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| <br>MSDS | <b>HYOSUNG CHEMICAL</b>        | Issue Date    | 1996. 05. 25 |
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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

- 1) Product: Polypropylene Topilene® TP6600
- 2) Recommended Use of the Chemical and Restrictions on Use
  - ① Recommended use: Thermoplastic resin extruded or moulded by manufacturers
  - ② Restrictions on use: No Data
- 3) Manufacture / Supplier Information

|                      |   |     |                 |
|----------------------|---|-----|-----------------|
| Supply Company       | Hyosung Chemical Corporation Yongyeon 1st Plant                       |     |                 |
| Address              | 66, 487 beon-gil, Cheoyong-ro, Nam-gu, Ulsan, Korea (P.O Box 680-140) |     |                 |
| Telephone            | +82-52-208-9311   | FAX | +82-52-208-9320 |
| Department in charge | PP Production Team  |     |                 |

## 2. HAZARDS IDENTIFICATION

- 1) Classification of the substance or mixture: Not applicable
- 2) GHS Labels, including precautionary statements
  - ① Symbol: Not applicable
  - ② Signal word: Not applicable
  - ③ Hazard statement: Not applicable
  - ④ Precautionary statements
    - Prevention : Not applicable
    - Response : Not applicable
    - Storage : Not applicable
    - Disposal : Not applicable
- 3) Other hazards which do not result in classification:

NFPA (0-4): Health=1, Fire=1, Reactivity=0

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| COMPONENT                       | SYNONYMS                          | CAS No.   | Amount (wt%) |
|---------------------------------|-----------------------------------|-----------|--------------|
| PROPYLENE-ETHYLENE<br>COPOLYMER | 1-PROPENE, POLYMER<br>WITH ETHENE | 9010-79-1 | > 99         |
| ADDITIVES                       | -                                 | -         | < 1          |

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#### 4. FIRST AID PROCEDURES

##### 1) Eye Contact

- In case of contact with substance, rinse your eyes immediately with running water for at least 20 minutes.
- Take medical action.

##### 2) Skin Contact

- In case of contact with substance, rinse your skin immediately with running water for at least 20 minutes.
- Remove contaminated cloths including shoes immediately.
- Take medical action.

##### 3) Inhalation

- Take medical action.
- Move into fresh air.
- If short of breathing, provide oxygen supply system.

##### 4) Ingestion

- Do not put anything into the mouth of an unconscious person.
- Take medical action.

##### 5) First-Aid Treatment and Information on Medical Doctors

- Let a medical provider know about the substance and take appropriate protection.

#### 5. FIRE FIGHTING MEASURES

##### 1) Suitable (Unsuitable) Extinguishing Media

- Extinguishing media: Water, Carbon dioxide, Extinguishing powder, Firefighting foam
- Unsuitable Extinguishing media: No data
- Large fire: Firefighting, Water spray

##### 2) Specific Hazards from Chemical Material

- Toxicant from combustion: Pyrolysis or combustion cause irritative gases or carbon dioxides.

##### 3) Fire Fighting Procedures and Equipment

- If it can be done without risk, move container from fire area.
- If it will be leak, do not spray high-pressure water stream.
- Dike for later processing.
- Use extinguishing agents appropriate for surrounding fire.
- Avoid inhalation of materials and combustion products.
- Up the wind and avoid low area.

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## 6. ACCIDENTAL RELEASE MEASURES

### 1) Personal Precautions, Protective Equipment and Emergency Procedures

- Remove all flammable sources.
- If it is not dangerous, stop leaking.
- Take caution of substances and conditions that should be avoided.
- Ventilate properly.
- Do not touch the effluents or walk around the area.
- Prevent producing dust.

### 2) Environmental Precautions

- Release to air: Not available
- Release to soil: Not available
- Release to water: Not available

### 3) Purification and Removal Methods

- Small leak: Put in proper containers for waste.
- Large leak: To minimize the spread, cover it with plastic sheets or water-proof cloths and keep it away from water.

## 7. HANDLING AND STORAGE

### 1) Handling

- Avoid direct physical contact.
- Wash thoroughly after use.
- Take precautionary measures to prevent against explosion risks, as all types of polymers may develop dust during transporting or grinding of granules.

### 2) Storage

- Keep stored in airtight containers.
- Keep stores in a cool, dry place.
- Place in an appropriate space in compliance with local regulation.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### 1) Exposure Limits and Biological Exposure Limits of Chemical

- KOSHA: No data
- AIHA: No data
- ACGIH: No data
- OSHA: No data

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- Biological exposure limits: No data

## 2) Engineering Management

- Install local ventilation system.
- Ventilation equipment should be explosion-proof if explosive concentrations of dust, vapor of fume are present.

## 3) Personal Protective Equipment

### ① Respiratory protection

- Use approved respirator if unable to control airborne dust, fumes, and vapor.

### ② Eyes protection

- The wearing of chemical safety goggles or face shield is recommended.
- Install eyes washing facilities and quick drench shower near work areas.

### ③ Hands protection

- The wearing of protective gloves is recommended to prevent exposure.

