MATERIAL SAFETY DATA SHEET

Product Designation: Protec Homopolymer Polypropylene

Section 1 – Product Ingredients

<table>
<thead>
<tr>
<th>No.</th>
<th>Components</th>
<th>CAS No.</th>
<th>Percent (%)</th>
<th>OSHA PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Polypropylene</td>
<td>9003-07-0</td>
<td>100</td>
<td>Not Established</td>
</tr>
</tbody>
</table>

Section 2 – Physical/Chemical Properties

Physical Form: Pellets
Color: Translucent
Odor: Slightly paraffinic
Molecular Weight: Not Applicable
Boiling Point: Not Applicable
Melting Point: 248-338°F (120-170°C)
Freezing Point: Not Applicable
Solubility in Water: Insoluble
Specific Gravity: 0.9 (water = 1) Bulk Density: 400-600 kg/M3
Vapor Density: Not Applicable (air = 1)
Evaporation Rate: Not Applicable (Butyl Acetate = 1)
Vapor Pressure: Not Applicable
% Volatile: Not Applicable
pH: Not Applicable

The physical data presented above are typical values and should not be construed as a specification.
Section 3 - Fire Hazard Data and Fighting Method

Flash Point: Not Applicable
Autoignition: Not Established
Flammable Limits: Not Applicable
In Air (LEL, %)
(UEL, %) Not Applicable
Extinguishing Media: Dry Chemical, Carbon Dioxide, Alcohol-Type or Universal Type Foam, Water Spray.
Special Fire Fighting: In the event of a fire, wear NIOSH approved, positive pressure, self-contained breathing apparatus (SCBA) and full protective clothing. Extinguish fires with water, foam or dry chemical. Do use water jet.

Unusual Fire & Explosion Hazards: Avoid accumulation and dispersion of dust to reduce explosion potential. Fire may produce irritating gases and dense smoke.

Section 4 – Human Health Data

Emergency Overview: Practically nontoxic
Primary Route(s) of Exposure: Inhalation, Eye, Skin Contact

Potential Health Effects and Symptoms of Over-Exposure
Negligible Hazard at room temperature under normal use.

Eye Contact: Solid particles or dust may cause transient irritation as a result of Mechanical abrasion. Process fumes may cause irritation.

Skin Contact: Essentially no irritation to skin. Mechanical injury only. Hot Solid may cause thermal burns.

Inhalation: Exposure to dust at high concentration may cause irritation to the Respiratory tract.

Ingestion: May cause choking if swallowed.

Medical Conditions Aggravated by Overexposure:
No expected. Polypropylene is generally accepted as being biologically inert. No specific antidotal treatment, symptomatic support required.

Carcinogenicity:
NTP IARC OSHA
No No No
Section 5 – First Aid Measures

Eye Contact: Immediately wash eyes with water for at least 15min. Consult physician if irritation or other symptoms occur.
Skin Contact: For serious burns, get medical attention. In case of skin contact with hot polymer, immediately immerse in or flush with clean, cold water.
Inhalation: Remove to fresh air. Consult physician if irritation of respiratory passages occurs.
Ingestion: Consult physician
Notes to Physician: No known delayed effects following single exposure
Other Instructions: None

Section 6 – Exposure Controls, Personal, Protection Recommendations

Eye Protection: Safety glasses
Skin Protection: Gloves required when handling hot material
Respiratory Protection: None required in normal use of product. NIOSH approved dust mask recommended if dusty conditions exist.
Engineering Control: Ventilation Requirements – General
General ventilation should be sufficient. However, if operating conditions create high airborne concentrations of this material, special ventilation may be needed. If thermal processing results in irritating fumes, special ventilation may be needed. If handling results in dust generation, special ventilation may be needed to ensure that dust exposure does not exceed the OSHA PEL for nuisance dust.

Required Work/Hygiene Procedure: Minimize contact with skin. Do no eat, drink or smoke in work area. Wash hands thoroughly after handling, especially before eating, drinking, smoking, chewing, or using restroom facility. Dusted clothing and shoes should be thoroughly cleaned before reuse.

