Polyethylene Terephthalate

Reference No: **SDS-PET-5404**
Revision 01 | 08-12-2021

1. PRODUCT IDENTIFICATION

PRODUCT NAMES

PET - Polyethylene Terephthalate (Fast Reheat) (Recyclate-containing)

OTHER MEANS OF IDENTIFICATION

Poly(oxy-1,2-ethanediyloxycarbonyl-1,4phenylenecarbonyl); Polyethylene glycol terephthalate; Terephthalic acid-ethylene glycol polyester.

INTENDED USE OF THIS PRODUCT

A polyethylene Terephthalate plastic – for industrial conversion as a raw material for the manufacture of articles or goods

COMPANY'S DETAILS

Safripol Durban, a division of KAP Diversified Industrial (Pty) Ltd

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2. HAZARD IDENTIFICATION

CLASSIFICATION

PHYSICAL HAZARD	:	None
ACUTE TOXICITY	:	Oral (Category 5)
	:	Dermal (Category 5)
	:	Inhalation (Category 5)
SKIN CORROSION / IRRITATION	:	None
SERIOUS EYE DAMAGE / IRRITATION	:	Category 2B
SENSITISATION	:	None
GERM CELL MUTAGENICITY	:	None
CARCINOGENICITY	:	None
REPRODUCTIVE TOXICITY	:	None
SPECIFIC TARGET ORGAN TOXICITY	:	None
ASPIRATION	:	Classification not possible
ENVIRONMENTAL HAZARDS	:	Category 2 (aquatic – acute)
	:	Category 2 (aquatic – chronic)
	:	Classification not possible (ozone-depleting potential)

LABEL ELEMENTS

WARNING

May be harmful if swallowed as granules could cause choking.

OTHER HAZARDS

- Contact with molten material will cause thermal burns
- Irritating and toxic fumes may be released during fire
- Exposure to powder or dusts may be irritating to the eyes and upper respiratory tract
- May form explosive dust/air mixtures if high concentrations of product is suspended in air

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS No / EC No	CONCENTRATION / RANGE
Polyethylene Terephthalate	25038-59-9	≥ 99%
Additives	N/A	≤ 1%

There are no additional ingredients present which, within the current knowledge of the Company and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

INHALATION : Move person to fresh air. If effects occur, consult a physician.

SKIN CONTACT : If molten material comes in contact with the skin, do not apply ice but cool under ice water or running stream of water. Do not attempt to remove the material from skin. Removal could result in severe tissue damage. Seek medical immediately.

EYE CONTACT : Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

INGESTION : Seek medical attention if swallowed. May cause gastrointestinal blockage. Do not give laxatives. Do not induce vomiting unless directed to do so by medical personnel.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRST AIDERS

- Showers
- Eyewashes

INDICATIONS OF IMMEDIATE MEDICAL ATTENTION & SPECIAL TREATMENT NEEDED

- Thermal burns
- Breathing difficulties

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA : No restrictions

SPECIAL PROTECTIVE ACTIONS

Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. If the material is molten, do not apply direct water stream. Use fine water spray or foam. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires.

For special protective equipment fire-fighters are to wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

SPECIFIC HAZARDS

Fire may cause acetaldehyde vapour that may form explosive mixtures in air and can spontaneously ignite at temperatures above 347 °F or 175 °C. Ensure that good housekeeping practices are followed because dust is generated with the industrial handling of the product and accumulates over time in buildings and on equipment, and under the conducive conditions may result in the formation of an explosive mixture. The flash point > 300 °C.

Hazardous combustion/decomposition products: Decomposition of the product emits oxides of carbon (CO, CO_2), oxides of phosphorous and low molecular weight organic compounds. Molten polymer or prolonged air drying above 195 °C will release small quantities of acetaldehyde (CAS # 75-07-0).

Unusual Fire and Explosion Hazards: Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is emitted when burned without sufficient oxygen.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

ENVIRONMENTAL PRECAUTIONS

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

CONTAINMENT & CLEANUP

Contain spilled material if possible. Sweep up. Collect in suitable and properly labelled containers. See Section 13, Disposal Considerations, for additional information.

