Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product name **Polyethylene**

In Case of Emergency **Chemtrec:**
(800) 424-9300
Total Petrochemicals & Refining USA, Inc.:
(800) 322-3462

Supplier Total Petrochemicals & Refining USA, Inc.
P O Box 674411
Houston,TX 77267-4411

Technical Information **For non-emergency** product information:
email product.stewardship@total.com

Chemical Family Polymer

MSDS# PE0016 (EN)

CAS Registry Number 9002-88-4 or
25213-02-9 or
25087-34-7

Validation Date **4/12/2013**

Print Date 4/12/2013

Synonym Polyethylene

This MSDS applies to all grades of polyethylene, including but not limited to:

MS201 BN-NA, HL 323, HL 428, HL 535, HP401 N, B5845, B5800, L425, L627, L727, CD-471, CD-481, BM 359 SG, BM961, BM962, HDPE ####, HDPE ####.#, HDPE####LD, HDPE####BZ, MDPE ####, mPE 3300, M3302, M3410 EP, M2710 EP, M3410X, D3720, D4720, CD 4300, 5###, 5335P, 5502BN, 5502BZ, 5502E, 5502LD, 6280, 6280UV, 6405, 6407.#, 6410, 6420, 6480, 37120, 46060UV, 50100.#, 54050, 1225, 1285, 1290, 2285, 2287, 3045, 3045LD, 3050, 3050BZ, 7194, 7194.#, 7195, 7208, 8183, 8208, 9260, 9458, 9658, SB1359NA, XT-10N, XT-10N.1, XT-25N, HDPE Purge ## where # can be any digit (0-9).

It also includes any of the above named grades with the "-NA" suffix.

This MSDS also covers experimental materials, BDM1 ##-##, BDM2 ##-##, and specially compounded samples labeled Polyethylene N##### and N#####-#, where # can be any digit (0-9).

Section 2. Hazards Identification

Emergency Overview 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.

Routes of Entry FOR HOT MATERIAL: Skin contact. Eye contact. Inhalation.

Potential Acute Health Effects

Eyes Dust may cause mechanical irritation to eye.
Heated Polymer: Eye contact can cause serious thermal burns. Vapors formed when polymer is heated may be irritating to the eye.

Skin No known acute effects of this product resulting from skin contact at room temperature.
Heated Polymer: skin contact can cause serious thermal burns.

Inhalation 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.

Ingestion No effects are expected for ingestion of small amounts. May be a choking hazard.

Potential Chronic Health Effects **CARCINOGENIC EFFECTS**: Polyethylene is not a known carcinogen.
Not listed as a carcinogen by OSHA, NTP or IARC.

Medical Conditions Aggravated by Overexposure There is no known effect from chronic exposure to this product. Repeated or prolonged exposure is not known to aggravate medical condition.

Overexposure /Signs/ Symptoms No adverse health effects anticipated from the solid pellet.

See Toxicological Information (Section 11)

Section 3. Composition and Information on Ingredients

Occupational exposure limits, if available, are listed in Section 8.

Substance Name	CAS #	% by Weight
Polyethylene Homopolymer or Ethylene-1-hexene Copolymer or Ethylene-1-butene Copolymer	9002-88-4 25213-02-9 25087-34-7	~ 100

Section 4. First Aid Measures

Eye Contact
Rinse with water for a few minutes. Seek medical attention if necessary.

Skin Contact
Polymer: NO known EFFECT on skin contact, rinse with water for few minutes.
Heated Polymer: For serious burns from heated polymer, get medical attention. In case of skin contact, immediately immerse in or flush with clean, cold water.

Inhalation
Allow the victim to rest in a well ventilated area.

Ingestion
No First Aid procedures are needed.

Section 5. Fire Fighting Measures

Flammability of the Product
May be combustible at high temperature.

Auto-ignition Temperature
349°C (660.2°F)

Flash Points
CLOSED CUP: 341°C (645.8°F).

Flammable Limits
Not available.

Products of Combustion
Carbon oxides (CO, CO2) and soot.

Fire Hazards in Presence of Various Substances
No specific information is available in our database regarding the flammability of this product in presence of various materials.

Explosion Hazards in Presence of Various Substances
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.

Fire Fighting Media and Instructions
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.

