



MATERIAL SAFETY DATA SHEET

Cyclics C-11

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Cyclics Corporation
2135 Technology Drive
Schenectady, NY 12308

PHONE NUMBERS:

Emergency Information 518-881-1411
Non-Emergency Information 518-881-1411

PRODUCT IDENTIFIER:

Cyclics C-11

PRODUCT DESCRIPTION:

Solid cylindrical and rectangular solids of polybutylene terephthalate resin.

PRODUCT COMPOSITION:

Poly (butylene terephthalate) (PBT) CAS #30965-26-5 contains polymerization catalyst, antioxidant, polycaprolactone and polyester-ether.

PRODUCT USE:

Can be machined to prepare 3-dimensional prototypes and molding forms.

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Components listed below are classified as hazardous as defined by the OSHA Hazard Communication Standard. The concentrations (expressed as weight percent) are typical or average values for this product.

Component Name	%	CAS Number	OSHA PEL	ACGIH TWA
none				

SECTION 3 - HAZARDS IDENTIFICATION

GENERAL:

These articles are not known to present any significant hazards. Nevertheless grinding, cutting and other mechanical operations of these solid plastic articles can produce granules and dust that can be irritating to some individuals. Cutting and grinding speeds should be controlled to prevent localized overheating of the resin and preclude the generation of fumes that may be irritating to some individuals.

EMERGENCY OVERVIEW:

Solid material that will burn in a fire creating dense, toxic smoke.

HMIS RATING:

Health 0, Flammability 1, Reactivity 0

POTENTIAL HEALTH EFFECTS

INGESTION:

No known adverse effects.

INHALATION:

No known adverse effects.

SKIN CONTACT: No known adverse effects.
 EYE CONTACT: No known adverse effects.
 NOTE: Material may cause skin or eye irritation in some individuals due to abrasive action when in powder or granular form.

CHRONIC / CARCINOGENICITY

NTP: Not tested
 OSHA: Not classified as a carcinogen
 IARC: Not listed as a carcinogen

SECTION 4 - FIRST AID MEASURES

EYES: Flush eyes with a large amount of clean, room temperature water for up to 15 minutes. After initial flushing remove contact lenses. If irritation persists seek medical attention promptly.

SKIN: Remove contaminated clothing. Wash affected areas with soap and water. Seek medical attention if irritation persists.

INGESTION: Not known to cause adverse health effects. Do not induce vomiting.

INHILATION: Not known to cause adverse health effects. Leave Contaminated area and get fresh air.

SECTION 5 - FIRE FIGHTING MEASURES

FIRE FIGHTING: Fight fire from a safe distance with proper personal protective equipment including self-contained breathing apparatus.

EXTINGUISHING MEDIA: Water spray, foam. Carbon dioxide and dry chemical are not recommended because their lack of cooling capacity may permit re-ignition.

CONDITIONS OF FLAMMABILITY: Requires a continuous flame source to ignite.

FLASH POINT: None

AUTOIGNITION TEMPERATURE: 380 C (680 F)

EXPLOSION DATA: Material is not sensitive to mechanical impact, but finely ground material is sensitive to static discharge under dust cloud conditions.

EXPLOSION LIMITS: None

HAZARDOUS COMBUTION PRODUCTS: Intense heat, black smoke, carbon dioxide, carbon monoxide.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

GENERAL: Sweep up spillage and reuse or dispose, as appropriate.

Insure that material has thoroughly cooled before disposal.

SECTION 7 - HANDLING AND STORAGE

HANDLING:	Use good industrial hygiene practices and provide adequate ventilation. Secondary operations on parts (such as grinding, sanding or sawing) could produce an explosion hazard if dust is not adequately controlled. Use adequate ventilation and aggressive housekeeping practices to prevent dust accumulation.
STORAGE:	Store in a cool dry covered area to maintain the integrity of the packing material. Do not stack more than two units high (pallets or boxes). Do not store in areas near flame(s) or other potential ignition sources.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:	Fumes generated during thermal processing of material may cause irritation in some individuals. Minimize exposures through controlled exhaust and fresh air makeup.
PERSONAL PROTECTION: GENERAL:	Grinding, sanding or sawing plastic parts can produce airborne particles.
EYE/FACE:	Wear safety glasses with side shields or chemical goggles, as appropriate.
SKIN:	Avoid prolonged or unnecessary direct contact with resin/granules/powder.
RESPIRATORY:	Wear a well-fitting dust respirator if area ventilation is insufficient.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Solid
ODOR AND APPEARANCE:	Tan depending upon fillers. No discernible odor.
MELTING POINT:	Material does not exhibit a sharp melting point, but softens gradually over a wide temperature range (180 - 230° depending upon fillers).
VAPOR PRESSURE (mm Hg):	Nil
SPECIFIC GRAVITY (water=1):	1.28 (79.9 lb/ft ³)
WATER SOLUBILITY:	Not established
% VOLATILES:	< 1.0
EVAPORATION RATE:	Nil

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:	Stable.
REACTIVITY:	Not reactive under recommended conditions of handling and storage.
CONDITIONS TO AVOID:	Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: None.

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE ORAL: LD-50 >5 g/kg (rat), based on tests of similar material (poly-butylene terephthalate).

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: This material is not known to be harmful to the environment. Decomposition is not expected to produce toxic waste products. This material facilitates the recycling and reuse of polyester resins. Plastic particles produced using this material can be recycled and used in the manufacture of other plastic parts.

SECTION 13 - DISPOSAL INFORMATION

DISPOSAL: This resin is not RCRA regulated hazardous waste. Recycling should always be considered as the first and most desirable option. If not recyclable, then dispose of in accordance with applicable local, state and federal regulations.

SECTION 14 - TRANSPORTATION INFORMATION

STATUS: This material is not classified as a hazardous material for transportation purposes.

SECTION 15 – REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA) This product is in compliance with all rules and orders of TSCA.

EU REGULATORY NOTIFICATION This product is exempt from notification in the European Union.

SECTION 16 – OTHER INFORMATION

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ABBREVIATIONS

ACGIH: American Conference of Governmental Industrial Hygienists.

CAS: Chemical Abstracts service

HMIS: Hazardous Material Information System

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

PPE: Personal Protective Equipment

TWA: Time Weighted Average

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