

SAFETY DATA SHEET

Polyethylene Terephthalate or PET Flakes and Resin

1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

PRODUCT IDENTIFIER: Polyethylene Terephthalate or PET (RPET flake, NLF; RPET RESIN, LNO™, NLP, LNO™c

RECOMMENDED USE AND USE RESTRICTIONS: Polymer for plastics industry. Not intended for internal use or medical implantation.

MANUFACTURER / SUPPLIER:

Phoenix Technologies International LLC.

1098 Fairview Ave.

Bowling Green, OH 43402

EMERGENCY PHONE NUMBERS: 419 353 7738

2. HAZARD(S) IDENTIFICATION

OSHA HAZARD CLASSIFICATION: COMBUSTIBLE DUST – WARNING! MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR.

HAZARDS NOT OTHERWISE CLASSIFIED: CAUTION! MOLTEN MATERIAL WILL PRODUCE THERMAL BURNS. Molten polymer will adhere to skin and may cause severe burns.

Eye contact with polymer particles may cause mechanical irritation with discomfort, tearing, or temporary blurring of vision.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Material: Polyethylene Terephthalate CAS Number 25038-59-9 Variable concentration >99%

Residual additives, modifiers, colorants / impurities <1%

4. FIRST AID MEASURES

INHALATION: Polyethylene Terephthalate is not likely to be hazardous by inhalation. If exposed to fumes from overheating, move to area with fresh air. If not breathing contact emergency services.

SKIN CONTACT: Polyethylene Terephthalate is not likely to be hazardous by skin contact. If molten material contacts skin, cool immediately with cold water. Do not attempt to remove material from skin. Obtain medical treatment.

EYE CONTACT: In case of contact, immediately flush eyes with water for 15 minutes. If contact with molten material, seek medical attention immediately.

INGESTION: Polyethylene Terephthalate is not intended to be ingested as part of normal use. If ingested, consult a physician.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Water, Foam, Carbon Dioxide (CO₂), or Dry Chemical.

SPECIFIC HAZARDS ARISING FROM CHEMICAL

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide and carbon monoxide.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS

Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment.

6. ACCIDENTAL PRECAUTIONS / PROTECTIVE EQUIPMENT / EMERGENCY PROCEDURES

The interior of molten masses may remain hot for some time because of the low heat conductivity of the polymer. Use care when handling / disposing of molten masses.

Review Section 5. FIRE FIGHTING MEASURES and Section 7. PRECAUTIONS FOR SAFE HANDLING before proceeding with clean-up. Use appropriate Personal Protective Equipment during clean-up. Thermal protective equipment should be used when handling molten material (See Section 8. For further details).

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP

Sweep up and recover, or mix material with moist absorbent and shovel into suitable chemical waste container.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Do not breathe gases, vapors or fumes that may be evolved during processing. Caution and suitable thermal eye, face, and body personal protective equipment must be used if handling hot or molten material. Contact with molten material can cause burns, so unprotected contact with molten material must be avoided.

Polyethylene Terephthalate can cause slip hazards in multiple forms (Flake, Pellet, and Dust) and should be kept clear of all walkways. Avoid dust generation to prevent dust accumulation to minimize explosion hazard. Grinding of Polyethylene Terephthalate can create dust and potential dust explosion hazard. To reduce risk follow National Fire Protection Association's codes and standards for handling combustible dust.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS: There are no established exposure limits for Polyethylene Terephthalate for PEL or TLV. Particles not otherwise regulated the limit is 15mg / m³ total dust 5 mg / m³ respirable fraction (PEL). For particles not otherwise specified 3mg / m³ respirable particles and 10mg / m³ for inhalable particles. All mentioned limits are 8 hour time weighted average limits.

APPROPRIATE ENGINEERING CONTROLS: Use local ventilation to control gasses, vapors and fumes from hot processing. Use static controls. Static charges can build up and ignite dust or solvent laden atmospheres. Design precautions into processes that can create dust, such as pneumatic conveying systems, grinding and other physical operations. There is the potential for a dust explosion hazard.

Ensure that dust handling systems are designed in a manner to prevent the escape of dust into work areas.

INDIVIDUAL PROTECTION MEASURES / PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Wear coverall chemical splash goggles when the possibility of eye or face contact from airborne material exists. Wear a face shield when working with molten material.

