

1. PRODUCT AND COMPANY INFORMATION

Product Name(s): Expanded Formed White or Graphite (carbon black) Polystyrene (EPS)

Application of Product:

For the manufacture of Meditherm® & Cargo shipper® range of products, used in the shipping temperature sensitive pharmaceutical preparations.

Manufacturer Information:

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2. HAZARD IDENTIFICATION

Appearance and Odour:	White/Grey cellular fused beads of Ø 2-3 mm. Very slight hydrocarbon odour.
Emergency Overview:	No emergency conditions are expected from this product.
Primary Route(s) of Exposure:	Inhalation, skin and eye contact, ingestion.
Acute:	
<i>Inhalation</i>	Breathing may cause temporary mechanical irritation and coughing.
<i>Eye Contact</i>	Eye contact may cause mild mechanical irritation, redness, tearing and blurred vision.
<i>Ingestion</i>	Ingestion of this material is unlikely if used as intended. However, ingestion of this product may produce gastrointestinal irritation and disturbances.
Chronic:	None identified.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical nature: polymeric flame-proofing agent polystyrene

Material	CAS Number	Wt. %	Warning Symbol
Expanded Polystyrene (15-22 g/l)	9003-53-6	99-100%	N/A
Moisture	N/A	< 0.9%	N/A
Pentane (residual)	109-66-0	< 0.1%	N/A
Iso-pentane; 2-methylbutane (residual)	78-78-4	< 0.1%	N/A
Graphite (where applicable)	7782-42-5	prints	N/A

Ingredients are not precisely identified.

Flame proofing agent off gases from product. Most of pentene off-gases prior to shipment.

4: FIRST-AID MEASURES

Inhalation: Only dust produced or small particles of EPS are likely to be inhaled. Clear the respiratory tracts. If recovery does not occur obtain medical attention.

Inhalation of smoke or fumes (fire situation): Remove from exposure into fresh air. Keep warm and at rest. If there is any respiratory distress give oxygen. If breathing stops or shows sign of failing, apply artificial respiration. Obtain immediate medical attention.

Skin: If skin or hair contact occurs flush skin and hair with running water (and soap if applicable). Seek medical attention in event of irritation.

Eye: Flush EPS particles from the eye with water. If recovery does not occur obtain medical attention.

Ingestion: Ingestion of this material is unlikely. If does occur - immediately give a glass of water. First aid is not generally required. If in doubt, seek medical attention.

5. FIRE FIGHTING MEASURES

Extinguishing Media:	Water spray, water fog, and fire fighting foam, dry chemical or CO2.
Unusual Fire Explosion Hazards:	Pentane vapors may be emitted from freshly expanded or processed foam or when product is heated. Hazardous concentrations may accumulate inside a sealed container or within confined space areas. Electrostatic discharge can be a source of ignition of accumulated pentane vapours exceeding the L.E.L (lower explosion limit) of 1.5% (15,000 ppm). If ignited, there may be a very high rate of flame propagation and/or an associated explosion. Assure proper ventilation of storage or shipping containers to prevent accumulation of hazardous concentrations of off-gassed pentane.
Fire Fighting Instructions:	Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water courses.
Hazardous Combustion Products:	Burning foam emits a dense, black irritating smoke with acid gases. Primary combustion products are carbon monoxide, carbon dioxide, styrene, hydrogen halides. Other undetermined hydrocarbon fractions could be released in small quantities.

6. ACCIDENTAL RELEASE MEASURES

Land Spill:	Retrieve the material and submit for recycling or disposal as a non-hazard in an appropriate recycling or disposal facility.
Water Spill:	While this material is not soluble, if fragmented it will float and disperse with wind and current. Contain the material with brooms, pick up or remove with a vacuum truck.

7. HANDLING AND STORAGE

Storage Temperature: N/A;

Storage Pressure: N/A

Handling Precautions: None.

General Storage: During manufacture most pentane off gasses from the expanded polystyrene. Consideration should be given to bulk storage, ensuring some ventilation or occasional air circulation.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls:	None required.
Personal Protective Equipment:	None is required however good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet or applying cosmetics. Refer to the current edition of HSE Guidance Note EH40 Occupational Exposure Limits.

Note: Owing to the expansion and subsequent large quantity of air in the product and similarly the low surface area from forming, the subsequent associated chemical hazards are negligible.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Grey/Graphite or White rigid cellular formed bead (EPS)
Physical State:	Solid
Odour:	Very slightly hydrocarbon odour
Vapour Pressure (mm Hg @ 20°C):	400 mm Hg
Vapour Density (Air=1):	Not applicable (Pentane blowing agent – 2.5)
Specific Gravity (Water = 1):	1.05 to 1.18
pH:	Not applicable
Boiling Point (°C):	N/A
Melting Point (°C):	Softens at 175 degrees F to 220 degrees F
Freezing Point (°C):	N/A
Viscosity:	N/A
Solubility in Water:	Insoluble
Solubility on other solvents:	Soluble in aromatic, halogenated solvents and ketones

10. STABILITY AND REACTIVITY

Stability:	Stable
Polymerisation:	Will not occur
Chemical Incompatibilities:	Organic solvents, oil products, strong oxidising agents, sparks, open flames, strong acids or bases.
Conditions to Avoid:	Heat, open flame and sparks, strong sunlight for prolonged periods.
Hazardous Decomposition:	Does not decompose under normal usage. Styrene monomer, hydrogen bromide, carbon monoxide when burned.

11. TOXICOLOGICAL INFORMATION

Acute Effects: Acute health effects from this product are unlikely when used as intended.

Chronic Effects: Chronic health effects from this product are unlikely when used as intended.

Primary Skin Irritation:	Non-irritant
Sensitisation:	Non-sensitising

Further Information: No data is available concerning mutagenic activity

No evidence is available concerning carcinogenic activity
No data is available concerning reproduction toxicity
See NIOSH. RTECS for additional toxicity data.

12. ECOLOGICAL INFORMATION

Evaluation: Non-biodegradable
Bioaccumulation: The product will not bioaccumulate owing to insolubility in water
Non Toxic: Small particles may have physical effects on aquatic and terrestrial organisms.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Incinerate, recycle or dispose in licensed facility. Do not discharge in to waterways or sewer systems without proper authority.

Recycling code:



Legislation addressing waste disposal requirements may differ by country, state and/or territory. Each user must to laws operating in the area.

14. TRANSPORT INFORMATION

This product is not regulated for carriage according to ADR/RID/ADN, IMDG, ICAO-TI/IATA-DGR
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code - Not applicable

15. REGULATORY INFORMATION

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

EU regulations, Authorisations and/or restrictions on use: None known

National regulations: Not applicable

Chemical Safety Assessment: Not available

16. OTHER INFORMATION

Negligible quantities of pentane may be emitted from expanded polystyrene. While pentane levels are below control limits, some minimal ventilation or occasional air flow is a sensible precaution with bulk storage.

Polystyrene formed product may be shipped with cellulose fibreboard cartons.

The data within this Material Safety Data Sheet is based upon the current knowledge and refers only to material safety requirements. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.