



<b>Section 1. Chemical Product and Company Identification</b>			
<b>Trade name</b>	<b>TOTAL Polypropylene Copolymer</b>	<b>Code</b>	PP_COPOLYMER
<b>Supplier</b>	TOTAL PETROCHEMICALS USA, INC. P O Box 674411 Houston, Tx. 77267-4411	<b>MSDS#</b>	P90
		<b>Validation Date</b>	6/10/2009
<b>Synonym</b>	Ethylene-Propylene Copolymer  This MSDS cover prime grades of ethylene-propylene copolymer including but not limited to the follow grades: 1251, 1471, 1571, 1751 3287WZ, 3354, 3375HA, 3481Z, 3727W, and 3727WZ 4###ABC 5###ABC 6###ABC 7###ABC 8###ABC 9###ABC Z9###ABC M6###ABC M7###ABC  where # can be any number and ABC may be any combination of letters (the letters may or may not be present).  This MSDS also covers experimental grades which are copolymers including LX2 xx-xx, LX3 xx-xx, LX4 xx- xx, and LX5 xx-xx, & EOD xx-xx, and specially compounded samples labeled TOTAL PETROCHEMICALS Copolymer Polypropylene Nxxxxx and Nxxxxx-x, where x can be any number.	<b>Print Date</b>	6/10/2009
		<b>MSDS Name</b>	Polypropylene Copolymer
<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> TOTAL PETROCHEMICALS USA, INC. La Porte Research and Technology PO Box 1200 Deer Park, Tx. 77536 281-884-7500	
<b>CAS Registry Number</b>	9010-79-1		
<b>Threshold Limit Value</b>	Not available.		
<b>Manufacturer</b>	TOTAL PETROCHEMICALS USA, INC. P.O. Box 888 Deer Park, TX 77536		

<b>Section 2. Composition and Information on Ingredients</b>			
<b>Name</b>	<b>CAS #</b>	<b>% by Weight</b>	<b>Exposure Limits</b>
Polypropylene Copolymer	9010-79-1	~ 100	Not available.

**Continued on Next Page**



**Section 3. Hazards Identification**

<b>Physical State and Appearance</b>	Solid. (Solid 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>	<p><b>Eyes</b> Dust may cause mechanical irritation to eye. <b>Heated Polymer:</b> Eye contact can cause serious thermal burns. Vapors formed when polymer is heated may be irritating to the eye.</p> <p><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.</p> <p><b>Inhalation</b> Negligible 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.</p> <p><b>Ingestion</b> No effects are expected for ingestion of small amounts. May be a choking hazard.</p>
<b>Potential Chronic Health Effects</b>	<b>CARCINOGENIC EFFECTS:</b> Polypropylene is not a known carcinogen. Not listed as a carcinogen by OSHA, NTP or IARC.
<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 any medical condition.
<b>Overexposure /Signs/Symptoms</b>	No adverse health effects anticipated from the solid pellet.
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>	Not available.
<b>Flash Points</b>	>200°C (>392°F)
<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.

Continued on Next Page



<b>Fire Fighting Media and Instructions</b>	SMALL FIRE: Dry chemical extinguisher (ABC or AB). Use water spray or fog. LARGE FIRE: Use water spray or fog. Do not use water jet.  May re-ignite itself after fire is extinguished.
<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. Sweep, shovel, or vacuum material into clean containers.
<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>	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.  When handled in bulk quantities, this product and its associated packaging may present a crushing hazard due to the large masses involved, possibly resulting in severe injury or death.
<b>Storage</b>	Keep container dry. Keep container in a cool place. Ground all equipment containing material. 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 worker exposure to airborne contaminants below any recommended or statutory limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
<b>Personal Protection</b>	<p><b>Eyes</b> Safety glasses.</p> <p><b>Body</b> Coveralls.</p> <p><b>Respiratory</b> Ventilation is normally required when handling this product at high temperatures. Wear appropriate respirator when ventilation is inadequate.</p> <p><b>Hands</b> Thermally insulated gloves required when handling hot material.</p> <p><b>Feet</b> Shoes.</p>
<b>Protective Clothing (Pictograms)</b>	
<b>Personal Protection in Case of a Large Spill</b>	Safety glasses. Gloves.

Product Name	Exposure Limits
Polypropylene	Not available.

Consult local authorities for acceptable exposure limits.

Continued on Next Page



**Section 9. Physical and Chemical Properties**

<b>Physical State and Appearance</b>	Solid. (Solid pellets.)	<b>Odor</b>	Odorless.
<b>Molecular Weight</b>	Not available.	<b>Taste</b>	Not available.
<b>Molecular Formula</b>	(C3H6)x	<b>Color</b>	Translucent white pellets.
<b>pH (1% Soln/Water)</b>	Not applicable.		
<b>Boiling/Condensation Point</b>	Not available.		
<b>Melting/Freezing Point</b>	120 to 170°C (248 to 338°F)		
<b>Critical Temperature</b>	Not available.		
<b>Specific Gravity</b>	0.91 to 0.97 (Water = 1)		
<b>Vapor Pressure</b>	Not available.		
<b>Vapor Density</b>	Not available.		
<b>Volatility</b>	Negligible.		
<b>Odor Threshold</b>	Not available.		
<b>Evaporation Rate</b>	Not available.		
<b>VOC</b>	Not available.		
<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 above 300 degree C (570 F).
<b>Conditions of Instability</b>	No additional remark.
<b>Incompatibility with Various Substances</b>	Reactive or incompatible with strong oxidizing agents.
<b>Hazardous Decomposition Products</b>	Hazardous decomposition products are carbon monoxide, carbon dioxide, dense smoke, and various 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> Not listed as a carcinogen by OSHA, NTP or IARC.
<b>Other Toxic Effects on Humans</b>	Not considered to be dangerous to humans.
<b>Special Remarks on Toxicity to Animals</b>	No additional remark.

