SAFETY DATA SHEET

In Accordance with 4th revised edition of GHS

Section 1 – Identification

Product Name: 291L
Product Type: General Purpose
Product Description: Impregnated polystyrene with blowing agent
Chemical Name: Expandable Polystyrene (EPS)
Chemical Formula: \((\text{C}_8\text{H}_8)_{n}\)
Chemical Family: Thermoplastic Polymer
Product Use: Insulating material, packaging material
Manufacturer: IRPC Public Company Limited.
Emergency Call: +66(0) 38 802560
Website: www.irpc.co.th, www.irpcmarket.com

Section 2 – Hazards Identification

Regulation (EC) No 1272/2008: This product is not classified as dangerous according to Regulation (EC) No 1272/2008.
Directive 67/548/EEC: This product is not classified as dangerous according to EU Directive 67/548/EEC.
GHS: Not classified
Label elements: Not applicable
Other hazards: Not applicable

Section 3 – Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>EC Number</th>
<th>Percent weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polystyrene</td>
<td>9003-53-6</td>
<td>Polymer</td>
<td>94-95</td>
</tr>
<tr>
<td>Pentane</td>
<td>109-66-0</td>
<td>203-692-4</td>
<td>5-6</td>
</tr>
</tbody>
</table>

Section 4 – First-aid Measures

General information: Clothing and shoes must be immediately removed, decontaminated
Skin Exposure: In case of skin contact with hot polymer immediately immerse in or flush with clean, cold water. If irritation develops, seek medical attention.
Eyes Exposure: Flush with water for at least 20 minutes. Seek medical attention if irritation persists
Inhalation: Remove person to fresh air. Assist in breathing if necessary. Seek medical attention.
Ingestion: Seek medical attention if a significant amount is swallowed
**Section 5 – Fire-fighting Measures**

**Suitable extinguishing agents**: Dry chemicals, foam, water, carbon dioxide and halon. Do not use water jets for large fires.

**Hazards during fire-fighting**: Carbon monoxide, carbon dioxide, hydrogen cyanide.

**Protective equipment**: Wear self-contained respiratory protective device.

**Section 6 – Accidental Release Measures**

**Personal precautions**: Avoid inhalation.

**Environmental precautions**: Discharge into the environment must be avoided.

**Cleanup**: STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Sweep/shovel up or spray with water and collect in a suitable container. Allow molten material to solidify before disposal. Avoid production of dust.

**Section 7 – Handling and Storage**

**Handling**: Ventilate for 5 min. when opening the container. Appropriate grounding is required. (Prevent against static electricity). Avoid inhalation of vapors.

**Storage conditions**: Keep separated from incompatible substances. Store in a tightly closed container in a cool (below 27 °c), dry place. Ventilation required.

**Section 8 – Exposure Controls / Personal Protection**

### Exposure limits

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Reference</th>
<th>TWA</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ppm</td>
<td>mg/m³</td>
</tr>
<tr>
<td>Pentane</td>
<td>OSHA PEL</td>
<td>1000</td>
<td>2950</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV</td>
<td>600</td>
<td>-</td>
</tr>
</tbody>
</table>

**Exposure control**: Ventilation, enclosures, or other controls may be needed to keep airborne contaminates below exposure limits.

**Personal protective equipment**

**Respiratory protection**: Wear respiratory protection if ventilation is inadequate. Breathing protection device if dust is formed.

**Eye protection**: Chemical workers goggles recommended.

**Protective clothing**: Gloves required when handling hot material. In case of fire, wear MSHA/NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.

