1. **SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

1.1 **Product Identifier**

   - **Product Name**: EMPERA General Purpose Polystyrene.

   - **Chemical Family**: Polymer.
   - **Alternative names**: Styrene Homopolymer.
   - **Synonyms**: GPPS.
   - **CAS No.**: 9003-53-6
   - **EINECS No.**: Polymer exempt.
   - **REACH Registration No.**: Polymer exempt.

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

   - **Identified use(s)**: Primarily used in injection moulding and extrusion for food packaging, toys, technical parts and various other articles.
   - **Uses advised against**: None known.

1.3 **Details of the supplier of the Safety Data Sheet**

   1.3.1 **Non EU Supplier**

      - INEOS Styrenics International SA
      - Avenue de la Gare 14
      - CH - 1700 Fribourg
      - Switzerland.
      - Telephone: + 41-26-426-5656.
      - Fax: + 41-26-426-5657.

   1.3.2 **EU Representative**

      - INEOS Styrenics Wingles SAS
      - Avenue de la Verrerie
      - Boîte Postale N°62
      - 62140 Wingles
      - France.
      - Telephone: + 33-3-21773200.
      - Fax: + 33-3-21773299.
      - E-Mail (competent person): msdsemail@ineosstyrenics.com
      - Technical contact: http://www.ineosstyrenics.com/Contact/ContactMenu.htm

1.4 **Emergency telephone number**

   - **Emergency Phone No.**: + 44 (0) 1235 239 670.

2. **SECTION 2: HAZARDS IDENTIFICATION**

2.1 **Classification of the substance or mixture**


      - Not classified as dangerous for supply/use.

   2.1.2 **Regulation (EC) No. 1272/2008 (CLP)**

      - Not classified as dangerous for supply/use.

2.2 **Label elements**

   2.2.1 **Label elements**

      - **Product Name**: EMPERA General Purpose Polystyrene.
      - **Hazard Symbol**: None.
      - **Risk Phrases**: None.
      - **Safety Phrases**: None.
2.2.2 Label elements

Product Name
EMPERA General Purpose Polystyrene

Hazard Pictogram
None.

Signal word(s)
None.

Hazard statement(s)
None.

Precautionary statement(s)
None.

2.3 Other hazards

The following information is based on a consideration of the properties of the main components of this mixture.

- Molten material can cause severe burns.
- Dust may have irritant effect on skin, eyes and air passages.
- Danger of dust explosion in fine dusty form or when ground to a small particle size.

2.4 Additional Information

None.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS


EC Classification No. 67/548/EEC

<table>
<thead>
<tr>
<th>Hazardous ingredient(s)</th>
<th>%W/W</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>REACH Registration No.</th>
<th>EC Classification and Risk Phrases</th>
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</thead>
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<tr>
<td>No classifiable hazardous ingredient(s).</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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</tr>
</tbody>
</table>

EC Classification No. 1272/2008

<table>
<thead>
<tr>
<th>Hazardous ingredient(s)</th>
<th>%W/W</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>REACH Registration No.</th>
<th>Hazard pictogram(s) and Hazard statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No classifiable hazardous ingredient(s).</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

4. SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation
Remove patient from exposure, keep warm and at rest.

Skin Contact
Molten material can cause severe burns. Do NOT try to peel molten polymer from the skin. Cool rapidly with water. Obtain medical attention.

Eye Contact
After initial flushing, remove any contact lenses and continue flushing. Continue irrigation until medical attention can be obtained.

Ingestion
Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200-300 ml (half a pint) of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Eyes and Skin Contact: Redness, Irritation.

4.3 Indication of immediate medical attention and special treatment needed

Unlikely to be required but if necessary treat symptomatically.
5. **SECTION 5: FIRE-FIGHTING MEASURES**

Product is not classified as flammable, but will burn on contact with flame or exposure to high temperature (see Section 9).

5.1 **Extinguishing Media**

**Suitable Extinguishing Media**

Extinguish preferably with waterspray, fog or foam. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

**Unsuitable Extinguishing Media**

Do not use water jet.

