

SAFETY DATA SHEET

Section 1: Identification

Product Name: Rotolene Products

Product Identifier: Linear medium density Polyethylene with U.V. stabilizers.

Producer: Polímeros Mexicanos S.A. de C. V.

Address: Monte alto No. 10 y 21 Parque Ind. Izcalli, Netzahualcóyotl, Estado de México.

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Applications (Recommended use): High quality Polyethylene recommended for general purpose applications of Rotomolding processes. Frequently used for water tanks and small to medium size containers exhibiting very good mechanical properties. When used for inner layers, it provides excellent smooth finish and texture.

Section 2: Hazard(s) Identification

Primary entrance Routes: Eyes, skin contact.

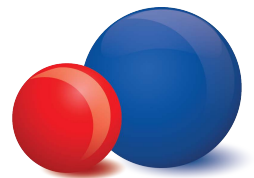
Potential effects on health and overexposure symptoms.

No risk at environmental temperature at normal use.

Ingestion: Very low toxicity orally. Not expected harmful effects by ingestion at low quantities. Can cause obstruction on ingestion cases.

Inhalation:

Is not probable that an only powder exposition can cause adverse effects. Steam / Smoke released during the term process, can cause respiratory irritation.



Skin contact:

Is not skin harmful; only mechanical damage. When the material is melted, can cause burns.

Eye contact:

Solid particles cause transient irritation as a result of mechanic abrasion.

Gases from the process can cause irritation. The effects include discomfort and redness.

Aggravated medical conditions by overexposure: Not expected

Carcinogenicity: NTP: No IARC: No OSHA: No

Additional medical information:

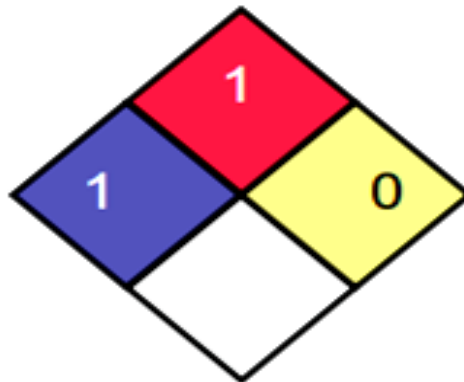
Polyethylene is generally accepted as biologically inert. There are not required specific antidotes treatments and symptomatic support. Unknown retard effects by simple exposure.

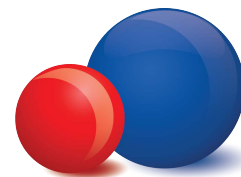
When material is processed at higher temperatures, can generate carbon monoxide, formaldehydes and acrolehydes.

Irritation with acrolehydes offers a good advice about excessive exposure.

Is not a carcinogenic agent.

Rhombus Security:





Section 3: Composition/Information on Ingredients

Chemical Name: Linear medium density Poliethylene with U.V. stabilizers.

Chemical Family: Polyolefins

Chemical Name: Ethylene Polimer or Copolymers

CAS Number: 25213-02-9

Formula: $(C_2H_4)_n + (C_6H_{12})_x$

Synonymous: Do not apply

Material	Percentage (%)	OSHA PEL
Polyethylene	> 99%	Not established
1- Hexene	< 1 %	Not established
U.V. stabilizers.	<< 1 %	Not established

Section 4: First-Aid Measures

Eye contact:

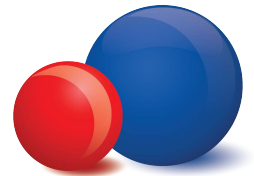
Wash eyes thoroughly with water for a few minutes. Take out contact lenses after the first 2 minutes and keep washing for other more minutes. If there are effects, consult a doctor, preferably an ophthalmologist.

Skin contact:

If melted material contacts skin, do not apply ice, but chill with freeze water or water jet. Do not try to separate material from skin. The removal can allow serious tissue damage. Get immediate medical attention.

Inhalation:

Get out from the exposure product area. If there any effect, call a doctor.



Ingestion:

If there is ingested, call a doctor. Can cause gastrointestinal blocking. Do not administrate laxants. Do not induce vomiting when there is not medical supervision.

Spills:

Collect immediately and deposit as a non risk waste.

Section 5: Fire-Fighting Measures

Flash Point: Do not apply

Flamability limit (On air LEL, %): Do not apply

Auto ignition Temperature: Do not apply

(UEL, %): Do not apply

Extinguishing media:

Extinguish fire with mist or pulverized water, foams or chemical powder extinguishers. Do not throw directly water jet.

