



MATERIAL SAFETY DATA SHEET

PC RESIN
GRADE : PC PG5520

1. IDENTIFICATION

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| PRODCUT NAME: | PC PG5520 |
| PRODUCT DISCRPTION: | PC (POLY CARBONATE) |
| PRODUCT USAGE: | MAY BE USED TO PRODUCE MOLDED OR EXTRUDED ARTICLES OR AS A COMPONENTS OF OTHER INDUSTRIAL PRODUCTS. |
| MANUFACTURER'S NAME: | POLYMERTECH CO., LTD. |
| MANUFACTURER INFORMATION: | 42-5, Sinjang 6-gil, jangchenon-myeon, Gumi-si, KYUNG SANG BUK-DO, KOREA TEL : 054-472-0431 FAX : 054-472-0432 |

2. COMPOSITION / INFORMATION ON INGREDIENTS

| CHEMICAL NAME | CAS NUMBER | % |
|-----------------------------|-------------|--------|
| POLY CARBONATE | 103598-77-2 | 70~100 |
| Glass Fiber | 65997-17-3 | 15~30 |
| 1,3-BUTADIENE, POLYMER W... | 25232-40-0 | 2~3 |
| OTHERS(ADDITIVES) | - | 0~3 |

3. HAZARDS IDENTIFICATION

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| <p>NFPA RATINGS (SCALE 0-4) : HEALTH=1 FIRE=1 REACTIVITY=0</p> <p>EC CLASSIFICATION (CALCULATED) : No classification assigned.</p> <p>EMERGENCY OVERVIEWS :</p> <p>Solid pellets with slight or no odor. Spilled pellets create slipping hazard.</p> <p>Can burn in a fire creating dense toxic smoke. Molten plastic can cause severe thermal burns.</p> <p>Fumes produced during melt processing may cause eye, skin and respiratory tract irritation.</p> <p>Secondary operations, such as grinding, sanding or sawing, can produces dust which may present an explosion or respiratory hazard.</p> <p>POTENTIAL HEALTH EFFECTS :</p> | |
| EYE : | Product may cause irritation or injury due to mechanical action. |
| SKIN : | Pellets not likely to cause skin irritation. |
| INGESTIO : | Not acutely toxic. |
| INHALATIO: | Pellet inhalation unlikely due to physical form. |
| CHRONIC / CARCINOGENICITY : | |
| NTP : | Not Tested |
| OSHA : | Not Regulate |
| IARC : | Not Listed |

4. FIRST AID MEASURES

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| MEDICAL RESTRICTIONS : | |
| EYE : | Remove contact lenses at once. Immediately flush eyes well with copious quantities of water or normal saline for at least 15-20 minutes. If irritation persists, seek medical attention. |
| SKIN : | seek medical attention if rash or burn occurs. |
| INGESTIO : | Not probable. If a large amount is swallowed, seek medical attention. |
| INHALATIO: | Not Likely to be inhaled due to physical form. |
| MELT PROCESSING : | |
| For molten plastic skin contact, cool rapidly flush water and immediately seek medical attention. Do not attempt removal of plastic without medical assistance. Do not use solvent for removal. For processing fume inhalation irritation, leave contaminated area and breathe fresh air. If coughing, difficult breathing or any other symptoms develop seek medical attention at once, even if symptoms develop at a later time. For skin contact with fume condensate, immediately wash thoroughly with soap and water. If irritation develops seek medical attention. | |

5. FIRE FIGHTING MEASURES

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| FIRE FIGHTING : | |
| Approved pressure demand breathing apparatus and protective clothing should be used for all fires. Water spray is the preferred extinguishing medium. This product will melt but will not be carried on the surface for water. | |
| EXTINGUISHING MEDIA : | |
| Water spray and foam, Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition. | |
| HAZARDOUS COMBUSTION PRODUCTS : | |
| Hazardous combustion products may include intense heat, dense black smoke, carbon monoxide, carbon dioxide, oxides of phosphorus, hydrogen cyanide, hydrocarbon fragments, hydrogen fluoride, carbonyl fluoride and fluorocarbon fragments. | |
| FLASH POINT : | Not Applicable |
| LOWER FLAMMABLE LIMIT : | Not Established |
| UPPER FLAMMABLE LIMIT : | Not Established |
| AUTOIGNITION : | Not Established |
| CONDITIONS OF FLAMMABIL: | Requires a continuous flame source to ignite and sustain combustion. |
| EXPLOSION DATA : | |
| IMPACT SENSITIVITY : | Not sensitive to mechanical impact. |
| STATIC DISCHARGE : | Not sensitive to static discharge. (See Section 7) |

6. ACCIDENTAL RELEASE MEASURES

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| GENERAL : |
| Sweep or gather up material and place in proper container for disposal or recovery. (See Section 13) |

7. HANDLING AND STORAGE

HANDLING :

Follow recommendations on label and in processing guide. Prevent contact with skin and eyes. Use good industrial hygiene practices. Provide adequate ventilation. Secondary operations such as grinding, sanding or sawing may produce a dust explosion hazard. Use aggressive housekeeping activities to prevent dust accumulation; employ bonding, grounding, venting and explosion relief provisions in accordance with accepted engineering practices.