5.2 **Special hazards arising from the substance or mixture**

This product may give rise to hazardous fumes in a fire. Hazardous Decomposition Product(s): Carbon monoxide, Carbon dioxide, styrene.

5.3 **Advice for fire-fighters**

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Keep containers cool by spraying with water if exposed to fire.

6. **SECTION 6: ACCIDENTAL RELEASE MEASURES**

6.1 **Personal precautions, protective equipment and emergency procedures**

Avoid inhalation of dusts. Wear suitable protective clothing and eye/face protection.

6.2 **Environmental precautions**

Prevent entry into drains.

6.3 **Methods and material for containment and cleaning up**

Small spillages: Sweep up and shovel into waste drums or plastic bags. Transfer to a container for disposal.

Large spillages: Use vacuum equipment for collecting spilt materials, where practicable. Transfer to a lidded container for disposal or recovery.

6.4 **Reference to other sections**

See Also Section 8 and 13.

7. **SECTION 7: HANDLING AND STORAGE**

7.1 **Precautions for safe handling**

Avoid contact with heated or molten product. Avoid generation of dust. Do not breathe dust. Do not breathe fumes/vapour. Provide adequate ventilation, including appropriate local extraction. Take precautionary measures against static discharges. Ensure adequate earthing. Use non-sparking hand tools and explosion proof electrical equipment.

**Process Hazards**

The molten form can cause thermal burns if in contact with skin or eyes. Avoid generation of dust. If permitted to accumulate, these fines or dust can, under certain conditions, pose an explosion hazard. Take precautionary measures against static discharges. Ensure adequate earthing.

7.2 **Conditions for safe storage, including any incompatibilities**

Keep container tightly closed and in a well-ventilated place. Keep away from sources of ignition. Keep away from heat and direct sunlight.

**Storage Temperature**

Ambient.

**Storage Life**

Stable under normal conditions.

**Incompatible materials**

Strong oxidising agents.

7.3 **Specific end use(s)**

Primarily used in injection moulding and extrusion for food packaging, toys, technical parts and various other articles.
8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

No Occupational Exposure Limit assigned. It is recommended that the following are adopted:

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>CAS No.</th>
<th>LTEL (8 hr TWA ppm)</th>
<th>LTEL (8 hr TWA mg/m³)</th>
<th>STEL (ppm)</th>
<th>STEL (mg/m³)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust (Respirable Dust)</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>None.</td>
</tr>
</tbody>
</table>

8.1.2 Biological limit value

Not established.

8.1.3 PNECs and DNELs

Not established.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Provide adequate ventilation.

8.2.2 Personal protection equipment

Wear protective equipment to comply with good occupational hygiene practice.

Eye/face protection

Safety spectacles.

Skin protection (Hand protection/ Other)

Not normally required.

Wear suitable gloves if prolonged skin contact is likely.

Wear safety shoes or boots. Wear suitable protective clothing.

Respiratory protection

An approved dust mask or organic vapour respirator should be worn if exposure to levels above the occupational exposure limit is likely.

Thermal hazards

Use gloves with insulation for thermal protection, when needed. Wear insulating gloves EN407 (heat).

8.2.3 Environmental Exposure Controls

Prevent entry into drains.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form

Granules/Solid.

Colour

Colourless.

Odour

Faint.

Odour Threshold (ppm)

Not established

Flash Point (°C)

> 350°C.

Auto Ignition Temperature (°C)

ca. 490°C.

Vapour Pressure (mm Hg)

Not applicable.

Density (g/ml)

ca. 1050 kg/m³ @ 20°C (ISO 1183).

Bulk Density (g/ml)

620 kg/m³ (Solid).

Solubility (Water)

Insoluble.

Solubility (Other)

Not available.

Partition Coefficient (n-Octanol/water)

Not available.

Decomposition Temperature (°C)

Not available.

