

 <p>National Petrochemical Company(NPC)</p>	<b>Material Safety Data Sheet (MSDS)</b> <i>According to the Directives 91/155/CEE-2001/58/CE-ISO 11014-1</i>	Page: 1 of 7 Revision Number: 1
	Product Name: <p style="text-align: center;"><b>GPPS</b> <b>(General Purpose Polystyrene)</b></p>	 <p style="text-align: center;"> <b>Reactivity</b>  <b>Flammability</b>  <b>Health</b> </p>

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/ UNDERTAKING

<b>Identification of the substance or preparation:</b>	<b>GPPS ( General Purpose Polystyrene)</b>
<b>Country of origin:</b>	<b>Iran (Islamic Republic of Iran)</b>
<b>CAS Number:</b>	<b>9003-53-6</b>
<b>Synonyms:</b>	<b>Polystyrene, Styrene homopolymer</b>
<b>Company/undertaking identification</b>	<b>National Petrochemical Company Iran Petrochemical Commercial Company (IPCC)</b>
<b>Manufacturer subcontractor:</b>	<b>None</b>
<b>Emergency phone number:</b>	<b>00982188881735</b>
<b>Contact email:</b>	<b>msds@petrochem-ir.net</b>
<b>Fax:</b>	<b>00982188839511</b>
<b>Association/Organization:</b>	<b>None</b>
<b>Use of the substance/Preparation:</b>	

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

<b>Hazardous substances:</b>	<b>Not classified as hazardous material.</b>
<b>Hazardous label(s):</b>	<b>Not classified as a hazardous material</b>
<b>Toxicological characteristics:</b>	<b>Not classified as a toxic material</b>
<b>Substances present at a concentration below the minimum danger:</b>	<b>Monomer styrene must be less than 500 PPM.</b>
<b>Other component:</b>	<b>Mineral Oil. Contains no hazardous ingredients :EC directive 2001/58/EC</b>

### 3. IDENTIFICATION OF HAZARDS

<b>Skin contact:</b>	<b>Essentially no irritation and adverse effects on skin .Physical injury only. Dust may cause irritation.</b>
<b>Eye contact:</b>	<b>Dust may cause irritation to eyes.</b>
<b>Inhalation</b>	<b>Dust may cause irritation to respiratory tract and cause nose and throat.</b>
<b>If swallowed:</b>	<b>No adverse effects anticipated by this route of exposure incidental to proper industrial handling. Consult a doctor. Melt of GPPS can cause severe burns. Danger of dust explosion in fine dusty form or when ground to a small particle size. Small particle harmful for adequate and terrestrial organisms.</b>

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#### 4. FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor  
**NEVER induce swallowing in an unconscious person.**

<b>In case of exposure by inhalation:</b>	Remove from exposure immediately to fresh air. Performing artificial respiration. If any effects occur consult a doctor.
<b>In case of splashes or contact with eyes:</b>	Flash with plenty of water. Remove eye lenses and continue flashing. If any effects occur consult a doctor
<b>In case of swallowing: Note of physician:</b>	Do not induce vomiting If any effects occur consult a doctor .Provided the patient is conscious. Wash out mouth with water and give 200-300 ml of water to drink.
<b>Skin contact</b>	Essentially no irritation and adverse effects on skin .Prolonged contact can lead to skin irritations. Physical injury only. Molten product can cause thermal burns. Do not try to peel molten polymer from the skin. Cool rapidly with water.
<b>Other information</b>	An eye wash fountain , safety shower and general washing facility must be available to work area. .

#### 5. FIRE FIGHTING MEASURES

<b>Flammable class:</b>	Product is not classified as flammable, but it will burn with flame and at high temperature. Dense smoke is produced when product burns.
<b>Suitable extinguishing media:</b>	Water spray, Dry chemical powder, Carbon dioxide, Fog or foam. Sand or soil may be used for small fires only.
<b>Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:</b>	Dense smoke is produced when product burns. The smoke may contain many toxic /irritating compounds such as carbon mono oxide·carbon dioxide and styrene. Evacuate the people and isolate the fire area .Don't entire without any necessity.
<b>Special protective equipment for fire fighting :</b>	Wear positive – pressure self-contained breathing apparatus (SCBA) and fire fighting clothing (helmet· pants ·boots , gloves
<b>Other information:</b>	Handling may produce flammable explosive dusts ventilate the area and clean accumulate dusts.

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In case of large fire doesn't use directly jet water.  
 Water may cause extensive scattering of molten material. Cool containers by spraying with water.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions:</b>	Collect spilled material and protect people from slipping hazards. After cleaning it can be used.
<b>Environmental precautions:</b>	Keep out of water ditches, sewers and water supplies. Clean up them to prevent contamination.
<b>Methods for cleaning up and disposal:</b>	Sweep up small spillage Vacuum equipment can be used for large spilt materials.
<b>Other information:</b>	Contaminated area must be isolated.

## 7. HANDLING AND STORAGE

<b>The regulations relating to storage premises apply to workshop where the product is handled</b>	Handling may produce flammable explosive dusts ventilate the area and clean accumulate dusts. Use non-sparking hand tools and explosion proof electrical equipment.
<b>Handling:</b>	Housekeeping conditions and controlling dusts should consider for safe handling. Avoid flame, sparks and statistic.
<b>Storage:</b>	Store in a dry place and suitable temperature (ambient temperature). Keep container tightly closed .Keep away from heat, ignition sources and direct sunlight.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Exposure limit values:</b>	Wear suitable protective clothing, shoes and other equipment. No occupational exposure limit assigned. Dust : LTEL (4 at 8 hour TWA mg/m3)
<b>Exposure controls:</b>	-
<b>Personal protective equipment:</b>	In dusty workplace use an approved mask or dust respirator
<b>Eye protection:</b>	Safety goggles.

