



<b>Section 1. Chemical Product and Company Identification</b>			
<b>Trade name</b>	<b>TOTAL Polyethylene</b>	<b>Code</b>	PE_PELLETS
<b>Supplier</b>	TOTAL PETROCHEMICALS USA, INC. P O Box 674411 Houston, TX 77267-4411	<b>MSDS#</b>	P101
<b>Synonym</b>	Polyethylene  This MSDS applies to all grades of polyethylene, including but not limited to:  MS201 BN, WR201 BN, DF 210, HL 328, BM359 SG, HP401 N, HL 428, HL 525, HL 535, B5845, CD-471, CD-481, CD-522, CD-582, ER 2277, HR 515, RS 528, BM927, BM937, BM961, HDPE #####, M3302, M3410 EP, M2710 EP, D3710, D4720, CD 4300, 5###, 5202 LD, 5502BN, 5502BZ, 5502LD, 6110, 6250, 6280, 6407.#, 6410, 6420, 6450, 37120, 46060UV, 50100.#, 54050, 1285, 1288, 2280 XP, 2285, 2287, 2290, 3344N, 7194, 7195, 7208, 8183, 8208, 9458, XT-10N, where # can be any number.  It also includes any of the above named grades with the "-NA" suffix.  This MSDS also covers experimental materials, BDM1 xx-xx, BDM2 xx-xx, and specially compounded samples labeled TOTAL PETROCHEMICALS Polyethylene Nxxxxx and Nxxxxx-x, where x can be any number.	<b>Validation Date</b>	10/7/2009
<b>MSDS Name</b>	Polyethylene Pellets	<b>Print Date</b>	10/7/2009
<b>Chemical Family</b>	Polymer	<b>Responsible for Preparation</b>	Paul Bradley
<b>CAS Registry Number</b>	9002-88-4 or 25213-02-9 or 25087-34-7	<b>In Case of Emergency</b>	<b>Chemtrec:</b> (800) 424-9300 <b>TOTAL PETROCHEMICALS USA, INC:</b> (800) 322-3462
<b>Threshold Limit Value</b>	Not available.	<b>Technical Information</b>	TOTAL PETROCHEMICALS USA, INC. La Porte Research and Technology PO Box 1200 Deer Park, Tx. 77536 281-884-7500
<b>Manufacturer</b>	TOTAL PETROCHEMICALS USA, INC. P.O. Box 5010 La Porte, TX 77572-5010		

<b>Section 2. Composition and Information on Ingredients</b>			
<b>Name</b>	<b>CAS #</b>	<b>% by Weight</b>	<b>Exposure Limits</b>
Polyethylene Homopolymer or Ethylene-1-hexene Copolymer or Ethylene-1-butene Copolymer	9002-88-4  25213-02-9  25087-34-7	~100	Not available.

**Section 3. Hazards Identification**

<b>Physical State and Appearance</b>	Solid. (Solid)
<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>	
<i>Eyes</i>	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.
<i>Skin</i>	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.
<i>Inhalation</i>	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.
<i>Ingestion</i>	No effects are expected for ingestion of small amounts. May be a choking hazard.
<b>Potential Chronic Health Effects</b>	<b>CARCINOGENIC EFFECTS:</b> Polyethylene 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 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.

**Section 5. Fire Fighting Measures**

<b>Flammability of the Product</b>	May be combustible at high temperature.
<b>Auto-ignition Temperature</b>	349°C (660.2°F)
<b>Flash Points</b>	CLOSED CUP: 341°C (645.8°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.

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<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 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>	<p><i>Eyes</i> Safety glasses.</p> <p><i>Body</i> Coveralls.</p> <p><i>Respiratory</i> Ventilation is normally required when handling this product at high temperatures. Wear appropriate respirator when ventilation is inadequate.</p> <p><i>Hands</i> Thermally insulated gloves required when handling hot material.</p> <p><i>Feet</i> Shoes.</p>
<b>Protective Clothing (Pictograms)</b>	
<b>Personal Protection in Case of a Large Spill</b>	Gloves. Coveralls. Personal protective equipment

<b>Product Name</b>	<b>Exposure Limits</b>

Polyethylene Not available.  
 or  
 Ethylene-1-hexene Copolymer  
 or  
 Ethylene-1-butene Copolymer

Consult local authorities for acceptable exposure limits.

