Polyethylene
Safety Data Sheet

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Section 1: Identification

1.1. Product identifier

Product form : Mixture

Product Identifier(s) : Polyethylene
This SDS applies to the following grades of polyethylene manufactured by Total Petrochemicals & Refining USA, Inc.:

HDPE 1###, HDPE 1###.1, HDPE 2###, MDPE 2###, MDPE 3###, HDPE 3###, HDPE 5###, HDPE ####LD, HDPE ####BZ, Polyethylene L###, Polyethylene L###AB;

Polyethylene, mPE, or Lumicene® mPE: 3300, BM359 SG, M2314 EP, M2320 EP, M2710 EP, M3410 EP, M3581 UV, M4041 UV, M3410X, M6410 EP, FG850, FG950;

Polyethylene: L425, L425AB, L526;

Polyethylene or HDPE: 1225, 1285, 1290, 2285, 2287, 2297, 3045, 3045LD, 3050, 3050BZ, 37120, 46060UV, 50100.#, 5202, 5302, 5335P, 54050, 5502, 5502BN, 5502BZ, 5502E, 5502GA, 5908, 5920, 6280, 6280UV, 6405, 6407.#, 6407.##, 6410, 6420, 6480, 7194, 7194.#, 7195, 7208, 8183, 8208, 9260, 9458, 9658, 9825E, B5800, B5845, BM961, BM962, CD 4300, CD-471, CD-481, D3720, D4720, EC045D, HL 428, HL 535, HP401 N, MS201 BN-NA, Purge ##, SB1359NA, XT-10N;

Polyethylene or MDPE: HL 323, 37120, L627, L727;

where # can be any numeric 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).

1.2. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Manufacture of plastic articles

1.3. Details of the supplier of the safety data sheet

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

For non-emergency product information:
Phone: 713-483-5000
Email: product.stewardship@total.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (Toll Free USA & Canada) / 703-527-3887 (Multiple languages)
Total Petrochemicals & Refining USA, Inc.: 1-800-322-3462 (Language: English only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Combustible Dust

2.2. Label elements

GHS-US labeling

Signal word (GHS-US) : **Warning**

Hazard statements (GHS-US) : **If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air**

2.3. Hazards not otherwise classified

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

2.5. Additional information

Based on conditions common to industrial workplace use of this product : Plastic bag or liner may cause a static ignition hazard.
Spilled pellets may create a slipping hazard. Sweep up spillage and dispose of properly.
Skin or eye contact with hot polymer can cause thermal burns.
Processing the polymer at high temperatures may form vapors that irritate the eyes and respiratory tract.

Section 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	CAS-No.	%
Ethylene-1-hexene Copolymer or Ethylene-1-butene Copolymer or Polyethylene Homopolymer	25213-02-9 or 25087-34-7 or 9002-88-4	99 - 100
Additives (chemical identity withheld as a trade secret)	Trade Secret	0 - 1 (Trade Secret)

Section 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If necessary seek medical advice.

First-aid measures after skin contact : Gently wash with plenty of soap and water. Heated Material: For serious burns from heated material, get medical attention. In case of skin contact, immediately immerse in or flush with clean, cold water. Do not attempt to remove adhered material from skin.

First-aid measures after eye contact : Rinse eyes with water as a precaution. Obtain medical attention if irritation persists. In case of eye contact with hot material, cool immediately with plenty of water and obtain immediate medical treatment.

First-aid measures after ingestion : Remove material from mouth. Rinse mouth out with water. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : Nuisance dusts can be irritating to the upper respiratory tract. Irritating vapors may form when the polymer is processed at high temperatures.

Symptoms/effects after skin contact : Contact with skin or eyes with hot material may cause serious thermal burns.

Symptoms/effects after eye contact : Dust from this product may cause minor eye irritation. Contact with skin or eyes with hot material may cause serious thermal burns.

Symptoms/effects after ingestion : No effects are expected for ingestion of small amounts. May be a choking hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

Section 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : For small fire: Dry chemical. Carbon dioxide. Water. For large fire: Foam. Water spray.

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the chemical

Fire hazard : May be combustible at high temperature. Vapors generated from overheating/melting/decomposition may be flammable and may cause fire/explosion if source of ignition is present.

Explosion hazard : Potential dust explosion hazard. When dust becomes airborne and is exposed to an ignition source, sufficient combustible/flammable dust may exist to burn in the open or explode if confined.

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO2). Aldehydes. Ketones. Hydrocarbons. Fire will produce dense black smoke. Soot.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Avoid raising powdered materials into airborne dust, creating an explosion hazard. Apply aqueous extinguishing media carefully to prevent frothing/steam explosion. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Other information : May re-ignite itself after fire is extinguished.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Emergency procedures for non-emergency personnel : Material creates a slipping hazard on hard surfaces. Clean up spills from walking surfaces immediately.

6.2. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Do not allow water contaminated with pellets or powder to enter any waterway, sewer or drain.

Other information : Dispose of contaminated material at an authorized site. Notify authorities if product enters sewers or public waters.

6.3. Reference to other sections

No additional information available

Section 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Do not overheat the product. Avoid contact with heated product to prevent burns.

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.

Combustible dust precautions: Handling this product may result in electrostatic accumulation. Use proper grounding procedures. Use only non-sparking tools. Avoid raising powdered material due to explosion hazard. Prevent the build-up of electrostatic charge. The plastic packaging film used to secure bags of material on pallets can also develop static electricity -- remove packaging film in an area free from ignitable vapors/dust.

Processing or material handling 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. Refer to the latest edition of the National Fire Protection Association (NFPA) 654 publication, "Standard for the Prevention of Fire and Dust Explosions in the Chemical, Dye, Pharmaceutical, and Plastics Industries", for complete discussion on dust explosion prevention and control measures.

