

# SAFETY DATA SHEET

SECTION 1 IDENTIFICATION

**Product identifier:** Osterlene® Polyethylene - Not Colored (All Grades)

Recommended use and restriction on use

Recommended use: Thermoplastic resin extruded into film, sheet or pipe, or molded into containers and other shapes.

Restrictions on use: All uses other than the identified.

24 Hour Emergency Phone Number: For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident

Call CHEMTREC Day or Night

+1 703-741-5970 / 1-800-424-9300 CCN832141

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#### SECTION 2 HAZARD(S) IDENTIFICATION

#### **Hazard Classification**

OSHA hazard(s)

Combustible dust

# **Label Elements**

Hazard Symbol: No symbol Signal Word: Warning

Hazard Statement: May form combustible dust concentrations in air.

#### **Precautionary State**ments

#### Prevention:

- Keep Out of Reach of Children.
- Keep away from uncontrolled heat and incompatible materials.
- Ground all material handling and transfer equipment.
- Wash hands thoroughly after handling.
- Prevent dust accumulation to minimize explosion hazard.
- Use in a well-ventilated area.
- Avoid release to the environment water.
- Wear eye protection/protective gloves as needed/wear full face-shield during thermal processing if contact with molten material is possible/wear respirator if dusty.

#### Response

- IF SWALLOWED: Do NOT induce vomiting. Get medical advice/attention.
- IF ON SKIN: Wash with plenty of water and soap. If skin irritation occurs: Get medical advice/attention.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention.
- IF IN EYES: flush eyes with water. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage: Store in accordance with all current regulations and standards. Protect from sunlight.

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<u>Disposal</u>: Dispose of contents/container in accordance with local/regional/national/ international regulations. Refer to manufacturer or supplier for information on recovery or recycling.

Other hazards which do not result in GHS classification: Spilled product may create a dangerous slipping hazard.

#### SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

#### **Mixtures**

Composition Comments: The components are not hazardous or are below required disclosure limits.

SECTION 4	FIRST AID MEASURES
Ingestion:	Product is not expected to be absorbed from the gastrointestinal tract. DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. Seek immediate medical attention.
Inhalation:	Move affected individual to non-contaminated air. Loosen tight clothing such as a collar, tie, belt or waistband to facilitate breathing. Seek immediate medical attention if the individual is not breathing, is unconscious or if any other symptoms persist. Inhalation of smoke following a fire may result in delayed pulmonary edema; seek immediate medical attention.
Skin Contact:	Remove dusty or contaminated clothing and shoes. Wash affected area with soap and water. Seek medical attention if symptoms develop or persist. In case of contact with molten product, cool rapidly with water and seek immediate medical attention. Do not attempt to remove molten product, or molten product that has cooled, from skin without medical assistance.
Eye Contact:	Remove contact lenses, if it can be done safely. Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention if symptoms develop or persist.

#### More important symptoms/effects, acute and delayed

Symptoms:

Eye/skin contact with hot or molten material may cause severe injury, including possible blindness/thermal burns. Ingestion may produce mild gastrointestinal irritation and disturbances. Thermal processing fumes may cause irritation, pulmonary edema and a possible asthma-like response.

#### Indication of immediate medical attention and special treatment needed

Treatment:

After adequate first aid, no further treatment is necessary, unless symptoms reappear. Burns should be treated as thermal burns. Molten resin will come off as healing occurs; therefore, immediate removal from the skin is not necessary. Treatment should be directed at the control of symptoms and the clinical condition of the patient. Ingested material should pass through the digestive system without injury.

#### SECTION 5 FIRE-FIGHTING MEASURES

General Fire Hazards: Solid resins support combustion but do not meet combustible definition. Product will burn at high

temperatures but is not considered flammable. Under fire conditions, product will readily burn and emit irritating

smoke. A high concentration of airborne powders or dust may form an explosive mixture with air.

# Suitable (and unsuitable) extinguishing media

Suitable extinguishing

media: Water fog or water spray. In the case of small fires, dry chemical or carbon dioxide or foam can be used.

Unsuitable extinguishing

media: Avoid high pressure, direct water stream that may spread molten or burning resins.