### ④ Human body protection

- The wearing of protective clothing is recommended to prevent exposure.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- 1) Appearance: White pellet
- 2) Odor: Odorless
- 3) Odor Threshold: No data
- 4) pH: No data
- 5) Melting / Freezing Point: 130 ~ 170 °C
- 6) Initial Boiling Point or Boiling Point Range: No data
- 7) Flash Point: No data
- 8) Evaporation Rate: No data
- 9) Flammability (Solid, Gas) : No data
- 10) Upper / Lower Flammability or Explosive Limits: No data
- 11) Vapor Pressure: No data
- 12) Solubility: Insoluble
- 13) Vapor Density: No data
- 14) Relative Density: 0.88~0.92 kg/L (at 20°C)
- 15) N-Octane / Water Partition Coefficient: No data
- 16) Auto Ignition Temperature: 400°C
- 17) Decomposition Temperature: No data

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18) Viscosity: No data

19) Molecular Weight: >10,000

## 10. STABILITY AND REACTIVITY

### 1) Chemical Stability

- Stable under normal temperature and pressure.

### 2) Possibility of Hazardous Reaction

- Will not occur under normal temperature and pressure.

### 3) Condition to Avoid

- Avoid contact with water.
- Keep away from heat, sparks and flame.
- Avoid contact with strong oxidizing agents, strong alkaline and strong acid.

### 4) Incompatibility with Other Materials

- Strong oxidizing materials, Flammable substance.

### 5) Hazardous Decomposition Product

- At elevated temperatures the material will begin to decompose, producing fumes that can contain carbon monoxide, acrolein, aldehydes, and unidentified organic compounds.

## 11. TOXICOLOGICAL INFORMATION

### 1) Information on the Likely Routes of Exposure

- Inhalation: No data
- Ingestion: No data
- Skin contact: No data
- Eye contact: No data

### 2) Delayed and Immediate Effects and Chronic Effects From Short or Long Term Exposure

- Acute toxicity
  - Oral: No data
  - Skin: No data
  - Inhalation: No data
- Skin corrosion / irritation: No data
- Serious eye damage / eye irritation: No data
- Respiratory sensitization: No data
- Skin sensitization: No data
- Carcinogenicity

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- Industrial Safety & Health Law: No data
- IARC: No data
- OSHA: No data
- ACGIH: No data
- NTP: No data
- EU CLP: No data
- Gem cell mutagenicity: No data
- Reproductive toxicity: No data
- Specific target organ systemic toxicity (Single exposure)
- Specific target organ systemic toxicity (Repeated exposure)
- Aspiration hazard: No data

## 12. ECOLOGICAL INFORMATION

- 1) Ecotoxicity: No data
- 2) Persistence and Degradability: No data
- 3) Bioaccumulative Potential: No data
- 4) Mobility in Soil: No data
- 5) Other Adverse Effects: No data

## 13. DISPOSAL CONSIDERATIONS

- 1) Disposal Method
  - Dispose in accordance with all applicable environmental regulations.
  - Empty containers should be recycled or disposed of through an approved waste management facility.
- 2) Disposal Considerations
  - For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options under applicable rules, regulations and laws.

## 14. TRANSPORT INFORMATION

- 1) UN Number: Not regulated as a hazardous material
- 2) UN Proper Shipping Name: Not applicable
- 3) Hazard Class: Not applicable
- 4) Packing Group: Not applicable
- 5) Marine Pollutant: Not applicable
- 6) DOT Number: Not regulated as a hazardous material
- 7) IATA Number: Not regulated as a hazardous material

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- 8) IMDG Code: Not regulated as a hazardous material
- 9) Further information: Not a hazardous material under DOT, IATA and IMDG
- 10) Special Precautions for User
- Emergency management type of fire: Not applicable
  - Emergency management type of leak: Not applicable

## 15. REGULATORY INFORMATION

- 1) Industrial Safety and Health Law (KOREA): Not applicable
- 2) Toxic Chemical Substance Subject to Management Act (KOREA): Not applicable
- 3) Hazardous Material Safety Act (KOREA): Not applicable
- 4) Other Local or International Regulation
- Persistent Organic Pollutant Management Law (KOREA): Not applicable
  - EU Classification
    - Classification: Not applicable
    - Risk Phrases: Not applicable
    - Safety Phrases: Not applicable
  - US Regulations
    - OSHA: Not applicable
    - CERCLA: Not applicable
    - EPCRA 302: Not applicable
    - EPCRA 304: Not applicable
    - EPCRA 301: Not applicable
  - Rotterdam Convention material: Not applicable
  - Stockholm Convention material: Not applicable
  - Montreal Protocol on Substance: Not applicable

## 16. OTHER INFORMATION

- 1) Reference
- KOSHA: Material Safety Data Sheet
- 2) Issued Date: 1996. 05. 25
- 3) Revision Number and Last Date Revised: 2018. 06. 01 (Version 8)
- 4) Others:

The information contained herein is current as of the date of this Material Safety Data Sheet, but no

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