Exposure Guidelines:

<table>
<thead>
<tr>
<th>No.</th>
<th>Components</th>
<th>OSHA-PEL</th>
<th>ACGIH-TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Polypropylene</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Nuisance Dust: 10mg/M³ TWA

Section 7 – Accidental Release Control Measures

Response to Spills: Sweep up and recycle if feasible
Section 8 – Handling and Storage

Handling: Maintain good housekeeping. Spilled materials may create a slipping hazard. Remove dust from settling areas to prevent any secondary potential dust explosion or fire hazards. Electrostatic charge may build up during handling. Grounding of equipment is recommended.

Storage: Store in a dry place and away from direct sunlight
Container Use: Keep containers closed.

Section 9 – Stability and Reactivity

Stability: Stable
Conditions to avoid: Strong Oxidizers
Hazardous Decomposition: Carbon Dioxide, carbon monoxide
Hazardous Polymerization: Will not occur

Section 10 – Disposal Considerations

Disposal Method: It must be disposed of in accordance with Federal, State and Local environmental control regulations.
Recycle/Reclaim: Recycling or reclamation of Polypropylene should be encouraged where possible.

Section 11 – Transport Information

DOT Shipping Name: Not Listed
DOT label: Not regulated
DOT Hazard Class: Not Applicable
UN/NA Number: Not Applicable
Hazard Label: Not Applicable
Hazard Placard: Not Applicable
Packing Group: Not Applicable
Bulk Packaging: Not Applicable
RQ: Not Applicable
Emergency Response Guide (ERG) No.: Not Applicable

Section 12 – Toxicological Information

The information provided below can be subject to misinterpretation. Therefore, it is essential the following information be interpreted by individuals trained in its evaluation.

Chemical Toxicity Data
Polypropylene No Toxicology data available
Polypropylene is not considered hazardous materials under the OSHA Hazard Communication Standard.
Section 13 – Ecological Information

No data is available on the adverse effects of this product on the environment. Neither COD or BOD data are available. Fish or birds may eat pellets which may obstruct their digestive tracts.

Section 14 – Regulatory Information

Federal Regulatory Information
Polypropylene

OSHA Status: None
EPA Clean Air Act Status: None
EPA Clean Water Act Status: None
TSCA Status: TSCA Inventory (40 CFR710) listing
CERCLA RQ: None

SARA Title III
Polypropylene

Section 302** Section 313** Section 311/312***
None None None

1 Reportable quantity of extremely hazardous substance, Sec. 302
2 Threshold planning quantity, extremely hazardous substance, Sec. 302
3 Toxic Chemical, Sec. 313
4 Category as required by Sec 313 (40 CFR372.65C). Must be used on Toxic Release inventory form
5 Hazard category for SARA Sec. 311/312 reporting H1=Acute health hazard, H2=chronic health hazard., F=Fire hazard,
P1=sudden release of pressure hazard, P2=reactive hazard

RCRA Status: If disposed of in its purchased form, this would not be a RCRA hazardous waste either by listing or by characteristics. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40CFR261.20-24).

Other Regulatory Information
The following chemicals are specifically listed by individual states; other product-specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements, you should contact the appropriate agency in your state.

State Chemical Regulation
None Polypropylene None

Product Name: Polypropylene Homopolymer

International
None
### Section 17 – Other Information

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire – 1</td>
<td>Health - 0</td>
</tr>
<tr>
<td>Health – 0</td>
<td>Flammability - 1</td>
</tr>
<tr>
<td>Reactivity – 0</td>
<td>Reactivity - 0</td>
</tr>
<tr>
<td>Specific Hazard – None</td>
<td>Personal Protection Index – E</td>
</tr>
</tbody>
</table>

### Section 18 – Disclaimer of Liability

For information regarding safe use of polyolefin articles and components of articles intended for direct food contact, refer to US FDA as specified in 21 CFR 177.1520 or Formolene PP Technical Data Sheet.

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