Hygiene measures : Do not eat, drink or smoke when using this product. Keep away from food and drink. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment. Electrostatic charges may be generated when emptying sacks. It is recommended that sacks are emptied away from explosive atmospheres.

Storage conditions : Store at room temperature. Protect from heat and direct sunlight. Store in dry, cool, well-ventilated area.

Incompatible materials : Strong oxidizing agents.

Section 8: Exposure controls/personal protection

8.1. Occupational Exposure Limits

The following constituents are the only constituents of the product which have a PEL, TLV, or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Polyethylene		
USA ACGIH	ACGIH TWA (mg/m³)	10 mg/m³ (Inhalable fraction) 3 mg/m³ (Respirable Particles)
USA ACGIH	Remark (ACGIH)	Particulates, not otherwise classified
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³ Respirable fraction
USA OSHA	Remark (OSHA)	Note: OSHA Total Dust 15 mg/m³

8.2. Exposure controls

Appropriate engineering controls : Provide readily accessible eye wash stations and safety showers. Ensure adequate ventilation. If handling results in dust generation or high temperatures, local exhaust ventilation should be provided to insure that exposure to dust or decomposition products does not exceed the exposure recommended levels.

Hand protection	:	Use insulated gloves when handling this material hot.
Respiratory protection	:	In case of insufficient ventilation, wear suitable respiratory equipment.
Other information	:	In case of risk of overexposure to dust, vapour or fumes (during product processing), it is recommended that a local exhaust system is placed above the conversion equipment (a fume hood) and the working area must be properly ventilated.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Pellets.
Color	:	No data available
Odor	:	No data available
Odor threshold	:	No data available
pH	:	Not applicable
Relative evaporation rate (butyl acetate=1)	:	Negligible.
Melting point	:	126 - 136 °C
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	0.91 - 0.97
Solubility	:	Water: Negligible.
Log Kow	:	No data available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available

9.2. Other information

No additional information available

Section 10: Stability and reactivity

10.1. Reactivity

Flowing product can create electrical charge, resulting sparks may ignite dust or cause an explosion in some concentration ranges.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

Dust may form explosive mixture in air.

10.4. Conditions to avoid

Avoid dust formation. Avoid the build-up of electrostatic charge. Heat. Open flame. Sparks. Direct sunlight.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: carbon monoxide, carbon dioxide, toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure	:	Inhalation. Ingestion. Skin and eye contact.
Acute toxicity	:	Not classified

Polyethylene (25213-02-9 or 25087-34-7 or 9002-88-4)	
LD50 oral rat	> 8000 mg/kg Based on homopolymer polyethylene

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Polyethylene (25213-02-9 or 25087-34-7 or 9002-88-4)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Section 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

Polyethylene	
Persistence and degradability	This material is persistent in the environment. Not readily biodegradable.
BOD (% of ThOD)	Below detection limit

12.3. Bioaccumulative potential

Polyethylene	
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

Section 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form . Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Transfer to a safe disposal area in accordance with federal, state, and local regulations.

Product/Packaging disposal recommendations : Recycle the material as far as possible.

Additional information : May be used as fuel in suitably designed installations.

Section 14: Transport information

US Transport (DOT) for Bulk Shipments (Non-Bulk Shipments May Differ)

Not regulated by US DOT

Transport by sea (IMDG)

Not regulated by IMDG

Air transport (IATA)

Not regulated by IATA

Section 15: Regulatory information

15.1. US Federal regulations

EPA TSCA Status

All components of this product are listed or exempt from listing on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

SARA Section 313 Supplier Notification
This product contains no toxic 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.

SARA Section 311/312 Hazard Classes Fire hazard

Export Control Classification Number (ECCN): EAR99 (No License Required)

15.2. International regulations

CANADA

Polyethylene
WHMIS Classification This product is not regulated according to WHMIS classification criteria

National inventories

No additional information available

15.3. US State regulations

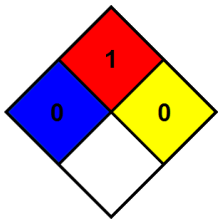
California Proposition 65 - To the best of our knowledge, there are no Proposition 65 chemicals present in this product at levels that would require warning under the California Safe Drinking Water and Toxic Enforcement Act.

Section 16: Other information

Other information : Unless agreed to in a separate written agreement with the Customer, Total Petrochemicals & Refining USA, Inc. makes no representations and disclaims all warranties, express or implied, with respect to biocompatibility and/or the suitability of this product for medical device applications including : (i) implantable devices intended for human or animal body, (ii) devices intended to be used in contact with internal body fluids, and (iii) devices intended to be used in contact with internal body tissues. If the Customer intends to use this product for any such application, it must first contact Total Petrochemicals & Refining USA, Inc. and establish agreed terms and conditions for such use.

NFPA (National Fire Protection Association)

NFPA health hazard : 0
NFPA fire hazard : 1
NFPA reactivity : 0



Hazard Rating

Health : 0
Flammability : 1
Physical Hazard : 0
Personal protection : See section 8 of SDS

US OSHA LABEL as specified under 29 CFR §1910.1200 (f)

Polyethylene

Total Petrochemicals & Refining USA, Inc.
PO Box 674411
Houston, TX 77267-4411 USA
Tel. 713-483-5000

Warning

If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air

Supplemental Information: Based on conditions common to industrial workplace use of this product

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Version : 2.1
Date of issue : November 27, 2017

MSDS ID: PE_PELLETS
SDS REFERENCE NUMBER: PE0016

SDS Template - TOTAL SDS US (GHS HazCom 2012) TPRI Version 5.01