EMERGENCY PROCEDURES

Normal site emergency response plan should be followed.

7. HANDLING AND STORAGE

No smoking, open flames or sources of ignition in handling and storage area. Good housekeeping and controlling of dusts are necessary for safe handling of product. Avoid breathing process fumes. Use with adequate ventilation. When appropriate, unique handling information for containers can be found on the product label. Workers should be protected from the possibility of contact with molten resin. Do not get molten material in eyes, on skin or clothing. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge.

Storage in accordance with good manufacturing practices. Keep storage conditions/packing material dry. Material does not have incompatible products.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

No established Exposure Limits

ENGINEERING CONTROLS

Dust producing operations should be controlled so that the appropriate standard for dust is not exceeded. All polymers degrade to some extent at their processing temperature, an effect which increases with increasing temperature. The exact quantity and nature of the degradation products varies with temperature, oxygen supply and process conditions. It is therefore impossible to be exact about which substances may be evolved. However, it is only the minor components, which may vary substantially. Appropriate control measures, such as ventilation, should be applied.

PROTECTION MEASURES & PPE

EYE / FACE PROTECTION	:	Use safety glasses. Safety glasses should be consistent with Regulation (EU) 2016/425. If there is potential exposure to particles which could cause eye discomfort, wear chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator.
SKIN / HAND / BODY PROTECTION	:	For skin protection, no precautions other than clean body-covering clothing should be needed. For hand protection, chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized. Use gloves with insulation for thermal protection, when needed.
RESPIRATORY PROTECTION	:	Use an approved air-purifying respirator when vapours are generated at increased temperatures or when dust or mist is present. Use the following CE approved air-purifying respirator: When dust/mist are present use a particulate filter, type 2. When combinations of vapours, acids or dusts/mists are present use an organic vapour cartridge with a particulate pre-filler, type AP2.
THERMAL HAZARDS	:	When in contact with skin, molten material causes thermal burns. See Section 4, First-aid Measures, for treatment.

9. PHYSICAL & CHEMICAL PROPERTIES

PHYSICAL STATE	:	Solid
COLOUR	:	White
ODOUR	:	Odourless
ODOUR THRESHOLD	:	N/A
pH	:	N/A
EVAPORATION RATE	:	N/A
MELTING POINT	:	258 °C
FREEZING POINT	:	N/A
BOILING POINT	:	N/A
FLASH POINT	:	> 300 °C
AUTO-IGNITION TEMPERATURE	:	520 °C – DIN: 51794
DECOMPOSITION TEMPERATURE	:	> 300 °C
FLAMMABILITY	:	No data available
LOWER & UPPER EXPLOSIVE LIMITS	:	N/A
VAPOUR PRESSURE	:	N/A
VAPOUR DENSITY	:	N/A
RELATIVE DENSITY	:	1.38 g/cm^3 @20 °C
SOLUBILITY	:	Insoluble in water
PARTITION COEFFICIENT (n-octanol / water)	:	No data available
VISCOSITY	:	0.76 – 0.9 dl/g intrinsic

10. STABILITY & REACTIVITY

CHEMICAL STABILITY

Stable. Hazardous polymerization will not occur.

REACTIVITY

No data available

CONDITIONS / MATERIALS TO AVOID

Exposure to elevated temperatures can cause product to decompose. Contact with sparks and strong oxidation agents to also be avoided.

HAZARDOUS DECOMPOSITION PRODUCTS

Decomposition products depend upon temperature, air supply and the presence of other materials. Processing may release fumes and other decomposition products. At temperatures exceeding melt temperatures, polymer fragments can be released. Fumes can be irritating. Decomposition products can include and are not limited to: aldehydes, alcohols and organic acids. Decomposition products can include trace amounts of hydrocarbons.