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**Respiratory protection:** Use approved dust mask or organic vapor respirator if exposure to levels above the occupational exposure limit is likely.

**Hand protection:** Wear gloves protect physical injury (PVC).

**Skin and body protection:** Wear approved clothing for working and handling.

**Health measures:** Local exhaust ventilations may be necessary for some operations.

**Environmental exposure controls:** Not assigned.

**Styrene monomer:**  
 OSHA - TWA 100 PPM :CLV 200 PPM :  
 Max. conc. 600ppm  
 :ACGIH TWA 20PPM: STEL 40

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<p><b>General information:</b></p> <p><b>Appearance (at 20°C):</b></p> <p><b>Colour:</b></p> <p><b>Odour:</b></p> <p><b>PH (at 20°C):</b></p> <p><b>Softening point (°C):</b></p> <p><b>Melting point (°C):</b></p> <p><b>Flash point (°C):</b></p> <p><b>Flammability:</b></p> <p><b>Auto-ignition temperature:</b></p> <p><b>Explosive properties:</b></p> <p><b>Oxidising properties:</b></p> <p><b>Vapour pressure (at 20°C):</b></p> <p><b>Density (at 20°C):</b></p> <p><b>Solubility (at 20°C):</b></p> <p><b>Molecular Weight :</b></p> <p><b>Viscosity (40°C):</b></p> <p><b>Evaporation rate:</b></p> <p><b>Molecular Formula</b></p> <p><b>Other information:</b></p>	<p>Solid pellets</p> <p>Granules</p> <p>Off-white</p> <p>Odourless</p> <p>Not applicable ( nearly 7 )</p> <p>85 - 105</p> <p>&gt; 350</p> <p>Combustible            UEL: Not applicable</p> <p>                                 LEL: Not applicable</p> <p>490 C</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p> <p>1.02-1.05g/cm3</p> <p>insolubility: water</p> <p>solubility: Aromatic Solvents + Chlorinated Hydrocarbons usual organic solvents</p> <p>Not applicable</p> <p>Not applicable</p> <p>STYRENE MONOMER RESIDUAL :        MAX=500 PPM</p>
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## 10. STABILITY AND REACTIVITY

**Stability:**  
**Hazardous polymerization**  
**Conditions to avoid:**

Stable under normal condition.  
 Will not occur

Heat, flames, sparks statistics and other sources of ignition. Avoid contact with incompatible materials.

**Material to avoid:**

strong oxidizing materials, aromatic solvents, chlorinated hydrocarbons

**Hazardous decomposition products:**

Thermal decomposition products: styrene monomer, carbon monoxides, aldehydes, cyclic low molecular oligomers.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity:**

- LD<sub>50</sub>, oral, rat (mg.kg<sup>-1</sup>): Not available  
 - LD<sub>50</sub>, oral, mouse (mg.kg<sup>-1</sup>): Not available  
 - LD<sub>50</sub>, dermal (mg.kg<sup>-1</sup>): Not available

**Sub chronic – chronic toxicity:**

No relevant information found

**Sensibilization:**

No relevant information found

**Carcinogenicity:**

No relevant information found

**Reproductive effects:**

No relevant information found

**Human experience:**

No relevant information found

**Other information:**

Carcinogen status: -

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:**

Not expected to be acutely toxic. But it is harmful if ingested by animals and aquatic life.

**Bio accumulative potential:**

Because of high molecular weight and hard decomposition will remain in the soil and sink in the water .accumulation and sedimentation will occur.

**Mobility:**

-

**Persistence and degradability:**

Sun light may cause surface degradation .It is expected to be inert in the environment and not to biodegrade.

**Other adverse effects:**

-

## 13. DISPOSAL CONSIDERATIONS

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**Disposal of product:** Disposal must be done as territory and /or local government regulations. It can be recycled /reclaimed or burned in an incinerator Waste management information will help to receive the best results.

**Disposal of packaging:** It can be recycled /reclaimed or burned in an incinerator .Waste management information will help to receive the best results.

**14. TRANSPORT INFORMATION**

**Transportation:** This product is not classified as a dangerous good. It can burn.  
**Land transport:** NO classification assigned  
**ADR/RID:** NO classification assigned.  
**Packaging group:** NO classification assigned.

**Maritime transport:** NO classification assigned.

**Air transport:** NO classification assigned.

**15. REGULATORY INFORMATION**

**Hazardous label(s):** No regularity known.  
**Safety phrases:** This product is not classified as a dangerous good. It can burn.  
**Risk phrases:** This product is not classified as a dangerous good. It can burn

**16. OTHER INFORMATION**

**STYRENE MONOMER RESIDUAL MAX=500 PPM**

**The contents and format of this MSDS are in accordance with EEC Commission Directive 2001/58/EC**

*Disclaimer of liability:*

*The information in this MSDS was obtained from different sources, which National Petrochemical Company (NPC) and Iran Petrochemical Commercial Company (IPCC) believe, are reliable. However, the*

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