Specific hazards arising

from the chemical: Upon heating, polyethylene may emit various oligomers, waxes and oxygenated hydrocarbons as well as

carbon dioxide, carbon monoxide and small amounts of other organic vapors (e.g. aldehydes, acrolein). Inhalation of these decomposition products may be hazardous. Accumulated fine dusts may form an explosive mixture with air. Risk of dust-air explosion is increased if flammable vapors are also present. May accumulate hazardous static charge.

#### Special protective equipment and precautions for firefighters

Special firefighting procedures:

Position upwind. Keep unnecessary personnel away. Move containers from fire area if you can do so without risk. Fight fire from maximum distance or use unmanned holders or monitor nozzles. Apply extinguishing media carefully to avoid creating airborne dust. Flood with water. Avoid inhaling any smoke and combustion materials. Remove and clean or destroy any contaminated clothing. Cool containers with flooding quantities of water until well after the fire is out. Control runoff waters to prevent entry into sewers, drains, ditches, underground or confines spaces and waterways.

Special protective equipment for fire-fighters:

Fire fighters should wear full-face, self-contained breathing apparatus and thermal protective clothing.

#### SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary personnel away. Alert stand-by emergency and firefighting

Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

Methods and material for containment and cleaning up:

Stop leak, isolate and contain spill. Prevent entry into sewers, drains, ditches, underground or confined spaces, water intakes and waterways. Spilled product may create a dangerous slipping hazard. Use appropriate tools to put the spilled solid in an appropriate disposal or recovery container. Reuse or recycle where possible.

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Do not get water on spilled substance or inside containers. Do not touch or walk through spilled material. Contact local police/emergency services. Ensure that statutory and regulatory reporting requirements in the applicable jurisdiction are met. Wear appropriate protective equipment and clothing during cleanup. Individuals without appropriate protective equipment should be excluded from area of spill until cleanup has been completed.

# SECTION 7 HANDLING AND STORAGE

Precautions for safe handling:

Handle in contained and properly designed equipment systems. Use with adequate ventilation. Avoid ingestion and inhalation. Keep away from uncontrolled heat and incompatible materials. Ground all material handling and transfer equipment to dissipate build-up of static electricity. Keep handling areas free of loose pellets, powders and dust build-up. Every effort should be made to prevent the accumulation of powders or fine dusts around material handling systems. Accumulated powders or fine dusts may form explosive air-dust mixtures.

Conditions for safe storage, including any incompatibilities:

Storage area should be clearly identified, well illuminated, clear of obstruction and accessible only to trained and authorized personnel. Store in closed, grounded and properly designed vessels, away from uncontrolled heat and incompatible materials. Outdoor storage of product in bags requires protection from ultra-violet sunlight by use of a UV stabilized bag or alternate means.

Avoid accumulation of dust by frequent cleaning and suitable construction of storage and handling areas. Keep shovels and vacuum systems readily available for cleanup of loose material. DO NOT enter filled bulk containers and attempt to walk over product, due to risk of slipping and possible suffocation. Use a fall arrest system when working near open bulk containers.

# **Control Parameters**

#### **Occupational Exposure Limits**

During dusty conditions ACGIH recommends for Particles (insoluble or poorly soluble) not otherwise specified a TWA of 10 mg/m3 (inhalable particles), 3 mg/m3 TWA (respirable particles); OSHA recommends for Nuisance particulates a TWA of 15 mg/m3 (total dust), 5 mg/m3 TWA (respirable fraction).

#### **Appropriate Engineering Controls:**

Engineering methods to reduce hazardous exposure are preferred controls. Methods include mechanical ventilation (dilution and local exhaust) process or personal enclosure, remote and automated operation, control of process conditions, leak detection and repair systems, and other process modifications. Ensure all exhaust ventilation systems are discharged to outdoors, away from air intakes and ignition sources. Supply sufficient replacement air to make up for air removed by exhaust systems. Administrative (procedure) controls and use of personal protective equipment may also be required.

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Use only appropriately classified electrical equipment and powered industrial trucks.

#### Individual protection measures, such as personal protective equipment

General Information: Personal protective equipment (PPE) should not be considered a long-term solution to

exposure control. Employer programs to properly select, fit, maintain, and train employees to use equipment must accompany PPE. Consult a competent industrial hygiene resource, the PPE manufacturer's recommendation, and/or applicable regulations to determine hazard potential

and ensure adequate protection.

