



<b>Section 1. Chemical Product and Company Identification</b>			
<b>Trade name</b>	<b>TOTAL PETROCHEMICALS Polystyrene</b>	<b>Code</b>	PS_GPPS_PELLETS
		<b>MSDS#</b>	P82
<b>Supplier</b>	TOTAL PETROCHEMICALS USA, INC. P O Box 674411 Houston,Tx. 77267-4411	<b>Validation Date</b>	1/10/2006
<b>Synonym</b>	Crystal Polystyrene. This MSDS covers all prime grades of General Purpose Polystyrene including but not limited to the following grades: 5##P1 or 5##P0 CX5### where # can be any number. This MSDS also covers specially compounded samples labeled TOTAL PETROCHEMICALS Polystyrene Nxxxxx and Nxxxxx-x, where x can be any number.	<b>Print Date</b>	1/10/2006
<b>MSDS Name</b>	Polystyrene (General Purpose)	<b>Responsible for Preparation</b>	Paul Bradley
<b>Chemical Family</b>	Polymer.	<b>In Case of Emergency</b> Chemtrec: (800) 424-9300 <b>TOTAL PETROCHEMICALS USA, INC:</b> (800) 322-3462  <b>Technical Information</b> Carville: 225-642-4300	
<b>CAS Registry Number</b>	9003-53-6		
<b>Threshold Limit Value</b>	Not available.		
<b>Manufacturer</b>	TOTAL PETROCHEMICALS USA, INC. P.O. Box 98 Carville, LA 70721		

<b>Section 2. Composition and Information on Ingredients</b>			
<b>Name</b>	<b>CAS #</b>	<b>% by Weight</b>	<b>Exposure Limits</b>
Polystyrene (General Purpose)	9003-53-6	100	Not available.

<b>Section 3. Hazards Identification</b>	
<b>Physical State and Appearance</b>	Solid. Transparent Pellets.
<b>Emergency Overview</b>	Irritating vapors to respiratory system and eyes may form when polymer is processed at high temperatures. Molten or heated material in skin contact can cause severe burns.
<b>Routes of Entry</b>	FOR HOT MATERIAL: Skin contact. Eye contact. Inhalation.
<b>Potential Acute Health Effects</b>	
<b>Eyes</b>	This product is not known to cause eye irritation. However, as with any chemical, some sensitive individuals <b>may</b> experience eye irritation upon contact.  <b>Heated Polymer:</b> eye contact can cause serious thermal burns.  Vapors formed when polymer is heated may be irritating to the eye.
<b>Skin</b>	No known acute effects of this product resulting from skin contact at room temperature.  <b>Heated Polymer:</b> skin contact can cause serious thermal burns.
<b>Inhalation</b>	Negligible hazard at room temperature. Nuisance dusts can be irritating to the upper respiratory tract. Irritating vapors may form when the polymer is processed at high temperatures.
<b>Ingestion</b>	No effects are expected for ingestion of small amounts. May be a choking hazard.

<b>Potential Chronic Health Effects</b>	<b>CARCINOGENIC EFFECTS:</b> Classified NONE by NTP, NONE by OSHA. 3 (Not classifiable for human.) by IARC. <b>MUTAGENIC EFFECTS:</b> Not available. <b>TERATOGENIC EFFECTS:</b> Not available.
<b>Medical Conditions Aggravated by Overexposure</b>	There is no known effect from chronic exposure to this product. Repeated or prolonged exposure is not known to aggravate medical condition.
<b>Overexposure /Signs/Symptoms</b>	Not available.
See Toxicological Information (Section 11)	

#### Section 4. First Aid Measures

<b>Eye Contact</b>	Rinse with water for a few minutes. Seek medical attention if necessary
<b>Skin Contact</b>	<b>Polymer:</b> NO known EFFECT on skin contact, rinse with water for few minutes. <b>Heated Polymer:</b> For serious burns from heated polymer, get medical attention. In case of skin contact, immediately immerse in or flush with clean, cold water.
<b>Inhalation</b>	Allow the victim to rest in a well ventilated area.
<b>Ingestion</b>	No First Aid procedures are needed.
<b>Notes to Physician</b>	Not available.

