



MATERIAL SAFETY DATA SHEET

CHEMICAL PRODUCT / COMPANY IDENTIFICATION

MATERIAL IDENTIFICATION:

Product name: ARYAPET Polyethylene Terephthalate (PET) resin

Product numbers: AP0076, AP0076 (FRH) AP0080, AP0084, AP0084 (FRH), AP0076HF, AP0089, Amorphous chips

Product applications: Industrial resin. Injection stretch blow moulding into containers, bottles, jars, films, sheets and straps.

COMPANY INFORMATION:

MANUFACTURER:

JBF INDUSTRIES LIMITED

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COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS:

Material	CAS Number	%
POLYETHYLENE TEREPHTHALATE	25038-59-9	>99%
Modifiers / fillers/additives		<1%

Remarks: Ingredients are proprietary or non-hazardous.

HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Clear to grayish-white, odorless pellets.

High concentrations of dusts may be an explosion hazard.

Material can be handled as hot, molten polymer. Contact with molten polymer can cause burns.

Thermal processing may release irritating gases or fumes.

POTENTIAL HEALTH EFFECTS:

Molten polymer will adhere to the skin and can cause severe burns.

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

Decomposition products caused by overheating Polyethylene Terephthalate may cause skin, eye or respiratory tract irritation.



CARCINOGENICITY INFORMATION:

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES:

Inhalation: No specific intervention is indicated, as the compound is not likely to be hazardous by inhalation. However, if exposed to fumes from overheating or combustion, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician if necessary.

Skin Contact: The compound is not likely to be hazardous by skin contact but cleansing the skin after use is advisable. If molten material gets on skin, cool rapidly with cold water. Do not attempt to remove material from skin. Obtain medical treatment for thermal burn. Use of high temperature resistant gloves is recommended while handling PET polymer or during processing.

Eye Contact: If irritation develops, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. Use of safety glasses / face shield is recommended.

Ingestion: Ingestion is not an expected route of exposure during normal use of the product. If ingested during processing, consult a physician.

ADVICE TO PHYSICIAN: Treat burns as thermal burns

FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

Flash Point: Not Applicable

Auto-ignition: No Data Available

Physical operations, such as grinding, can create dust and a potential dust explosion hazard. Under these conditions, follow National Fire Protection Association Code and Standards for handling combustible dusts.

EXTINGUISHING MEDIA:

Water spray, Foam, Carbon Dioxide, and Dry Chemical.

FIRE FIGHTING INSTRUCTIONS:

Wear self-contained breathing apparatus. Wear full protective equipment. Avoid excessive inhalation of smoke or potential thermal decomposition products.

ACCIDENTAL RELEASE MEASURES

SAFEGUARDS (PERSONNEL):

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Due to lower thermal conductivity, the interior of molten masses may remain hot for some time. Use appropriate PERSONAL PROTECTIVE EQUIPMENT when disposing of molten masses.



SPILL CLEAN UP:

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

HANDLING AND STORAGE

HANDLING (PERSONNEL):

Do not breathe vapors or fumes that may be evolved during high temperature processing. Contact with hot/molten material can cause burns. Avoid contact with molten material. Use appropriate PERSONAL PROTECTIVE EQUIPMENTS.

HANDLING (PHYSICAL ASPECTS):

Avoid dust generation.

EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Use local ventilation to control fumes from hot processing. Processes such as pneumatic conveying systems, grinding and other physical operations can create dust. There is the potential for a dust explosion hazard. Use appropriate mechanical ventilation system.

PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION:

Wear safety goggles and face shield when the possibility exists for eye or face contact from airborne material.

RESPIRATORY PROTECTION:

Respirators are not needed for normal use.

Where 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 OSHA Respiratory Protection Standard CFR 1910.134.

PROTECTIVE CLOTHING:

If there is potential for contact with hot/molten material, wear heat-resistant clothing and footwear. Special protective clothing is not needed for normal use. High temperature resistant gloves are recommended.

EXPOSURE GUIDELINES:

Applicable Exposure Limits

PEL (OSHA): None Established

TLV (ACGIH): None Established

Comply with national occupational threshold values for dust or powder.



PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA:

Appearance: Pellets or Molten Polymer

Color: Clear to grayish white

Odor: Odorless

Melting Point: No Data Available

Vapor Pressure: Not Applicable

Vapor Density: Not Applicable

Solubility in Water: Insoluble

pH: Not Applicable

Specific Gravity: 1.3-1.4

% Volatiles: Negligible

Flash point: Not determined

STABILITY AND REACTIVITY

CHEMICAL STABILITY:

Stable at normal conditions.

INCOMPATIBILITY WITH OTHER MATERIALS:

Incompatible or can react with strong oxidizers.

DECOMPOSITION:

Combustion products include carbon dioxide and carbon monoxide. Thermal decomposition products can include acetaldehyde and ethylene.

POLYMERIZATION:

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Polyethylene Terephthalate is not a skin irritant.

Can develop eye irritation due to dust exposure.

Low acute toxicity. Fumes, vapors or dust inhalation may cause irritation to the respiratory system.

Toxic effects from short exposures by ingestion resulted in no adverse effects.

Animal testing indicates that Polyethylene Terephthalate does not have carcinogenic, mutagenic, developmental or reproductive effects.

ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

No data is available.

DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:



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

TRANSPORTATION INFORMATION

SHIPPING INFORMATION:

DOT - Not Regulated.

IMDG Class: Not restricted

ICAO/ IATA Class: Not restricted

REGULATORY INFORMATION

Indication of Danger / Symbol(s): Not classified as dangerous for supply/ use.

Code letter and hazard designation of product: Not applicable

Hazard-determining components of labeling: Not applicable

Risk phrase(s): Not applicable

Safety phrase(s): Not applicable

The data in this Material 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.

CAUTION

DO NOT USE JBF ARYAPET MATERIALS IN MEDICAL APPLICATIONS INVOLVING PERMANENT, BRIEF, OR TEMPORARY IMPLANTATION IN THE HUMAN BODY OR PERMANENT CONTACT WITH INTERNAL BODY FLUIDS OR TISSUES, UNLESS THE MATERIAL HAS BEEN PROVIDED DIRECTLY FROM JBF UNDER A CONTRACT WHICH EXPRESSLY ACKNOWLEDGES THE CONTEMPLATED USE.

JBF MAKES NO REPRESENTATION, PROMISE, EXPRESS WARRANTY OR IMPLIED WARRANTY CONCERNING THE SUITABILITY OF THESE MATERIALS FOR USE IN THE HUMAN BODY OR IN CONTACT WITH INTERNAL BODY FLUIDS OR TISSUES.

THE CONTENT OF JBF ARYAPET MATERIAL IS NOT CERTIFIED FOR IMPLANTS.

JBF ARYAPET materials are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. DAK has not performed clinical testing of these materials for implantation.

JBF will not provide to customers making implantable devices any notice concerning its materials, as specified under 21 C.F.R section 820.81, or any other information necessary for medical device use of the materials under any other statute or FDA regulation. JBF has neither sought, nor received, approval from the FDA for the use of these materials in implantation in the human body or in contact with internal body fluids or tissues.

ALL IMPLANTABLE MEDICAL DEVICES CARRY A RISK OF FAILURE AND ADVERSE CONSEQUENCES.

The medical judgment of a physician, a medical device seller and the FDA should be relied upon for identification of both harmful consequences and life-saving benefits from an implantation device comprised of specific materials. These benefits and risks can be found in published medical cases performing clinical medical studies of an implantable medical device. JBF does not



support the use of its products in these applications and cannot weigh the benefits against the risk defined in these articles.

JBF can not offer a medical judgment on the safety or efficacy of the use of its materials in such devices.

DO NOT MAKE REFERENCE TO THE JBF NAME OR ANY JBF ARYAPET TRADENAME IN ASSOCIATION WITH AN IMPLANTABLE MEDICAL DEVICE.

Do not use a JBF ARYAPET or licensed trademark as the descriptive name of an implantable medical device (e.g. do not call it the "ARYAPET" prosthesis, or do not call it a "ARYAPET device").

Please contact JBF Industries Limited if there is uncertainty about the suitability of the intended use.