Continued on Next Page



**Special Remarks on Chronic Effects on Humans** No additional remark.

**Special Remarks on Other Toxic Effects on Humans** No additional remark.

### Section 12. Ecological Information

**Ecotoxicity** Not available.

**BOD5 and COD** Not available.

**Biodegradable/OECD** Not available.

**Mobility** Not available.

Not available.

**Toxicity of the Products of Biodegradation** Not available.

**Special Remarks on the Products of Biodegradation** No additional remark.

### Section 13. Disposal Considerations

**Waste Information** Transfer to an approved disposal area in accordance with federal, state, and local regulations.

**Waste Stream** Not available.

**Consult your local or regional authorities.**

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

**DOT Classification for Bulk Shipments (non bulk shipments may differ)** Not a DOT controlled material (United States).



**DOT Proper Shipping Name** Not applicable.

**UN Number** Not applicable.

**Packing Group** Not applicable.

**USCG Proper Shipping Name** Polypropylene

**Marine Pollutant** Not listed in Appendix B to 49CFR172.101



No label required

**Hazardous Substances Reportable Quantity** Not listed in Appendix A to 49CFR172.101

**Special Provisions for Transport** Not applicable.

**TDG Classification** Not controlled under TDG (Canada).

**ADR/RID Classification** Not controlled under ADR (Europe).

**IMO/IMDG Classification** Not controlled under IMDG.

**ICAO/IATA Classification** Not controlled under IATA.

Continued on Next Page



**Section 15. Regulatory Information**

<b>HCS Classification</b>	This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
<b>U.S. Federal Regulations</b>	<p>TSCA inventory: All components are listed or exempted.</p> <p><b>SARA 313</b></p> <p>This product contains no chemicals in excess of the applicable de minimis concentration that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 (Table 372.65).</p> <p><b>SARA 304</b></p> <p>No chemicals in this product require reporting under the requirement of 40 CFR 355, Emergency Planning And Notification (SARA extremely hazardous substances listed in Appendix A to Part 355 or CERCLA hazardous substances listed in Table 302.4 of 40 CFR Part 302).</p> <p><b>SARA 301/302/303</b></p> <p>No chemicals in this product are listed as extremely hazardous substances in 40 CFR 355, Emergency Planning And Notification (Appendix A to Part 355).</p> <p><b>SARA 311/312</b></p> <p>This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200, and as such does not require reporting under the requirements of 40 CFR 370, Hazardous Chemical Reporting: Community Right-To-Know.</p> <p>Specific state and local regulations should be consulted to determine if there are any additional requirements. Because many states and localities have added requirements or incorporated the Federal contents in their own forms, Tier I &amp; II forms should be obtained from the State Emergency Response Commission (SERC).</p> <hr/> <p>Clean water act (CWA) 307: No products were found. Clean water act (CWA) 311: No products were found.</p> <hr/> <p>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.</p>
<b>International Regulations</b>	<p><b>WHMIS (Canada)</b> Not controlled under WHMIS (Canada).</p> <p><b>CEPA Toxic substances:</b> This material is not listed. <b>Canadian ARET:</b> This material is not listed. <b>Canadian NPRI:</b> This material is not listed. <b>Alberta Designated Substances:</b> This material is not listed. <b>Ontario Designated Substances:</b> This material is not listed. <b>Quebec Designated Substances:</b> This material is not listed.</p> <p><b>EINECS</b> Not available.</p> <p><b>DSCL (EEC)</b> This product is not classified according to EU legislation.</p> <p><b>International Lists</b> <b>Australia inventory (AICS):</b> This material is listed or exempted. <b>China inventory (IECSC):</b> This material is listed or exempted. <b>Japan inventory (ENCS):</b> This material is listed or exempted. <b>Japan inventory (ISHL):</b> Not determined. <b>Korea inventory (KECI):</b> This material is listed or exempted. <b>New Zealand Inventory of Chemicals (NZIoC):</b> This material is listed or exempted. <b>Philippines inventory (PICCS):</b> This material is listed or exempted.</p>
<b>State Regulations</b>	

Continued on Next Page



**Connecticut Carcinogen Reporting:** This material is not listed.  
**Connecticut Hazardous Material Survey:** This material is not listed.  
**Florida substances:** This material is not listed.  
**Illinois Chemical Safety Act:** This material is not listed.  
**Illinois Toxic Substances Disclosure to Employee Act:** This material is not listed.  
**Louisiana Reporting:** This material is not listed.  
**Louisiana Spill:** This material is not listed.  
**Massachusetts Spill:** This material is not listed.  
**Massachusetts Substances:** This material is not listed.  
**Michigan Critical Material:** This material is not listed.  
**Minnesota Hazardous Substances:** This material is not listed.  
**New Jersey Hazardous Substances:** This material is not listed.  
**New Jersey Spill:** This material is not listed.  
**New Jersey Toxic Catastrophe Prevention Act:** This material is not listed.  
**New York Acutely Hazardous Substances:** This material is not listed.  
**New York Toxic Chemical Release Reporting:** This material is not listed.  
**Pennsylvania RTK Hazardous Substances:** This material is not listed.  
**Rhode Island Hazardous Substances:** This material is not listed.

California prop. 65: There are no Proposition 65 chemicals present in our polypropylene 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** Chemtox Database  
 Hazardous Substance Database

**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 6/10/2009.

Verified by Karen Scheel.

Printed 6/10/2009.

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

#### Notice to Reader

*To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.*

10.03

To obtain an electronic copy of this MSDS, please email: [product.stewardship@total.com](mailto:product.stewardship@total.com).