Firemen must outfit positive pressure SCBA (self contained breathing apparatus) and fire protection equipments. If this fire protection equipment is not available or is not used, extinguish fire since a protect point from a security distance.

Fire and Explosion Unusual risks:

Pneumatic transport and other mechanic maintenance operations can generate combustible powder. Do not aloud powder accumulation to reduce potential powder explosions. This product releases very dense smoke when is incinerated with enough oxygen.

Section 6: Accidental Release Measures

Spills and leaks procedures:

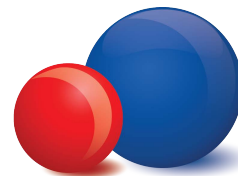
Sweep or vacuum immediately and recycle if is possible.

Individual precautions:

Spill product could bring risk because of sweeping floor. Use appropriate security equipment.

Waste deposit method:

Wastes must be deposit according federal, state and local environmental regulation laws.



Section 7: Handling and Storage

General handling: Do not smoke, do not have open flames or ignition sources in handling and storage areas. Secure product handling requires dust control, cleaning and order. Avoid process smoke inhalation. Workers must be protect against pulverized resin contact. Do not aloud that melting product contacts eyes, skin or clothes. Pneumatic transport and other mechanical handling operations can generate combustible dust. To reduce potential dust explosion risk, isolate and ground electrical equipment and avoid dust accumulation. Dust can burn by a static discharge.

Non appropriate material:

Mild steel

Appropriate material:

Stainless steel, aluminum and polyethylene.

Storage:

Storage avoiding solar rays contact above all by long storage periods.

Section 8: Exposure Controls/Personal Protection

Hygienic handling procedures:

Ingestion:

Do not eat, drink or smoke near working area. Wash hands before eat, drink or use bathrooms.

Eyes protection:

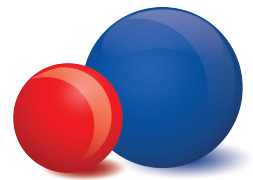
Use appropriate protection lenses.

Skin protection:

Gloves selection depends on work. Use gloves to protect against mechanical injuries. Use thermal isolated gloves when hot polymer is handled.

Respiratory Protection:

Non required at normal use of the product. Use air purifiers in dusty atmospheres, if these exist.



Engineering controls:

General ventilation is enough for the most of the operations. Can be necessary local ventilation in some operations. If the material handling results in a dust generation, special ventilation could be need to assure that dust exposure do not exceed OSHA PEL for “boder” dust.

Exposure guides:

No.	Components	OSHA-PEL	ACGIH-TLV
P	Polyethylene Copolimer	Non	Non

Section 9: Physical and Chemical Properties

Appearance (Physical State): Powder in natural and several colors compounds.

Flamability limit (On air LEL, %): Do not apply

Auto ignition Temperature: Do not apply

Odor: None.

Vapor pressure: Do not apply

Odor threshold: Do not apply

Vapor density: Do not apply (Air = 1)

pH: Do not apply.

Relative Density: Do not apply.

Density: 0.930- 0.947 g/ cm³

Melting point: 250 – 300 °F

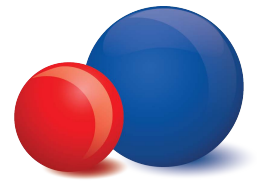
Freezing Point: Do not apply

Solubility in water: Insoluble

Boiling Point: Do not apply

Flash Point: Do not apply

Issue date: July,2015
Cancel: July, 2014



ROTO POLYMERS
BEST ROTOMOLDING COMPOUNDS

Evaporation Index: Do not apply (Butyl Acetate =1)

Decomposition point: Starts @ 570°F

Volatility percentage per volume: Do not apply

Melt Flow Index: 2.0 to 7.5 gr/ 10 min

Molecular weight: Do not apply

Section 10: Stability and Reactivity

Estability: Stable

Avoiding conditions: The material could react with strong oxidant agents, as can be chlorates, nitrates, peroxides, etc.

Risky polimerization: Do not occurs

Incompatibility: Non, unknown

Product decomposition: The decomposition products depends on temperature, air supply and the presence of other materials. Combustion generates carbon oxides. Polymer fragments can be released at temperatures upper melting point. When material is processed at higher temperatures, can generate carbon dioxide and monoxide, formaldehydes and acrolehydes.