**Eye/face protection:** Wear safety glasses during normal handling. Wear full-face shield during thermal processing if

contact with molten material is likely.

**Skin protection/Hand protection:** Wear thermal insulating gloves.

Other: Wear protective clothing (such as long sleeved shirts and long pants) whenever molten material

is present. Safety footwear with good traction is recommended to help prevent slipping. Static

Dissipative (SD) rated footwear is also recommended.

Respiratory Protection: If engineering controls and ventilation are not sufficient to prevent buildup of aerosols, vapors

or dusts, appropriate NIOSH approved air-purifying respirators or self-contained breathing apparatus (SCBA) appropriate for exposure potential should be used. Air-supplied breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations

exceed the limits of the air-purifying respirators.

**Hygiene measures:** Use effective control measures and PPE to maintain worker exposure to concentrations that

are below these limits. Ensure that eyewash stations and safety showers are in close proximity

to work locations.

#### SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** 

Physical State:SolidForm:Pellets

Color: Translucent to white.

Odor: Minimal, sweet.

Odor Threshold: No data available.

pH: Not applicable.

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Melting point/freezing point: Melting Point: Range: 105°C to 135°C (221°F to 275°F).

Softening Point: Range: 85°C to 127°C (185° F to 261°F).

Initial boiling point and boiling range:Not applicable.Flash Point:Not applicable.Evaporation Rate:Not applicable.

Flammability (solid, gas): See Section 5. May form combustible dust concentrations in air.

Upper/lower limit on flammability limits

Flammability limit – upper (%):

Flammability limit – lower (%):

Vapor pressure:

Vapor density:

Relative density:

Not applicable.

Not applicable.

Not applicable.

Range: 0.905 to 0.966

Solubility(ies)

Solubility in water: Insoluble.
Solubility (other): No data av

Solubility (other): No data available.

Partition coefficient (n-octanol /water): Not applicable.

Auto-ignition temperature: Range: 330°C to 410° C (626°F to 770° F)

**Decomposition temperature:** Varies; >300°C (>572° F)

Viscosity: Not applicable.

#### SECTION 10 STABILITY AND REACTIVITY

**Reactivity:** Contact with incompatible materials. Sources of ignition. Exposure to heat.

**Chemical Stability:** This product is stable under normal use conditions for shock, vibration, pressure, or

temperature.

Possibility of Hazardous Reactions: Hazardous polymerization not likely to occur.

**Conditions to Avoid:** Avoid strong oxidizing agents. Avoid processing material over 300°C (572°F).

Incompatible Materials: May react with strong oxidizing agents. Organic solvents, ether, gasoline, lubricating oils,

chlorinated hydrocarbons and aromatic hydrocarbons may react with and degrade polyethylene. Powders or dusts may form an explosive mixture with air. Risk of dust-air

explosion is increased if flammable vapors are also present.

Hazardous Decomposition Products: Upon heating, polyethylene may emit various oligomers, waxes and oxygenated

hydrocarbons as well as carbon dioxide, carbon monoxide and small amounts of other organic vapors (e.g. aldehydes, acrolein). Inhalation of these decomposition products may

be hazardous.

### SECTION 11 TOXICOLOGICAL INFORMATION

# Information on likely routes of exposure

**Ingestion:** Product is not expected to be absorbed from the gastrointestinal tract.

**Inhalation:** During processing, thermal fumes and inhalation of fine particles may

cause respiratory irritation.

**Skin Contact:** During processing, contact with powder or fines may cause mechanical

irritation. Contact with hot or molten product may cause burns.

**Eye Contact:** During processing, contact with powder or fines may cause mechanical

irritation. Contact with hot or molten product may cause severe injury.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion may produce mild gastrointestinal irritation and disturbances. Ingestion:

Inhalation: Inhalation of fine particles may cause respiratory irritation. Thermal

processing fumes may cause irritation, pulmonary edema and a possible

asthma-like response.

**Skin Contact:** Contact with fines may cause mechanical irritation, which is increased by

rubbing or if skin is dry. Contact with hot or molten product may cause

severe thermal burns.

