cold water and soap.

9. PHYSICAL and CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state : Cellular Foam

Form : Block, panel or moulding consisting of small fused balls of foam beads

Colour : Either white or grey (with or without UV absorbers)

Odour : Odourless

pH : Not relevant

Boiling point : Not relevant

Flash point : 350°C

Flammability : Not relevant

Explosive properties : Not relevant

Density : From 8-60kg/m³ at 20°C

Water solubility : Insoluble in water and generally chemically inert.

Fat solubility : Not applicable

9.2. Other information:

Softening point : 85 - 100°C

Self-ignition temperature : 450°C
10. STABILITY and REACTIVITY

10.1. Reactivity : None.

10.2. Chemical Stability : Stable and inert under normal conditions of use. Resistant to many chemicals but not to solvents. Care should be taken in choices of adhesives.

10.3. Possibility of hazardous reactions : None in normal conditions of use

10.4. Conditions to avoid : Heating above 100°C. Ignition sources, solvents and prolonged sunlight.

10.5. Incompatible materials : None.

10.6. Hazardous decomposition products : Decomposition of foam above 100°C produces fumes from molten material and smoke may produce toxic gases such as carbon monoxide, carbon dioxide and hydrogen bromide. The duration of release is dependant upon the thickness of the foam, and the temperature applied.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute effect : Expanded polystyrene is non-toxic and not irritating to the skin or eyes. Dust can be irritating to eyes – please refer to section 7.1

12. ECOLOGICAL INFORMATION

12.1. Toxicity : Not expected to be toxic to aquatic organisms in its solid state.

12.2. Persistence and degradability : The product will surface degrade with prolonged exposure to sunlight. No significant biodegradation is expected.

12.3. Bioaccumulative potential : The product is not expected to bioaccumulate.

12.4. Mobility in soil : The product is inert.

12.5. Results of PBT and vPvB assessment : No data available.

12.6. Other adverse effects : No data available.

The products contain a substance which is classified as dangerous for the environment. However recent studies on aquatic organisms have shown that articles such as expanded polystyrene foams, while containing this substance, do not need to be classified for environmental hazard.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues : Dispose of in accordance with regulations and procedures in force in country of use or disposal.

Dirty packaging : Dispose of in accordance with regulations and procedures in force in country of use or disposal.

European waste catalogue code : 07.02.13, non hazardous.
14. TRANSPORT INFORMATION

14.1. UN number : not classified for transport
14.2. UN proper shipping name : not classified for transport
14.3. Transport hazard class(es) : not classified for transport
14.4. Packing group : not classified for transport
14.5. Environmental hazards : not classified for transport
14.6. Special precautions for user : not classified for transport
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code : not classified for transport

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

The European Regulation on Chemicals No 1907/2006, Registration, Evaluation, Authorisation of Chemicals (REACH) enacted on June 1st 2007 requires the provision of Safety Data Sheet (SDS) for hazardous substances and mixtures / preparations.

Knauf Insulation expanded foam products (Block, panel or moulding), are defined as articles under REACH and therefore a Safety Data Sheet for these products is not a legal requirement.

This product contains Hexabromocyclododecane (HBCD) above 0.1% (w/w).

In accordance with industry practice and voluntary commitments, Knauf Insulation has decided to continue to provide its customers with the appropriate information for the purpose of assuring safe handling and use of expanded polystyrene foam throughout the product life.


15.2. Chemical safety assessment : not relevant.

16. OTHER INFORMATION

If using adhesives with this product follow the adhesive manufacturer’s instructions carefully.

Symbols and R-Phrases from Section 3:

R50/53: Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

The ingredients are bound in the polymatrix. Because they are encapsulated in the matrix, they are not expected to create any unusual hazards when handled and processed according to good manufacturing and industrial hygiene practises and the guidelines provided in this SDS.

Version: 1.00
Document revised: 14/12/2011, new document format

This Safety Data Sheet does not constitute a workplace assessment

Information contained in this document represents the state of our knowledge regarding this product as of the date of issue of the document. Attention of users is drawn to possible risks taken when the product is used for other applications than the ones it has been designed for.
Product Families

- Thermoshell EPS