RESPIRATORY PROTECTION: Respirators are not needed for normal use. When airborne concentrations are expected to exceed exposure limits, a NIOSH approved respirator should be selected based on the form and concentration of the contaminant in air and in accordance with the OSHA Respiratory Protection Standard (29 CFR 1910.134).

PROTECTIVE CLOTHING: If there is potential for contact with hot/molten material, wear heat resistant impervious clothing and footwear. Special protective closing is not needed for normal use. Gloves are recommended as good industrial practice.

RECOMMENDED DECONTAMINATION FACILITIES: Eyewash station, washing facilities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid, clear/colored flakes	Flammability Limits (upper/Lower):	No data available
Odor:	Odorless	Vapor Pressure:	Not Applicable
Odor Threshold:	No data available	Vapor Density:	Not Applicable
pH:	Not Applicable	Specific Gravity:	1.33 – 1.45 g/cm ³
Melting Point:	225 – 250 °C	Solubility in Water:	Insoluble
Initial Boiling Point/Range:	No data available	Partition coefficient(n-octanol/water):	No data available
Flash Point:	Not applicable, combustible solid	Auto-Ignition Temperature:	No data available
Evaporation Rate:	No data available	Decomposition Temperature:	330 °C
Flammability:	No data available	Viscosity:	No data available

10. STABILITY AND REACTIVITY

REACTIVITY: None known

CHEMICAL STABILITY: Stable at normal conditions. Polymerization will not occur

POSSIBILITY OF HAZARDOUS REACTIONS: None known

CONDITIONS TO AVOID: Temperatures above 330 °C

INCOMPATIBLE MATERIALS: Incompatible or can react with strong oxidizers.

HAZARDOUS DECOMPOSITION CHEMICALS: Thermal decomposition products caused by overheating polymer can include carbon monoxide, carbon dioxide, acetaldehyde and ethylene. Decomposition products (gases, vapors and / or fumes) may cause skin, eye or respiratory tract irritation, and other adverse health effects.

11. TOXICOLOGICAL INFORMATION

INFORMATION ON LIKELY ROUTES OF EXPOSURE: Polymer dust may be inhaled, and come in contact with skin and eyes. Thermal decomposition products may be inhaled.

SYMPTOMS RELATED TO PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS:

Skin contact with molten material will produce thermal burns.

Eye contact with polymer dust may cause mechanical irritation with discomfort, tearing, or blurring of vision.

Polyethylene terephthalate is a mild eye irritant.

Eye contact with molten material will produce thermal burns.

Decomposition products (gases, vapors and / or fumes) may cause skin, eye or respiratory tract irritation, and other adverse health effects.

ACUTE, DELAYED, AND CHRONIC EFFECTS FROM SHORT AND LONG-TERM EXPOSURE: Polyethylene terephthalate animal testing indicates

- No carcinogenic, mutagenic, developmental or reproductive effects
- No adverse effects from short exposures by inhalation or ingestion.

Polyethylene terephthalate patch tests with humans resulted in no skin irritation or skin sensitization.

NUMERICAL MEASURES OF TOXICITY: Polyethylene Terephthalate: Oral Approximate Letha Dose (ALD): > 10,000 mg/kg in rats

CARCINOGENICITY INFORMATION: None of the components present in this material at concentrations equal to or greater than .1% are listed by NTP, IARC, OSHA or ACGIH as carcinogenic.

12. ECOLOGICAL INFORMATION

No toxicity data is available. The product is insoluble in water.

13. DISPOSAL CONSIDERATIONS

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State / Provincial, and Local regulations.

14. TRANSPORTATION INFORMATION

Shipping information

DOT	Not regulated
TDG	Not regulated
UN Proper Shipping Name/Number	Not regulated
IMDG	Not Regulated
IATA	Not Regulated

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

TSCA Inventory Status: In compliance with TSCA Inventory requirements for commercial purposes.

Under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing this product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24).

If discarded in its purchased form, this product does not meet the RCRA characteristic definition for ignitability, corrosivity or reactivity and is not a RCRA listed waste: however, it has not been tested by the Toxicity Characteristic Leaching Procedure (TCLP).

SARA, Title III: This material is not known to contain extremely hazardous substances.

INTERNATIONAL REGULATIONS:

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product listed on the DSL or otherwise complies with CEPA new substance notifications requirements.

No components of this product are on the Mexican Raw Materials Regulation.

16. ADDITIONAL INFORMATION

The data in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. **END OF SDS**