#### Section 5. Fire Fighting Measures

<b>Flammability of the Product</b>	May be combustible at high temperature.
<b>Auto-ignition Temperature</b>	427°C (800.6°F)
<b>Flash Points</b>	Not available.
<b>Flammable Limits</b>	Not available.
<b>Products of Combustion</b>	Carbon oxides (CO, CO <sub>2</sub> ) and soot.
<b>Fire Hazards in Presence of Various Substances</b>	No specific information is available in our database regarding the flammability of this product in presence of various materials.
<b>Explosion Hazards in Presence of Various Substances</b>	Risks of explosion of the product in presence of mechanical impact: Not expected. Risks of explosion of the product in presence of static discharge: Possible. Risk of explosion from dust accumulation of this product is possible. See MSDS section 7 Handling for more information.
<b>Fire Fighting Media and Instructions</b>	SMALL FIRE: Use DRY chemicals, CO <sub>2</sub> , water spray, halon, or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.
<b>Protective Clothing (Fire)</b>	Wear MSHA/NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.
<b>Special Remarks on Fire Hazards</b>	Fire may produce irritating gases and dense smoke. Flowing material may produce static discharge, igniting dust accumulations.
<b>Special Remarks on Explosion Hazards</b>	Processing or material handling equipment may generate dust of sufficiently small particle size, that when suspended in air may be explosive.

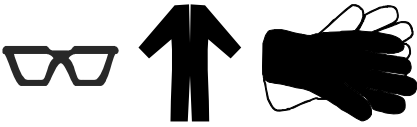
#### Section 6. Accidental Release Measures

<b>Small Spill and Leak</b>	Pellets on the floor could present a serious slipping problem. Good housekeeping must be maintained at all times to avoid this hazard. Pellets on the floor could present a serious slipping problem.
<b>Large Spill and Leak</b>	Use a shovel to put the material into a convenient waste disposal container. Do not allow any potentially contaminated water with pellets to enter any waterway, sewer or drain.

**Section 7. Handling and Storage**

<b>Handling</b>	Avoid Temperatures of 600°F (316°C) or above. Handling of plastic may form nuisance dust. Protect personnel. Pneumatic material handling and processing equipment may generate dust of sufficiently small particle size that, when suspended in air, may be explosive. Dust accumulations should be controlled through a comprehensive dust control program that includes, but is not limited to, source capture, inspection and repair of leaking equipment, routine housekeeping and employee training in hazards. See NFPA 654.
<b>Storage</b>	Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

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

<b>Engineering Controls</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
<b>Personal Protection</b>	
<b>Eyes</b>	Safety glasses.
<b>Body</b>	Coveralls.
<b>Respiratory</b>	Ventilation is normally required when handling this product at high temperatures. Wear appropriate respirator when ventilation is inadequate.
<b>Hands</b>	Thermally insulated gloves required when handling hot material.
<b>Feet</b>	Safety slip proof shoes in areas where spills or leaks can occur.
<b>Protective Clothing (Pictograms)</b>	
<b>Personal Protection in Case of a Large Spill</b>	Safety glasses. Coveralls. Gloves.
<b>Product Name</b>	<b>Exposure Limits</b>
Polystyrene	Not available.
<b>Consult local authorities for acceptable exposure limits.</b>	

**Section 9. Physical and Chemical Properties**

<b>Physical State and Appearance</b>	Solid. Transparent Pellets.	<b>Odor</b>	Odorless.
<b>Molecular Weight</b>	Not available.	<b>Taste</b>	Not available.
<b>Molecular Formula</b>	(-CH(C6H5)-CH2-)x	<b>Color</b>	Polystyrene is a colorless, transparent, glassy solid or a soft, colorless form;
<b>pH (1% Soln/Water)</b>	Not applicable.		
<b>Boiling/Condensation Point</b>	Not available.		
<b>Melting/Freezing Point</b>	>132.22°C (270°F)		
<b>Critical Temperature</b>	Not available.		
<b>Specific Gravity</b>	1.04 (Water = 1)		
<b>Vapor Pressure</b>	Not available.		
<b>Vapor Density</b>	Not available.		
<b>Volatility</b>	Negligible.		
<b>Odor Threshold</b>	Not available.		

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<b>Evaporation Rate</b>	Not available.
<b>VOC</b>	0 (%)
<b>Viscosity</b>	Not available.
<b>LogK<sub>ow</sub></b>	Not available.
<b>Ionicity (in Water)</b>	Not available.
<b>Dispersion Properties</b>	Not available.
<b>Solubility in Water</b>	Insoluble in water.
<b>Physical Chemical Comments</b>	No additional remark.

### Section 10. Stability and Reactivity

<b>Stability and Reactivity</b>	The product is stable. Avoid Temperatures of 600°F (316°C) or above.
<b>Conditions of Instability</b>	No additional remark.
<b>Incompatibility with Various Substances</b>	Reactive with strong oxidizing agents.
<b>Hazardous Decomposition Products</b>	Hazardous decomposition products are carbon monoxide, carbon dioxide, dense smoke, and various hydrocarbons. Exposure of polystyrene to extremely high temperatures (600 deg F or higher) may cause partial decomposition. Chemicals that may be released include styrene monomer, benzene, and other hydrocarbons.
<b>Hazardous Polymerization</b>	No.