Irritation with acrolehydes offers a good advice about excessive exposure.

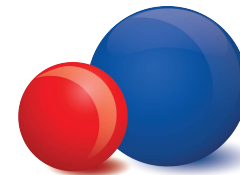
Section 11: Toxicological Information

Acute toxicity:

Ingestion: Estimated LD50, Rat >5.000mg/kg

Skin absortion: Estimated LD50, Rabbit > 2.000 mg/kg

Repeated Dose Toxicity: Additives are encapsulated in the product and there is not expected to be released in normal procces conditions or predictable emergencies.
All Polyethylene grades accomplish FDA, as well as the additives.



Section 12: Ecological Information

Chemical destiny:

Movement and distribution: There is not provided bioconcentration because of it elevated molecular weight (MW>1000). In the terrestrial environment, is expected that the material stays on the ground. In the aquatic environment, is expected to float.

Persistence and Degradability: Is expected that the water insoluble polymer be inert in the environment. By light exposition, is expected a surface photodegradation. It is not expected an appreciate biodegradation.

Ecotoxicity: It is not expected that cause acute toxic effects, but pellets can cause mechanically adverse effects if there are ingested by birds or aquatic organisms.

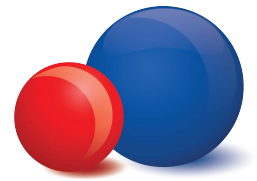
Section 13: Disposal Considerations

Disposal method:

Do not send throw sewage, or soil to any water current. Every spill practices must accomplish Federal, state, provincial and local laws and regulations. Regulations can vary by locations. For non used products or non contaminated, prefer options include delivery to an appropriate an authorized place: Recycler, recovered, burner or other thermic destruction media or dump.

Section 14: Transport Information

Shipment name DOT:	Not listed
Label DOT:	Not regulated
Hazard class DOT:	Not applicable
UN/NA Number:	Not applicable
Hazard plaque:	Not applicable
Packaging group:	Not applicable
Bulk packaging:	Not applicable
RQ:	Not applicable
Emergency response guide: (ERG) No.:	Not applicable



National and International regulations

Terrestrial transport (US DOT): Hazard products transport regulations in Latin America-North region (Colombia, México and Venezuela) respect the US DOT regulation.

TERRESTRIAL TRANSPORT – LATIN AMERICA NORTH REGION

In accordance with regulations of the Latin America North region, it is not classified as hazardous according laws and normativities from the following countries: Colombia- Technical standards from Colombia- Order 1609 of 31/7/2002, México – Mexican official Standards(Normas Oficiales Mexicanas)- NOMs 003-SCT/2000, 002-SCT2, 005-SCT, 010-SCT2, 054-ECOL, 087, ECOL, Venezuela – Transports Law and regulation – January 2002.

Road and rail (Packaging): Not regulated

Road and rail (Bulk): Not regulated

Sea Transport-IMDG: Not Regulated

Air transport – ICAO/IATA: Not regulated

Section 15: Regulatory Information

OSHA Status: This product is not a “Hazardous Chemical Product” according OSHA 29, CFR 1910.1200.

Clean air act EPA Status: Non

Clean water act EPA Status: Non

TSCA Status: Listed on the Inventory TSCA (40 CFR 720.30)

CERCLA RQ: Non

SARA Title III

Polyethylene

Section 302

Non

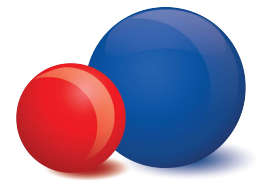
Section 313

Non

Section 311/312

Non

Issue date: July,2015
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ROTO POLYMERS
BEST ROTOMOLDING COMPOUNDS

Section 16: Other Information

Hazard classification system

NFPA

Fire -1
Health - 0
Reactivity – 0
Specific risk – 0

HMIS

Health -0
Flammability –0
Reactivity - 0
Personal protection Index -E

LEGENDS:

N/A = Not Available

OEL = Occupational Exposition Limit

STEL = Short Term Exposition Limit

TWA = Time-Weighted Average

ACGIH = American Conference of Governmental Industrial Hygienists, Inc.

This information is provided without expressed or implicit warranty. The information in this sheet is related only with the specific material named on the same sheet. If the product is used as a component from other information, then does not apply.

Polímeros Mexicanos S.A. de C.V. do not assume any responsibility in any sense with the handling, storage or product deposit.