

LIGHTER™ C88 PET COPOLYMER



Polyethylene Terephthalate (PET) Resins

LIGHTER™ resins are polyethylene terephthalate produced from PTA and MEG. These polymers are specifically designed for the production of beverage, food and other liquid containers and for thermoforming.

There are several LIGHTER PET polymers, designed for the specific performance requirements of different applications, including very good mechanical properties, excellent clarity and a wide processing range on all injection and stretch blow molding machines. LIGHTER C88 is particularly suitable for bottling mineral water since it is designed specifically to minimize the formation of acetaldehyde. In general this grade is recommended for bottles for both still and carbonated

mineral water. LIGHTER C88 is also suitable for the production of extruded thermoformable sheets.

LIGHTER C88, when used unmodified and processed under good manufacturing practices, should allow packaging article production in compliance with the laws and regulations for articles in contact with foodstuffs in force in the European Union and in the United States of America. Please contact your nearest Equipolymers sales office regarding food contact compliance statements.

The purchaser remains responsible for determining whether the use complies with all relevant regulations.

| SALES SPECIFICATIONS | Unit | Method | LIGHTER C88 |
|------------------------|------|------------|-------------|
| Intrinsic Viscosity | dl/g | 1/MA/1/002 | 0.76 ± 0.02 |
| Acetaldehyde | ppm | 1/MA/1/004 | 1 max. |
| Color, coordinate b | | 1/MA/1/003 | 1.0 max. |
| Fine Particles Content | ppm | 1/MA/1/001 | 500 max. |
| Moisture | % | 1/MA/1/005 | 0.4 max. |

| TYPICAL VALUES | Unit | Method | LIGHTER C88 |
|------------------------------|-------------------|------------|-------------|
| Bulk density | kg/m ³ | 1/MA/1/008 | 880 |
| Glass Transition Temperature | °C | 1/MA/1/007 | 78 |
| Melting Point (peak) | °C | 1/MA/1/007 | 247 |
| Crystallinity | % | 1/MA/1/018 | 50 min |
| Weight of 100 Granules | g | 1/MA/1/015 | 1.5 |
| ISO Viscosity Number | ml/g | ISO 1628/5 | 88 |

Safety Considerations

Material Safety Data Sheets for polyethylene terephthalate resins are available from the Customer Service offices to help customers further satisfy their own safe handling and disposal needs. Such information should be requested from the supplier(s) of any product(s) prior to working with it. The comments that follow are pertinent only to the resins discussed, as supplied. The various additives and processing aids used in fabrication will have their own safe-use profile and must be investigated separately.

Health and Safety

Polyethylene terephthalate resins are among the most inert commercial polymers and constitute no hazard in normal handling from skin contact or ingestion. For "Regulated" uses, such as food contact, your sales representative can obtain compliance letters for specific resins. Normal good-housekeeping practice should be followed. Workers should be protected from possibility of skin or eye contact with molten polymer. Safety glasses are suggested as a minimal precaution to prevent possible mechanical or thermal injury to the eyes. Fabrication areas should be ventilated to carry away

fumes or vapors: workers should be assured of a supply of fresh air. Workplace environments should be kept clean and free of dust. Ensure that all applicable laws and regulations are met.

Combustibility

Polyethylene terephthalate resins will burn when supplied with adequate amounts of heat and oxygen. They should be handled and stored away from contact with direct flames and/or other ignition sources. In burning, polyethylene terephthalate resins contribute high heat and may generate a dense black smoke. Fires can be extinguished by conventional means. In enclosed areas, fire fighters should be provided with self-contained breathing apparatus.

Recycling

Polyethylene terephthalate resins can be recycled. Production rejects, and/or conversion waste should be recycled if possible.

Disposal

When disposing of any wastes, be certain all applicable laws and regulations are met. If these regulations are met, the following is applicable for

the polyethylene terephthalate resins as supplied.

Polyethylene terephthalate resins can be disposed of either by incineration (preferred) or landfill. With properly controlled industrial, commercial or municipal incineration, particulate or gaseous discharge into the air can be maintained within allowable levels. Thermoplastic resins, such as polyethylene terephthalate resins, have high heat values and should be incinerated only in units designed to handle high heats of combustion. In landfill, polyethylene terephthalate resins are inert, do not degrade, form a strong and permanent soil base, and emit no gases or leachates known to pollute water resources.

Customer Notice

Equipolymers encourages its customers to review their application of its products from the standpoint of human health and environmental quality. To help ensure that products are not used in ways for which they are not intended or tested, our personnel will assist customers in dealing with ecological and product-safety considerations. Your sales representative can arrange the proper contacts.

NOTICE: No freedom from any patent owned by Equipolymers or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Equipolymers assumes no obligation or liability for the information in this document. **NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.**

NOTICE: If products are described as "experimental" or "developmental": (1) product specifications may not be fully determined; (2) analysis of hazards and caution in handling and use are required; and (3) there is greater potential for Equipolymers to change specifications and/or discontinue production.

NOTICE REGARDING MEDICAL APPLICATION RESTRICTIONS: Equipolymers will not knowingly sell or sample any product or service ("Product") into any commercial or developmental application that is intended for: (a) contact with internal body fluids or internal body tissues, regardless of the length of time involved; (b) use in cardiac prosthetic devices regardless of the length of time involved (cardiac prosthetic devices include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems and ventricular bypass assisted devices); (c) use as a critical component in medical devices that support or sustain human life; or (d) use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction. (Published July 2004)