**Ventilation**: Provide adequate ventilation when processing material at elevated temperatures.

**Other protective equipment**: N.A.

**Section 9 – Physical and Chemical Properties**

**Physical State**: Bead Form

**Odor and Appearance**: Bead with characteristic odor.

**Softening Point**: > 100 °C
Specific Gravity : 1.04 (Water = 1)
Percent Volatile (Vol. %) : Nil
Solubility in water : Insoluble
Solubility (Qualitative) : Soluble in polar solvents

**Section 10 – Stability and Reactivity**

| Stability | Stable in ambient temperature. |
| Condition to Avoid | Heat, flames, sparks and other sources of ignition. |
| Material to Avoid | Avoid solvents and oxidizing agents. |

**Dangerous decomposition:** Carbon monoxide, carbon dioxide, styrene, acrylonitrile, hydrocarbon, cyanide.

**Section 11 – Toxicological Information**

**Acute Toxicity**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Route</th>
<th>Species</th>
<th>Acute Toxic Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentane</td>
<td>Oral</td>
<td>Rat</td>
<td>LD_{50} 5480 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Inhalation</td>
<td>Rat</td>
<td>285 gm/m^3/4Hr</td>
</tr>
</tbody>
</table>

**Irritating/corrosive effects**

- **Eye Irritation** : Prolonged contact can cause eye irritation
- **Skin Irritation** : Prolonged contact can cause skin irritation
- **Respiratory Irritation** : May cause allergic respiratory response.
- **Ingestion Irritation** : Swallowing larger amounts may cause injury

**Section 12 – Ecological Information**

**Toxicity** : No relevant studies identified.
**Persistence and degradability** : The product is not easily biodegradable.
**Bio-accumulative potential** : Insoluble in water. Not expected to be bio-accumulative.
**Mobility in soil** : No relevant studies identified.
**Other adverse effects** : Not expected to pose a significant ecological hazard.

**Section 13 – Disposal Considerations**

**Disposal methods:**
Transfer to an approved disposal area in accordance with national, state and local regulations. Recycling uncontaminated packaging recommended.
Package must be recycled in compliance with national legislation and environmental regulations.
### Section 14 – Transport Information

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Classes</th>
<th>Packing group</th>
<th>Label</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>2211</td>
<td>9</td>
<td>III</td>
<td></td>
<td>POLYMERIC BEADS, EXPANDABLE, evolving flammable vapor</td>
</tr>
<tr>
<td>ADR / RID</td>
<td>2211</td>
<td>9</td>
<td>III</td>
<td></td>
<td>POLYMERIC BEADS, EXPANDABLE, evolving flammable vapor</td>
</tr>
<tr>
<td>IMDG CODE</td>
<td>2211</td>
<td>9</td>
<td>III</td>
<td></td>
<td>POLYMERIC BEADS, EXPANDABLE, evolving flammable vapor</td>
</tr>
<tr>
<td>ICAO / IATA</td>
<td>2211</td>
<td>9</td>
<td>III</td>
<td></td>
<td>POLYMERIC BEADS, EXPANDABLE, evolving flammable vapor</td>
</tr>
</tbody>
</table>

### Section 15 – Regulatory Information

**US Toxic Substances Control Act**
All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 29 CFR 1910.1200.

**SARA 313**
Material is not subject to SARA 313 reporting requirements.

**OSHA**
None of the chemicals in this product are considered highly hazardous by OSHA.

**HMIS -USA**
- Health – 0, Flammability – 1, Reactivity – 0

**National Fire Protection Association - USA**
- Health – 0, Flammability – 1, Reactivity – 0

**European Inventory of Existing Commercial Chemical Substances (EINECS)**
The components of this product are on the EINECS inventory or are exempt from inventory requirements.

The product is not classified as dangerous for supply according to the Regulation (EC) No 1272/2008 and the EC directive 67/548/EEC and 1999/45/EC.

**Canada – WHMIS**
Material is not controlled under WHMIS.
Section 16 – Other Information

The information in this document is based on our best present. Nevertheless, it does not constitute a guarantee for any specific product features and does not establish any a legally binding contract.

DOT: Department of Transportation
ADR: European agreement concerning the international carriage of dangerous goods by road.
RID: Regulations concerning the international carriage of dangerous goods by rail.
IMDG – CODE: International maritime dangerous goods code
ICAO: International Civil Aviation Organization
IATA: International air transport association
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
OSHA: Occupational Safety and Health Administration
WHMIS: Workplace Hazardous Materials Information System

The information above is believed to be accurate and represents the best of our knowledge, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

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