Protective Clothing (Fire)
Wear MSHA/NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.

Special Remarks on Fire Hazards
Fire may produce irritating gases and dense smoke.

Flowing material may produce static discharge, igniting dust accumulations.

Special Remarks on Explosion Hazards
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

Small Spill and Leak
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.

Large Spill and Leak
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

Handling

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.

Storage

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

Engineering Controls

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.

Personal Protection

Eyes Safety glasses with side shields.

Body Coveralls.

Respiratory Ventilation is normally required when handling this product at high temperatures. Wear appropriate respirator when ventilation is inadequate.

Hands Thermally insulated gloves required when handling hot material.

Feet Shoes.

Protective Clothing (Pictograms)

Personal Protection in Case of a Large Spill

Gloves. Coveralls.

Product Name	Exposure Limits
Polyethylene Homopolymer or Ethylene-1-hexene Copolymer or Ethylene-1-butene Copolymer	Not established.

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Solid. (Solid)
Color	Translucent white pellets.
Odor	Odorless.
Molecular Weight	Not applicable.
Molecular Formula	(-CH2-CH2-)x
Melting/Freezing Point	126 to 136°C (258.8 to 276.8°F)
Specific Gravity	0.91 to 0.97 (Water = 1)
Volatility	Negligible.
Solubility in Water	Insoluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable. Avoid temperatures above 300 degree C (570 F).
Conditions of Instability	No additional remark.
Incompatibility with Various Substances	May react or be incompatible with oxidizing materials.
Hazardous Decomposition Products	Hazardous decomposition products are carbon monoxide, carbon dioxide, dense smoke, and various hydrocarbons.
Hazardous Polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological Information

Toxicity to Animals	Very low toxicity to humans or animals.
Chronic Effects on Humans	**CARCINOGENIC EFFECTS:** Not listed as a carcinogen by OSHA, NTP or IARC.
Other Toxic Effects on Humans	Not considered to be dangerous to humans.

Section 12. Ecological Information

Ecotoxicity	Avoid release to the environment. This product is not expected to bioaccumulate through food chains in the environment.
Biodegradable/OECD	Not readily biodegradable. Persistent in the environment.
Mobility	Because of its physico-chemical properties, the product has a low soil mobility. This material floats on water.

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 domestic bulk shipments, non-bulk shipments may differ)*

DOT Classification for Bulk Shipments (non bulk shipments may differ)	Not a DOT controlled material (United States).
Proper Shipping Name/ Description	Not applicable.
UN Number	Not applicable.
Packing Group	Not applicable.
Marine Pollutant	Not listed in Appendix B to 49CFR172.101
Hazardous Substances Reportable Quantity	Not applicable
Special Provisions for Transport	Not applicable.
TDG Classification	Not controlled under TDG (Canada).
IMO/IMDG Classification	Not controlled under IMDG.
ICAO/IATA Classification	Not controlled under IATA.
USCG Proper Shipping Name	Not Available

Section 15. Regulatory Information

HCS Classification

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. Federal Regulations

TSCA inventory: All the ingredients are on the TSCA list.

SARA 301/302/303

No chemicals in this product are listed as extremely hazardous substances in 40 CFR 355, Emergency Planning And Notification (Appendix A to Part 355).

SARA 304

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).

SARA 313

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).

SARA 311/312

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.

International Regulations

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

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

CEPA DSL/NDSL This material is listed or exempted.

State Regulations

To the best of our knowledge, this product does not contain reportable levels of substances currently listed in regulations of any particular state in the United States.

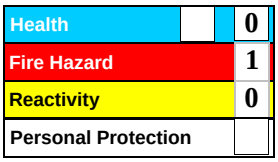
California Prop. 65: There are no Proposition 65 chemicals present in our polyethylene resins at levels that would require a warning under the California Safe Drinking Water and Toxic Enforcement Act.

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.)



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 & Refining USA, Inc. sales representative. Without such documented business terms, Total Petrochemicals & Refining USA, Inc. makes no representations and disclaims all warranties, express or implied, concerning biocompatibility and/or suitability of this product for medical device applications.

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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.

MSDS Name	Polyethylene Pellets Parent	**MSDS Code**	PE_PELLETS

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To obtain an electronic copy of this MSDS, please email: product.stewardship@total.com.