No carcinogenic components identified

No carcinogenic components identified

Eye contact: Contact with fines may cause mechanical irritation. Contact with hot or

molten product may cause severe injury, including possible blindness.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

**Oral Product:** No data available. **Dermal Product:** No data available. **Inhalation Product:** No data available. Repeated dose toxicity product: No data available. Skin Corrosion/Irritation Product: No data available. Serious Eye Damage/Eye Irritation Product: No data available. **Respiratory or Skin Sensitization Product:** No data available. No data available. **Carcinogenicity Product:** 

IARC Monographs on the Evaluation of Carcinogenic

**Risks to Humans:** 

U.S. National Toxicology Program (NTP) Report on

Carcinogens:

U.S. OSHA Specifically Regulated Substances (29 CFR

1910.1001-1050):

Germ Cell Mutagenicity

No carcinogenic components identified

In vitro Product: There are no known or reported genetic effects. In vivo Product: There are no known or reported genetic effects. **Reproductive toxicity Product:** There are no known or reported reproductive effects.

No data available.

Specific Target Organ Toxicity - Single Exposure Product:

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

**Aspiration Hazard Product:** No data available. Other effects: No data available.

#### **SECTION 12 ECOLOGICAL INFORMATION**

#### **Ecotoxicity**:

#### Acute hazards to the aquatic environment:

**Fish Product:** No data available. **Aquatic Invertebrates Product:** No data available. **Toxicity to Aquatic Plants Product:** No data available.

### Chronic hazards to the aquatic environment:

**Fish Product:** No data available. **Aquatic Invertebrates Product:** No data available. **Toxicity to Aquatic Plants Product:** No data available.

# Persistence and Degradability

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**Biodegradation Product:** Product does not readily degrade. Under optimal oxidation conditions, >99% of

polyethylene will remain intact after exposure to microbial actions. Product will slowly change (embrittle) in the presence of sunlight, but will not fully breakdown. Product buried in landfill has been found to be stable over time. No toxic degradation products

are known to be produced.

BOD/COD Ratio Product: No data available.

**Bioaccumulative Potential** 

Bioconcentration Factor (BCF) Product: Pellets may accumulate in the digestive systems of birds and aquatic life, causing injury

and possible death due to starvation.

Partition Coefficient n-octanol/ water

(log Kow) Product:

No data available.

**Mobility in Soil:** If released into watercourses, most polyethylene pellets float. Pellets are persistent in

aquatic and terrestrial systems. Product should be recovered from water and land

following spills. This product has not been found to migrate through soils.

Other Adverse Effects: Polyethylene is an essentially biologically inert solid and considered non-toxic to the

aquatic environment. It is stable (does not decompose) in landfills or in aquatic systems.

#### SECTION 13 DISPOSAL CONSIDERATIONS

General Information: This product is not known to contain or generate hazardous wastes according to US

regulations. The use, mixing or processing of this product with other materials may alter its properties or hazards. Waste generator is advised to carefully consider hazardous properties and control measures needed for other materials that may be found in the waste. No EPA Waste Numbers are applicable for this product's components.

**Disposal instructions:** Check federal, state and local environmental regulations prior to disposal. Preferred

disposal methods for polyethylene in order of preference are: 1) clean and reuse if possible, 2) recover and resell through plastic recyclers or resin brokers, 3) incinerate with waste heat recovery and 4) landfill. Reuse, recycling, storing, transportation and disposal must be in accordance with applicable federal, provincial/state and local regulations. DO NOT ATTEMPT TO DISPOSE OF BY UNCONTROLLED INCINERATION. Open

burning of plastics at landfills should not be undertaken.

Contaminated Packaging: Check federal, state and local environmental regulations prior to disposal.

SECTION 14 TRANSPORT INFORMATION

**DOT** Not regulated.

IMDG/IATA/ICAO Not regulated.

# SECTION 15 REGULATORY INFORMATION

### **U.S. Federal Regulations**

TSCA Section 12(b) Export Notification

(40 CFR 707, Subpt. D):

None present or none present in regulated quantities.

U.S. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

None present or none present in regulated quantities.

**CERCLA Hazardous Substance List** 

(40 CFR 302.4):

None present or none present in regulated quantities.

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#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories: Not listed.

**SARA 302 Extremely Hazardous** 

Substance:

None present or none present in regulated quantities.

SARA 304 Emergency Release

**Notification:** 

None present or none present in regulated quantities.

SARA 311/312 Hazardous

None present or none present in regulated quantities.