11. TOXICOLOGICAL INFORMATION

HEALTH EFFECTS

ACUTE TOXICITY (oral)	:	Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. May cause choking if swallowed.
ACUTE TOXICITY (dermal)	:	Prolonged contact is essentially non-irritating to skin. Mechanical injury only. Under normal processing conditions, material is heated to elevated temperatures at which time contact with material may cause thermal burns.
ACUTE TOXICITY (inhalation)	:	No adverse effects are anticipated from single exposure to dust. Vapours/fumes released during thermal processing may cause respiratory irritation.
SKIN CORROSION / IRRITATION	:	Type here
EYE DAMAGE / IRRITATION	:	Solid or dust may cause irritation or corneal injury due to mechanical action. Vapour may cause eye irritation experienced as mild discomfort and redness.
RESPIRATORY / SKIN SENSITISATION	:	No adverse effects anticipated by skin absorption.
GERM CELL MUTAGENICITY	:	None
CARCINOGENICITY	:	None
SPECIFIC TARGET ORGAN TOXICITY	:	None
ASPIRATION HAZARD	:	None

SYMPTOMS

INHALATION	:	Respiratory irritation if fumes are inhaled
SKIN CONTACT	:	Thermal burns if exposed to molten material
EYE CONTACT	:	Mild discomfort and redness
INGESTION	:	Choking

12. ECOLOGICAL INFORMATION

ECOTOXICITY

Not expected to be acutely toxic, but material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life.

PERSISTENCE & DEGRADABILITY

This water-insoluble polymeric solid is expected to be inert in the environment. Surface photo degradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

BIOACCUMULATIVE POTENTIAL

No bio-concentration is expected because of the relatively high molecular weight (MW greater than 1000).

MOBILITY IN SOIL

In the terrestrial environment, material is expected to remain in the soil.

OTHER ADVERSE EFFECTS

In the aquatic environment, material is expected to float. It is toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

For uncontaminated material the disposal options include mechanical and chemical recycling or energy recovery. In some countries landfill is also allowed. For contaminated material the options remain the same, although additional evaluation is required. For all countries the disposal methods must be in compliance with national and provincial laws and any municipal or local by-laws. All disposable methods must be in compliance with the EU framework Directives 2006/12/EC, 2008/98/EC and their subsequent adaptations, as implemented in National Laws and Regulations, as well as EU Directives dealing with priority waste streams. Transboundary shipment of wastes must be in compliance with Regulation (EC) No 1013/2006 and subsequent modifications.

14. TRANSPORT INFORMATION

UN IDENTIFICATION NUMBER	:	Not classified as dangerous goods
PROPER SHIPPING / TECHNICAL NAME	:	Not applicable
TRANSPORT HAZARD CLASS	:	Not applicable
PACKAGING GROUP	:	Not applicable

ENVIRONMENTAL HAZARDS FOR TRANSPORT PURPOSES

None

SPECIAL PRECAUTIONS FOR USERS

None

15. REGULATORY INFORMATION

European Inventory of Existing Commercial Chemical Substances (EINECS)

This product is a polymer according to the definition in Regulation (EC) No 1272/2008 and all of its starting materials and intentional additives are listed in the European Inventory of Existing Commercial Chemical Substances (EINECS) or in compliance with European (EU) chemical inventory requirements.

Classification and User Label Information

This product is not classified as dangerous according to EC criteria.

16. OTHER INFORMATION

Identification Number: SDS-PET-5404

Issue Date: 08/12/2021

Version: 1

This information is based on the Company's current knowledge and is intended to describe the product for the purpose of health, safety and environmental requirements only. It is therefore not to be construed as guaranteeing any specific property of the product. This information relates only to the specific product and may not be valid for such product used in combination with any other materials or in any process. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

The above information is believed to be correct and based in reliable opinions and facts available on the date of preparation of this Safety Data Sheet, but does not purport to be all inclusive and shall be only used as a guide. The user shall assume all responsibility for ensuring that this product is used in a safe and environmentally responsible manner in accordance with applicable safety, health and environmental laws, policies and guides, and as such assumes all risk in connection with the use of this product. The Company shall not be held liable for any injury or damage resulting caused directly or indirectly from handling, use or from contact with this product