STYROPEK, S.A. DE C.V

MATERIAL SAFETY DATA SHEET

STYROPEK BF

1. Identification

Creation date: 04/01/2015
Revision date: 04/01/2015

Product identifier used on the label

STYROPEK BF

Recommended use of the chemical and restriction on use
Recommended use*: for industrial processing only; Expanding-agent containing plastic for the production of foam plastics

* The “Recommended use” identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller’s published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
Styropek México SA de CV
Fernando Montes de Oca 71
Col. Condesa, C.P. 06140,
MEXICO DF

Telephone: +52 55 9140 0523

Manufacturer / importer:
STYROPEK S.A. DE C.V

Emergency telephone number

24 Hour Emergency Response Information
SETIO Mexico  01 800 0021400
CHEMTREC:  01 800 424-9300
832-446-6154 (in USA)
Int.: +1-703-527-3887

Altamira Plant (01833) 500 24 00 EXT: (3934) , (3910)
Available 24 Hours

Other means of identification

Chemical name: Polystyrene
Commercial name: Styropek BF
Chemical family: Polymer
Synonyms: Expandable Polystyrene

2. Hazards Identification


Classification of the product

No need for classification according to GHS criteria for this product.
Label elements

Hazard Statement:
EUH018 In use may form flammable/explosive vapour-air mixture.

Precautionary Statement:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P243 Take precautionary measures against static discharge.
P403 + P235 Store in a well-ventilated place. Keep cool.

Hazards not otherwise classified

May cause some eye irritation which should cease after removal of the product.

Labeling of special preparations (GHS):
Product releases a flammable hydrocarbon.


Emergency overview

WARNING:
FLAMMABLE.
Releases flammable vapour.
MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL WHICH MAY CAUSE KIDNEY DAMAGE BASED ON ANIMAL DATA.
Eye wash fountains and safety showers must be easily accessible.
Use with local exhaust ventilation.
Avoid contact with the skin, eyes and clothing.

3. Composition / Information on Ingredients


<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Content (W/W)</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-78-4</td>
<td>&gt;= 0.3 - &lt; 3.0 %</td>
<td>isopentane</td>
</tr>
<tr>
<td>109-66-0</td>
<td>&gt;= 3.0 - &lt; 7.0 %</td>
<td>Pentane</td>
</tr>
<tr>
<td>1195978-93-8</td>
<td>&gt;= 0.2 - &lt; 1.0 %</td>
<td>Polymeric FR</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Content (W/W)</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>9003-53-6</td>
<td>&gt;= 92.0 %</td>
<td>polystyrene</td>
</tr>
<tr>
<td>109-66-0</td>
<td>&lt;= 6.0 %</td>
<td>Pentane</td>
</tr>
<tr>
<td>78-78-4</td>
<td>&lt;= 1.5 %</td>
<td>isopentane</td>
</tr>
</tbody>
</table>

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. If difficulties occur: Seek
medical attention.

If on skin:
Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

If in eyes:
In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. If irritation develops, seek medical attention.

If swallowed:
No hazards anticipated. Rinse mouth and then drink plenty of water. If difficulties occur: Seek medical attention.

Most important symptoms and effects, both acute and delayed
Symptoms: headache, dizziness, incoordination, dazed state, Eye irritation, skin irritation

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to the symptoms under clinical conditions.

5. Fire-Fighting Measures

Extinguishing media
Suitable extinguishing media:
Dry powder, water spray, carbon dioxide, foam

Special hazards arising from the substance or mixture
Hazards during fire-fighting:
Substance/product is dangerous when exposed to heat or flames.

Advice for fire-fighters
Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
When large quantities of solid substance/product are involved, melting may occur, in which condition, application of water may cause extensive scattering of molten material. Dense smoke produced during combustion may obscure vision. To prevent re-ignition of interior, target center of fire with large amounts of water. Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition.

6. Accidental release measures

Further accidental release measures:
High risk of slipping due to leakage/spillage of product.