### Section 11. Toxicological Information

<b>Toxicity to Animals</b>	LD50: Not available. LC50: Not available.
<b>Chronic Effects on Humans</b>	<b>CARCINOGENIC EFFECTS:</b> Classified None by NTP, None by OSHA. 3 (Not classifiable for human.) by IARC.
<b>Other Toxic Effects on Humans</b>	Not considered to be dangerous for humans according to our data base.
<b>Special Remarks on Toxicity to Animals</b>	No additional remark.
<b>Special Remarks on Chronic Effects on Humans</b>	No additional remark.
<b>Special Remarks on Other Toxic Effects on Humans</b>	No additional remark.


### Section 12. Ecological Information

<b>Ecotoxicity</b>	Not available.
<b>BOD5 and COD</b>	Not available.
<b>Biodegradable/OECD</b>	Not available.
<b>Mobility</b>	Not available. Not available.
<b>Toxicity of the Products of Biodegradation</b>	Not Available.
<b>Special Remarks on the Products of Biodegradation</b>	No additional remark.

**Section 13. Disposal Considerations**

<b>Waste Information</b>	Transfer to an approved disposal area in accordance with federal, state, and local regulations.
<b>Waste Stream</b>	Not available.
<b>Consult your local or regional authorities.</b>	

**Section 14. Transport Information (for bulk shipments, non-bulk shipments may differ)**

<b>DOT Classification for Bulk Shipments (non bulk shipments may differ)</b>	Not a DOT controlled material (United States).	
<b>DOT Proper Shipping Name</b>	Not applicable.	
<b>UN Number</b>	Not Established	
<b>Packing Group</b>	Not available.	
<b>USCG Proper Shipping Name</b>	Not Available	
<b>Marine Pollutant</b>	Not available.	
<b>Hazardous Substances Reportable Quantity</b>	Not available.	
<b>Special Provisions for Transport</b>	No additional remark.	
<b>TDG Classification</b>	Not controlled under TDG (Canada).	
<b>ADR/RID Classification</b>	Not controlled under ADR (Europe).	
<b>IMO/IMDG Classification</b>	Not controlled under IMDG.	
<b>ICAO/IATA Classification</b>	Not controlled under IATA.	

**Section 15. Regulatory Information**

<b>HCS Classification</b>	Not controlled under the HCS (United States).
<b>U.S. Federal Regulations</b>	TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory. SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: No products were found. SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.  Clean water act (CWA) 307: No products were found. Clean water act (CWA) 311: No products were found. Clean air act (CAA) 112 accidental release prevention: No products were found. Clean air act (CAA) 112 regulated flammable substances: No products were found. Clean air act (CAA) 112 regulated toxic substances: No products were found.
<b>International Regulations</b>	
<b>WHMIS (Canada)</b>	Not controlled under WHMIS (Canada). CEPA DSL: Polystyrene (General Purpose)
<b>EINECS</b>	Not available.
<b>DSCL (EEC)</b>	Not controlled under DSCL (Europe).
<b>International Lists</b>	No products were found.
<b>State Regulations</b>	No products were found.

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California prop. 65: There are no Proposition 65 chemicals present in our polystyrene resins at levels that would require a warning under the California Safe Drinking Water and Toxic Enforcement Act.

**Section 16. Other Information**

**Label requirements** Irritating vapors to respiratory system and eyes may form when polymer is processed at high temperatures. Molten or heated material in skin contact can cause severe burns.

**Hazardous Material Information System (U.S.A.)**

Health	0
Fire Hazard	1
Reactivity	0
Personal Protection	

**National Fire Protection Association (U.S.A.)**



**References** -HSDB - Hazardous Substances Data Bank  
-RTECS - Registry of Toxic Effects of Chemicals Substances

**Other Special Considerations** Acceptable business/technical terms necessary for medical device applications must be developed by contacting your TOTAL PETROCHEMICALS USA, INC. sales representative. Without such documented business terms, TOTAL PETROCHEMICALS USA, INC. makes no representations, and disclaims all warranties, express or implied, concerning biocompatibility and/or suitability of this product for medical device applications.

**Validated by Paul Bradley on 1/10/2006.**

**Verified by Paul Bradley.**

**Printed 1/10/2006.**

**Chemtrec:**  
**(800) 424-9300**  
**TOTAL PETROCHEMICALS USA, INC:**  
**(800) 322-3462**

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