Viscosity (mPa.s)

Not applicable.
Explosive properties  
Danger of dust explosion in fine dusty form or when ground to a small particle size.

Oxidising properties  
Not oxidising.

9.2 Other information  
None.

10. SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity  
Stable under normal conditions.

10.2 Chemical stability  
Stable under normal conditions.

10.3 Possibility of hazardous reactions  
Danger of dust explosion in fine dusty form or when ground to a small particle size.

10.4 Conditions to avoid  
Avoid generation of dust.

10.5 Incompatible materials  
Strong oxidising agents.

10.6 Hazardous Decomposition Product(s)  
Trace quantities of styrene monomer, carbon monoxide, aldehydes, and organic acids may be formed.

11. SECTION 11: TOXICOLOGICAL INFORMATION

This assessment is based on information available on similar products.

11.1 Information on toxicological effects

11.1.1 Polymer

Acute toxicity

<table>
<thead>
<tr>
<th>Mode</th>
<th>Toxicity Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Low acute toxicity.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Low oral toxicity, LD50 &gt; 2000mg/kg.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>Low acute toxicity.</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>Low acute toxicity.</td>
</tr>
<tr>
<td>Irritation</td>
<td>Dust may have irritant effect on skin, eyes and air passages. During thermal processing: May cause irritation to skin, eyes and respiratory system.</td>
</tr>
</tbody>
</table>

Corrosivity  
Not classified.

Sensitisation  
It is not a skin sensitiser.

Repeated dose toxicity  
Dusts - Repeated exposure to high levels may cause irritation to skin, eyes and respiratory system.

Carcinogenicity  
No data.

Mutagenicity  
No data.

Toxicity for reproduction  
No data.

11.2 Other information  
The molten form can cause thermal burns if in contact with skin or eyes.

12. SECTION 12: ECOLOGICAL INFORMATION

This environmental hazard assessment is based on information available on similar products. Small particles may have physical effects on aquatic and terrestrial organisms.

12.1 Toxicity  
Non-toxic to aquatic life.

12.2 Persistence and degradability  
Not readily biodegradable. Styrene homopolymers are susceptible to degradation by exposure to sunlight. Integrated environmental half-life expected to be >= 100 days.

12.3 Bioaccumulative potential  
The product has low potential for bioaccumulation.

12.4 Mobility in soil  
The product is essentially insoluble in water. The product has low mobility in soil. Sinks in water.
12.5 Effect on Effluent Treatment
No information available.

12.6 Results of PBT and vPvB assessment
Not classified as PBT or vPvB.

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Remove all packaging for recovery or disposal. Recover or recycle if possible. Bury on an authorised landfill site or incinerate under approved controlled conditions.

13.2 Additional Information
Disposal should be in accordance with local, state or national legislation. See Also Section 7.

14. SECTION 14: TRANSPORT INFORMATION
Not classified as dangerous for transport.

14.1 UN number
Not applicable.

14.2 Proper Shipping Name
Not applicable.

14.3 Transport hazard class(es)
Not applicable.

14.4 Packing Group
Not applicable.

14.5 Environmental hazards
Not applicable.

14.6 Special precautions for user
Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

15. SECTION 15: REGULATORY INFORMATION

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

15.1.1 EU regulations
Authorisations and/or restrictions on use
None known.

15.1.2 National regulations
None known.

15.2 Chemical Safety Assessment
Not available.

16. SECTION 16: OTHER INFORMATION
This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 453/2010.

The following sections contain revisions or new statements: 1-16.

LEGEND
LTEL Long Term Exposure Limit
STEL Short Term Exposure Limit
DNEL Derived No Effect Level
PNEC Predicted No Effect Concentration
PBT Persistent, Bioaccumulative and Toxic
vPvB very Persistent very Bioaccumulative

Training advice:
Suitable information on safety in handling, storage and conversion of the product should be given to employees based on all the existing information.
Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. INEOS Styrenics gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. INEOS Styrenics accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.

Annex to the extended Safety Data Sheet (eSDS)
No information available.