Personal precautions, protective equipment and emergency procedures
Sources of ignition should be kept well clear. Extinguish sources of ignition nearby and downwind.
Avoid dust formation. Avoid inhalation. Ensure adequate ventilation. Wear appropriate respiratory protection.

Environmental precautions
Discharge into the environment must be avoided. Do not release untreated into natural waters.
Methods and material for containment and cleaning up
Sweep/shovel up. Avoid raising dust. Ensure adequate ventilation. Place into suitable containers for reuse or disposal in a licensed facility. After decontamination, spill area can be washed with water.

7. Handling and Storage

Precautions for safe handling
Upon delivery, trailer and/or container should be opened and allowed to vent for a minimum of one (1) hour before unloading. The substance/product in bead or expanded form generates static charges during handling which are difficult to dissipate due to the insulating properties. Take precautionary measures against static discharges. Containers should be opened carefully in wellventilated areas to avoid static discharge. Maintain air circulation and ventilation at a minimum rate of six air changes per hour to prevent the formation of flammable concentrations.

Protection against fire and explosion:
Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Substance/product is capable of accumulating a static charge which could act as an ignition source. Wear non-sparking safety shoes. Ground conductive equipment properly to prevent electrostatic discharge. Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition. Higher line velocity can increase the build-up of static electric charge.

Conditions for safe storage, including any incompatibilities
Segregate from strong oxidizing agents.

Storage stability:
Maintain relative humidity at 40% to minimize static accumulation. Avoid prolonged storage at high temperatures

8. Exposure Controls/Personal Protection

CAUTION:  | PRECAUCIÓN:
---|---
NO SMOKING | NO FUMAR
NO FIRE/NAKED LIGHT | NO FUEGO/NO FUEGO ABIERTO
NO WELDING | NO SOLDAR
NO SPARKS FROM TOOLS | NO CHISPAS DE HERRAMIENTAS

BEFORE UNLOADING KEEP DOORS OPEN AND VENTILATE FOR 1 HOUR | ANTES DE DESCARGAR MANTENGA LAS PUERTAS ABIERTAS Y VENTILE POR 1 HORA
Components with occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentane</td>
<td>TWA value 600 ppm 1,800 mg/m³; STEL value 760 ppm 2,250 mg/m³; NIOSH REL value 120 ppm 350 mg/m³; Ceiling Time Pocket Guide to Chemical Hazards (US)</td>
</tr>
</tbody>
</table>

Advice on system design:
Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:
Respiratory protection may not be required under normal operating conditions if adequate ventilation is provided. Wear respiratory protection if ventilation is inadequate. Breathing protection if dusts are formed.

Hand protection:
non-static gloves (e.g. of leather)

Eye protection:
Tightly fitting safety goggles (chemical goggles).

Body protection:
Anti-static protective clothing, Anti-static safety shoes

General safety and hygiene measures:
Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Eye wash fountains and safety showers must be easily accessible. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value/Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>beads</td>
</tr>
<tr>
<td>Odour</td>
<td>of pentane</td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
</tr>
<tr>
<td>pH value</td>
<td>approx. 71 °C</td>
</tr>
<tr>
<td>softening point</td>
<td>The substance / product decomposes therefore not determined.</td>
</tr>
<tr>
<td>onset of boiling</td>
<td>approx. 71 °C</td>
</tr>
<tr>
<td>Sublimation point</td>
<td>No applicable information available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>79 - 85 °C</td>
</tr>
<tr>
<td>Flammability (solids)</td>
<td>not highly</td>
</tr>
<tr>
<td>Flammability of Aerosol form</td>
<td>flammable</td>
</tr>
<tr>
<td>Products</td>
<td>flammable aerosoles)</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>1.4 % (V)</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>8.3 % (V)</td>
</tr>
<tr>
<td>Autoignition</td>
<td>285 °C</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>not applicable, the product does not form</td>
</tr>
<tr>
<td>Density</td>
<td>approx. 1.02 – 1.05 g/cm³</td>
</tr>
<tr>
<td>Density of aerosol</td>
<td>flammable aerosoles)</td>
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Flammability of Aerosol form

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</tbody>
</table>
10. Stability and Reactivity

Reactivity
No applicable information available.

