

SAFETY DATA SHEET

Product: Raftertherm Type A
Issue Number: 01
Issue Date: Aug 2014

1. Description

Expanded Polystyrene (EPS) insulation board containing "Non Food Grade" Graphite with low emissive, thermally insulating bubble foil face.

2. Material Composition

Expanded Polystyrene (EPS) containing residual amounts of expansion agent pentane and graphite. Also contains a brominated flame retardant (FRA). Polyethylene bubble film, with coated aluminium foil on one side.

	Component Name	Content Range	CAS No.	EC Hazard	Risk Phase
Expansion Agent	Pentane	<1%	109-66-0	Highly Flammable	11
E:grade Flame Retardent	Hexabromocyclododecane	<=2%	25637-99-4 Or 3194-55-6		

Other Information

CAS number for polymer component – 900/3-53-6 / Graphite for further information consult HSE EH40.

Hazard Identification

Classification:	Not Classified
Hazard Type:	Solid
Route of Exposure:	Inhalation Skin Contact Eye Contact Ingestion

Risks to Health from Identified Hazards

Raftertherm Type A is not classed as a hazardous substance under COSHH regulations.

Residual amounts of graphite may be transferred during handling. High standards of personnel hygiene should be adhered to during and after use.

Where substantial dust is likely to be produced in any subsequent re-working or processing of Raftertherm Type A (e.g. band-sawing or grinding), suitable dust extraction should be provided, to ensure that exposure does not exceed 10mg/m³ 8 hours TWA (Occupational Exposure Limit for total inhalable dust).

Risks to Safety from Identified Hazards

Raftertherm Type A EPS is organic and therefore combustible. The following list of recommendations although exhaustive is aimed at providing guidance and best practice when assessing fire risk with EPS material.

- Smoking should be prohibited in the storage and processing areas.
- Static build up whilst transferring EPS Bead can be create a fire risk. Ensure EPS bead is transferred at slowest speed possible and that all transfer equipment is suitably earthed.
- EPS should be stored away from highly inflammable material such as paint or petroleum products.
- Maintain good housekeeping regimes, storage, work and processing areas should be kept free from the build up of waste / rubbish that spread fire or ignite spontaneously.
- Fire extinguishers / hose reels should be available at all times at clearly signed and easily accessible fire points.
- A hot work permit must be operated in areas involved in the processing, storage or re-working of EPS materials.
- EPS dust, like other hydrocarbon based polymers in this form, is classified as a Group (A) flammable dust and precautions should be taken as required be section 31 of the factories Act 1961.
- During the cutting, re-working or recycling of EPS avoid accumulation of dusts creating explosive atmospheres. Use appropriate controls and extraction.
- High winds may liberate loose bead, EPS board or cut EPS pieces. Ensure products are sealed and secured effectively.
- In the event of a fire which requires the Fire Service to attend, ensure that they are advised that EPS is involved.

4. First Aid Measures

In case of inhalation:	Clear the respiratory tracts. If rapid recovery does not occur, seek medical attention.
In case of skin contact:	DO NOT attempt to pull molten or solidified material from skin. Flood the affected area immediately with cold water and obtain medical attention.
In case of eye contact:	Flush eyes with water. If rapid recovery does not occur, seek medical attention.
In case of ingestion:	If swallowed, obtain medical advice.

5. Fire-Fighting Measures

Suitable Extinguishing Material:	Aqueous Fire-Fighting Foam Dry Fire-Extinguishing Substance ABC Powder Carbon Dioxide Water
Special Exposure Hazards:	Produces carbon monoxide, carbon dioxide, styrene monomer and hydrogen bromide on combustion.
Special Protective Equipment:	Use Breathing Apparatus with independent air supply.
Additional Information:	Fire residue and contaminated water to be disposed as per local regulations.

6. Accidental Release Measures

Take up mechanically and dispose.

7. Handling & Storage Instructions

Although not exhaustive the following list of recommendations are presented as guidance and best practice when assessing the storage and handling of EPS product.

- Raftertherm Type A boards should be packed in opaque packaging stored under cover in dry conditions away from direct sunlight taking into account the safety information and recommendations in the previous sections of this document.
- Stocks of EPS material should be sited so in the event of a fire; flowing or dripping material will not cause the spread of fire to other combustible materials or to other areas of a building, in particular store away from 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 up stands and

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around staircases). The bund walls should be of fire-resisting material and liquid-tight construction. The capacity of the bund area should be at least 3% of the maximum volume of EPS stored.

- In Warehouses where large quantities of EPS are stored, consideration should be given to the use of sprinkler systems.
- Storage should not impair the performance of any sprinkler system.
- Storage temperature - ambient.
- Storage areas should be sited in such a manner that permanently marked access & exit ways can be maintained.
- Ensure EPS is stored away from all ignition sources including exposed overhead lighting / heating etc.
- On building sites EPS should be stored wherever possible in a secure fenced compound or building.
- It should be stored under cover, protected from high winds and raised above damp surfaces. EPS boards should be stacked flat and protected from direct sunlight if exposure is likely to exceed one week.
- 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 greater volume needs to be stored, it should be divided into 2 or more areas at least 20 metres apart. (This refers to Building and Civil Engineering Sites). British Standards (Sect 7.4 BS6203).
- Care should be taken to avoid contact with aromatic solvents, oils, and materials such as coal tar, pitch and creosote.
- Small amounts of residual pentane (expansion agent) may be given off by finished product, avoid inhalation. Store and handle in well ventilated areas. Operate hot work permit procedure, observe no smoking regime and avoid sources of ignition.
- Weather conditions such as high winds may liberate loose bead or cut EPS pieces, ensure products are stored and sealed securely protected from high winds
- Although some EPS boards are relatively light and may be carried by an individual, it is recommended to avoid injury to the carrier or damage to the product the end user should carry out an assessment of onsite operating and environmental conditions likely to affect the safe handling of EPS material.(e.g. High winds, Icy conditions)
- After re-working the surface of some EPS blocks or cut pieces may be rough textured therefore suitable clothing should be worn to protect from rubbing on the skin, arms etc.

8. Protection & Exposure Control

Exposure Control Measures

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/m ³	EH40/00
Styrene Monomer	STEL 15min	1080	mg/m ³	EH40/00
Hydrogen Bromide (Type A only)	STEL 15min	10.0	mg/m ³	EH40/00

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

Personal Protective Equipment

No special measures required unless re-working/machining Alreflex Platinum.

9. Physical and chemical properties

Physical State:	Cellular Foam
Form:	Moulded / Cut sheets
Colour:	Silver Grey / Graphite / Silver aluminium
Density:	Ranges from 9Kg/m ³ to 40Kg/m ³
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 and Reactivity

Alreflex Platinum is stable under normal use conditions and decomposes above 200°C. Avoid heat, flames, sparks and strong sunlight for prolonged periods.

11. Toxicological Information

Alreflex Platinum 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 of Substances and Contaminated Containers

Recover or recycle if possible using a registered re-cycler. Scrap expanded polystyrene is not classified as “Notifiable Waste” and may be disposed of in suitable landfill sites or by incineration under approved conditions. Advice on the preferred method should be obtained at all times from local environmental authorities.

Contains a 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.

European waste catalogue number: 170604

14. Transport Information

Product not classed as hazardous.

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 authorisation established in accordance with article 59.1.

16. Additional Information

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