Chemical:

SARA 313 (TRI Reporting): None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous

Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention

(40 CFR 68.130):

None present or none present in regulated quantities.

**U.S. State Regulations** 

**U.S. California Proposition 65:**No ingredient regulated by CA Prop 65 present.

U.S. New Jersey Worker and Community Right-to-Know Act:

No ingredient regulated by NJ Right-to-Know Law present.

U.S. Pennsylvania RTK - Hazardous

**Substances:** 

No ingredient regulated by PA Right-to-Know Law present.

**Inventory Status** 

Canada DSL Inventory List:

On or in compliance with the inventory.

U.S. TSCA Inventory:

On or in compliance with the inventory.

# SECTION 16 OTHER INFORMATION

**Further Information:** 

Exposure to the Hazardous Combustion and Decomposition Products as described in the SDS, Sections 5 and 10, may be linked with various acute and chronic health effects. These effects include irritation of eyes and upper respiratory tract primarily from the aldehydes, breathing difficulties, systemic toxicity such as liver, kidney, and central nervous system effects.

Osterman & Company's supply partners have monitored worker exposures to emissions during commercial-scale processing of polyethylene. Concentrations of hazardous decomposition products were determined to be well below established exposure limits in the workplace.

For additional information on preventing pellet loss, refer to published plastic industry publications and resources under 'Operation Clean Sweep'; now downloadable from the web at http://www.opcleansweep.org/.

Polyethylene fines and dust particles are listed as a Class I combustible dust by the National Fire Protection Association (see NFPA-68, Table F.1 (e)). For additional information on control of static and minimizing potential dust and fire hazards, refer to NFPA-654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids, 2013 Edition".

Key/Legend:

ACGIH = American Conference of Governmental Industrial Hygienists; BOD= Biochemical Oxygen Demand; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental

Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; DOT = Department of Transportation; EC50 = Effective Concentration 50%; EPA= Environmental Protection Agency; FDA= Food and Drug Administration; GHS = Globally Harmonized System for the Classification and Labelling of Chemicals; HCS = Hazard Communication Standard; IARC = International Agency for Research on Cancer; IMDG = International Maritime Dangerous Goods; IMO = International Maritime Organization; Kaw= Octanol/water partition coefficient; LC50 = Lethal Concentration 50%; LD50 = Lethal Dose 50%; LEL = Lower Explosive Limit; LFL = Lower Flammable Limit; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OEL = Occupational Exposure Limit; OSHA= Occupational Safety and Health Administration; PEL = Permissible Exposure Limit; PNOC = Particulates Not Otherwise Classified; PPE = Personal Protective Equipment; RCRA = Resource Conservation and Recovery Act; REL = Recommended Exposure Limit; SARA = Superfund Amendments and Reauthorization Act; SCBA = Self Contained Breathing Apparatus; SOS = Safety Data Sheet; SEPA = State Environmental Protection Administration; STEL = Short Term Exposure Limit; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA= Time Weighted Average; UEL = Upper Explosive Limit; UFL = Upper Flammable Limit

#### DISCLAIMER

This document is generated for the purpose of distributing health, safety, and environmental data. Information is correct to the best of our knowledge at the date of the SDS publication as supplied by Osterman & Company's Supply Partners. It is not a specification sheet nor should any displayed data be construed as a specification. Before using a product sold by Osterman & Company, users should make their own independent determination that the product is suitable for the intended use and can be used safely and legally.

SELLER MAKES NO WARRANTY; EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY WARRANTY) OTHER THAN AS SEPARATELY AGREED TO BY THE PARTIES IN A CONTRACT.

Users should review the applicable Safety Data Sheet before handling the product.

This product(s) may not be used in the manufacture of any of the following, without prior written approval by Seller for each specific product and application:

- (i) U.S. FDA Class I or II Medical Devices; Health Canada Class I, II or III Medical Devices; European Union Class I or II Medical Devices;
- (ii) film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices;
- (iii) packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration;
- (iv) tobacco related products and applications, electronic cigarettes and similar devices.

The product(s) may not be used in:

- (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices; (ii) applications involving permanent implantation into the body:
- (iii) life-sustaining medical applications.

All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification. In addition to the above, Osterman & Company may further prohibit or restrict the use of its products in certain applications. For further information, please contact an Osterman & Company representative.