### Section 9. Physical and Chemical Properties

<b>Physical State and Appearance</b>	Solid. (Solid)	<b>Odor</b>	Odorless.
<b>Molecular Weight</b>	Not applicable.	<b>Taste</b>	Not available.
<b>Molecular Formula</b>	(-CH <sub>2</sub> -CH <sub>2</sub> -) <sub>x</sub>	<b>Color</b>	Translucent white pellets.
<b>Melting/Freezing Point</b>	126 to 136°C (258.8 to 276.8°F)		
<b>Specific Gravity</b>	0.91 to 0.97 (Water = 1)		
<b>Volatility</b>	Negligible.		
<b>Solubility in Water</b>	Insoluble in water.		

### Section 10. Stability and Reactivity

<b>Stability and Reactivity</b>	The product is stable. Avoid temperatures above 300 degree C (570 F).
<b>Incompatibility with Various Substances</b>	May react or be incompatible with oxidizing materials.
<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.



### 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.
<b>Toxicity of the Products of Biodegradation</b>	No additional information.

**Section 13. Disposal Considerations**

**Waste Information** Transfer to an approved disposal area in accordance with federal, state, and local regulations.  
**Consult your local or regional authorities.**

**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 applicable.	
<b>Packing Group</b>	Not applicable.	
<b>USCG Proper Shipping Name</b>	Not Available	
<b>Marine Pollutant</b>	Not listed in Appendix B to 49CFR172.101	 No label required
<b>Hazardous Substances Reportable Quantity</b>	Not applicable	
<b>Special Provisions for Transport</b>	Not applicable.	
<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>	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>	TSCA inventory: All the ingredients are on the TSCA list.
	<b>SARA 301/302/303</b>
	No chemicals in this product are listed as extremely hazardous substances in 40 CFR 355, Emergency Planning And Notification (Appendix A to Part 355).
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	<b>SARA 304</b>
	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).
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	<b>SARA 313</b>
	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).
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	<b>SARA 311/312</b>
	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.
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	Specific state and local regulations should be consulted to determine if there are any additional

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requirements. Because many states and localities have added requirements or incorporated the Federal contents in their own forms, Tier I & II forms should be obtained from the State Emergency Response Commission (SERC).

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.

**International Regulations**

**WHMIS (Canada)** Not controlled under WHMIS (Canada).

**CEPA Toxic substances:** This material is not listed.  
**Canadian ARET:** This material is not listed.  
**Canadian NPRI:** This material is not listed.  
**Alberta Designated Substances:** This material is not listed.  
**Ontario Designated Substances:** This material is not listed.  
**Quebec Designated Substances:** This material is not listed.

**DSCL (EEC)** This product is not classified according to EU legislation.

**International Lists**  
**Australia inventory (AICS):** This material is listed or exempted.  
**Canada inventory:** All the ingredients are on the DSL or NDSL.  
**China inventory (IECSC):** This material is listed or exempted.  
**Japan inventory (ENCS):** This material is listed or exempted.  
**Japan inventory (ISHL):** Not determined.  
**Korea inventory (KECI):** This material is listed or exempted.  
**New Zealand Inventory of Chemicals (NZIoC):** This material is listed or exempted.  
**Philippines inventory (PICCS):** This material is listed or exempted.

**State Regulations**

**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 polyethylene 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 10/7/2009.****Verified by Karen Scheel.****Printed 10/7/2009.****Chemtrec:****(800) 424-9300****TOTAL PETROCHEMICALS USA, INC.:****(800) 322-3462****Notice to Reader**

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