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Not an oxidizer.

Chemical stability
No applicable information available.

Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid
Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-static discharge.

Incompatible materials
Strong oxidizing agents, aromatic solvents

Hazardous decomposition products
Decomposition products:
Possible thermal decomposition products: gases/ vapours, monomers, cyclic low molecular weight oligomers, oxides, hydrocarbons

Thermal decomposition:
No applicable information available.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Contact with molten product may cause thermal burns.

Information on: Isopentane
Assessment of acute toxicity: Aspiration may result in chemical pneumonitis, which may be fatal.
Oral
Type of value: LD50
Value: > 2,000 mg/kg

Inhalation
Type of value: LC50
Value: > 5 mg/l

Dermal
Type of value: LD50
Value: > 2,000 mg/kg

Irritation / corrosion
Assessment of irritating effects: Frequent and prolonged contact can lead to skin irritation.
Information on: Sulfonium compounds, C11-14-alkylbis(hydroxyethyl), 2-hydroxyethyl sulfates (salts)
Assessment of irritating effects: Corrosive! Damages skin and eyes.

Skin
Prolonged contact with the product can result in skin irritation.

Eye
Similar findings as for skin apply to eyes.

Sensitization
Assessment of sensitization: There is no evidence of a skin-sensitizing potential.

Result: Non-sensitizing.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: The substance is inert.

Information on: isopentane
Assessment of repeated dose toxicity: Chronic overexposure has been shown to cause adverse kidney effects in experimental animals.

Genetic toxicity
Assessment of mutagenicity: Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Carcinogenicity
Assessment of carcinogenicity: Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Reproductive toxicity
Assessment of reproduction toxicity: Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Other Information
Information on: Pentane
Has a degreasing effect on skin.
Symptoms of Exposure
Headache, dizziness, incoordination, dazed state, Eye irritation, skin irritation

12. Ecological Information

Toxicity

Aquatic toxicity
Information on: Pentane
Assessment of aquatic toxicity: Acutely toxic for aquatic organisms.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)
On the basis of the data available concerning eliminability/degradation and bioaccumulation potential, longer-term harm to the environment is improbable.

Elimination information
Non-biodegradable.

Bioaccumulative potential

Bioaccumulation potential
The product will not be readily bioavailable due to its consistency and insolubility in water.

Additional information

Add. remarks environm. fate & pathway:
Because of the product's consistency and low water solubility, bioavailability is improbable.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with national, state and local regulations. Do not discharge into waterways or sewer systems without proper authorization.

Container disposal:
Dispose of in accordance with national, state and local regulations. Uncontaminated packaging can be recycled. Contact manufacturer regarding recycling.

14. Transport Information

Land transport
TDG
Hazard class: 9
Packing group: III
ID number: UN 2211
Hazard label: 9
Proper shipping name: POLYMERIC BEADS, EXPANDABLE
Sea transport
IMDG
Hazard class:  9
Packing group:  III
ID number:  UN 2211
Hazard label:  9
Marine pollutant:  NO
Proper shipping name: POLYMERIC BEADS, EXPANDABLE

Air transport
IATA/ICAO
Hazard class:  9
Packing group:  III
ID number:  UN 2211
Hazard label:  9
Proper shipping name: POLYMERIC BEADS, EXPANDABLE

15. Regulatory Information

Federal Regulations
Not applicable

NFPA Hazard codes:
Health : 1  Fire: 2  Reactivity: 1  Special:

HMIS III rating
Health: 1  Flammability: 2  Physical hazard: 0

16. Other Information

SDS Prepared by:
Styropek Product Regulations
SDS Prepared on: 04/01/2015

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