STORAGE :

Store in a dry place away from moisture, excessive heat and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS :

A continuous supply of fresh air to the workplace together with removal of processing fumes through exhaust systems is recommended. Processing fume condensate may be a fire hazard and toxic; remove periodically from exhaust hoods, duct work and other surfaces using appropriate personal protection. For powders and residual dusts refer to Section 7.

PERSONAL PROTECTION :

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| EYE/FACE : | Wear safety glasses with side shields or chemical goggles. In addition, use full face shield when cleaning processing fume condensates from hoods, ducts and other surfaces. |
| RESPIRATORY : | When handling fumes are not adequately controlled, use respirator approved for protection from organic vapors and acid gases. When dust or powder from secondary operations, such as grinding, sanding or sawing, are not adequately controlled use respirator approved for protection from dust. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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| PHYSICAL STATE : | Solid |
| COLOR AND APPEARANCE : | Plastic pellet with slight odor |
| BOILING POINT : | Not Applicable |
| MELTING POINT (°C) : | Not Applicable |
| VAPOR PRESSURE (mm) : | Negligible |
| VAPOR DENSITY (Air=1) : | Not Applicable |
| SPECIFIC GRAVITY : | 1.25 (water = 1) |
| WATER SOLUBILITY : | Insoluble |
| SOLVENT SOLUBILITY : | Slightly soluble in strong polar solvent or chlorinated solvents |
| % VOLATILES : | Negligible |
| pH : | Not Applicable |
| ODOR THRESHOLD : | Not Established |
| EVAPORATION RATE : | Negligible |
| COEFFICIENT WATER / OIL DISTRIBUTION: Not Established | |
| COMMENT | This product does not exhibit a sharp melting point, but softens gradually over a wide temperature range. |

10. STABILITY AND REACTIVITY

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| STABILITY : | Stable under recommended conditions of Section 7 |
| REACTIVITY : | Not reactive under recommended conditions of handling, storage, processing and use. |
| CONDITIONS TO AVOID : | |
| Do not exceed melt temperature recommendations in product literature. | |
| In order to avoid autolgnition/hazardous decomposition of hot thick meases of plastic, purgings should be collected in small, flat shapes or thin strands to allow for rapid cooling and quenching in water. | |
| Do not allow product to remain in barrel at elevated temperatures for extended periods of time ; | |
| purge with a general purpose resin. (See Section 8 for respiratory protection advice) | |
| HAZARDOUS DECOMPOSITION : | |
| Major decomposition gases are oxidized hydrocarbons (probably carbon monoxide) and steam. | |
| Minor components in decomposition gas may be aldehyde, phenolic compounds, etc. | |

11. TOXICOLOGICAL INFORMATION

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| Not Available |
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12. ECOLOGICAL INFORMATION

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| Not expected to present any significant ecological problems. |
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13. DISPOSAL CONSIDERATIONS

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| RCRA HAZARDOUS WASTE : |
| Products is not a RCRA hazardous waste. |
| WASTE DISPOSAL : |
| Recycling is encouraged. Landfill or incinerate in accordance with federal, state and local requirements. Collected processing fume condensates and incinerator ash should be tested to determine waste classification. |

14. TRANSPORT INFORMATION

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| DOT HAZARD CLASS : | Not Regulated |
| PROPER SHIPPING NAME : | Not Regulated |
| IDENTIFICATION NUMBER : | Not Listed |
| TDGA : | Not Listed |

15. REGULATORY INFORMATION

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| Listed below are chemical substances subject to supplier notification requirements. | |
| U.S. REGULATIONS : | |
| TSCA INVENTORY STATU: | This product complies with the Chemical Substance Inventory requirements of the US EPA TSCA. |
| CERCLA SECTION 103 (40CFR302 : Not Listed | |
| SARA SECTION 313 (40CFR372.65 : Not Listed | |
| SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21) | |
| ACUTE : | Not Listed |
| CHRONIC : | Not Listed |
| FIRE : | Not Listed |
| REACTIVE : | Not Listed |
| SUDDEN RELEASE: | Not Listed |
| STATE REGULATIONS : | |
| California Proposition 65 : | Not Listed |
| EUROPEAN REGULATIONS : | |
| EC NUMBER : | Not assigned |

PC RESINS

POLYMERTECH CO,LTD

16. OTHER INFORMATION

The information submitted in this MSDS is based on our current knowledge and experience. Because it is not possible to anticipate all conditions of use additional safety precautions may be required, we make no warranty.

ABBREVIATIONS :

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| ACGIH : | American Conference of Governmental Industrial Hygienist |
| DOT : | Department of Transportation |
| EC : E | uropean Communities |
| EPA : | Environmental Protection Agency |
| IARC : | International Agency for Research on Cancer |
| NOISH : | National Institute for Occupational Safety and Health |
| NTP : | National Toxicology Program |
| OSHA : | Occupational Safety and Health Administration |
| RTECS : | Registry of Toxic Effects of Chemical Substances |
| CAS # : | Chemical Abstracts Service Number |
| RCRA : | Resource Conservation and Recovery Act |