1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: ABS Filament, ABS+ Filament
Region: China
Product type: Plastic Filament
Restriction of use: None identified
Company Name: Beijing Tiertime Technology Co., Ltd.
No.18 Yanqi Avenue Yanqi Economic Development Area Huairou District,
Beijing P. R. China
Tel: +86 10-69667183
Fax: +86 10-51662221-805
E-mail: overseas@tiertime.com

2. HAZARDS IDENTIFICATION

Most Important Hazards: None
Adverse Human Health Effects: None
Environmental Effects: None
Physical and Chemical Hazards: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance or Preparation: Substance
Chemical Name: Acrylonitrile-Butadiene-Styrene Copolymer
Content: > 99 % (Additives < 1 %)
Formula: (C3H3N, C4H6, C8H8)x
CAS No.: 9003-56-9
Impurities Contributing to Hazard: None

4. FIRST AID MEASURES

Inhalation: In case of gases evolving from melted resin, move subject to fresh air.
Treat symptomatically.
Skin Contact: In case of pellets or powder, wash with water. In case of melt, wash affected skin area and clothing with plenty of (soap and) water.
Seek medical advice.
Eye Contact: In case of pellets or powder, flush with plenty of water for at least 15 minutes. Seek medical advice if any dust particles still remain. In case of gases evolving from melted resin of high temperature, flush with plenty of water for at least 15 minutes. Seek medical advice if necessary.

Ingestion: Induce vomiting. Rinse mouth with water. Seek medical advice if necessary.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Water, Foam, Dry chemical powder
Special Fire-Fighting Procedure: Self contained breathing apparatus
Fire and Explosion Hazards: None

6. ACCIDENTAL RELEASE MEASURES

Methods for Cleaning up: Recovery if not contaminated or Disposal
Personal Precautions: Pellets or powder remained on ground may cause slipping
Environmental Precautions: Gather pellets and powder thoroughly to avoid birds or fishes taking from draining water.

7. HANDLING AND STORAGE

Handling: Prevent from fire around handling area. Maintain good housekeeping standards to prevent accumulation of dust. To avoid dust explosion resulting from the existence of powder, electrostatics eliminators and grounding should be fixed to such equipment as air transferring pipes, bag filters and hoppers. Use electrically conductive filters for bag filters.
Storage: Keep the materials at a cool dry place. Protect from direct sunlight, rain and violent temperature fluctuation. Fire is inhibited around storage area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Threshold Limit Value: Not determined
Ventilation: Necessary to exclude dust, fumes and gases
Personal Protection: Eye Wear safety glasses for general purpose. Wear chemical goggles for cleaning molding machines.
Respiratory Wear masks for cleaning molding machines.
Gloves Necessary for handling melted resin
9. PHYSICAL AND CHEMICAL PROPERTIES

Odor: None
Solubility: Insoluble in water
Specific Gravity: 1.03 ~ 1.10
Appearance: filament
Physical state: solid (compressed)
Odor threshold: not applicable
pH: no data available
Melting point/freezing point: 104 °C
Initial boiling point and boiling range: no data available
Flash point: no data available
Evaporation rate: no data available
Flammability: flammable in constant flame no data available
Upper/lower flammability or explosive limits: no data available
Vapor pressure: no data available
Vapor density: no data available
Relative density: 1.20 g/cm³
Solubility: insoluble
Partition coefficient: n-octanol/water: no data available
Decomposition temperature: no data available
Viscosity: no data available
Explosive properties: no data available
Oxidizing properties: no data available

10. STABILITY AND REACTIVITY

Flammability: Yes
Flash Point: 404°C
Auto-ignition Temperature: 466°C
Reactivity with Water: No
Stability: Stable and non-reactive under normal handling and storage condition.
Thermal Decomposition Gases: CO, HCN, AN, SM and NO
Combustion Energy: 3.53 x 10⁷ J/kg (8424 Kcal/kg)

11. TOXICOLOGICAL INFORMATION

Irritation: Fumes or vapors generated from decomposing resin may be irritant to eyes.
Acute oral toxicity (LD50): Not determined
12. ECOLOGICAL INFORMATION

To avoid being taken by ocean species or birds, disposal of the waste to the ocean and water sources is inhibited.

13. DISPOSAL CONSIDERATIONS

Controlled incineration or landfill according to local, state or national laws and regulations concerning health and pollution. Inadequate incineration may generate toxic gases such as CO, HCN, AN and SM.

14. TRANSPORT INFORMATION

14.1. UN NUMBER
   DOT, ADR, IMGD, IATA – not applicable

14.2. UN PROPER SHIPPING NAME
   DOT, ADR, IMGD, IATA – not applicable

14.3. TRANSPORT HAZARD CLASS(ES)
   DOT, ADR, IMGD, IATA – not applicable

14.4. PACKING GROUP
   DOT, ADR, IMGD, IATA – not applicable

14.5. ENVIRONMENTAL HAZARDS
   DOT, ADR, IMGD, IATA – not applicable

14.6. SPECIAL PRECAUTIONS FOR USER
   DOT, ADR, IMGD, IATA – not applicable

14.7. TRANSPORT IN BULK TO ANNEX II OF MARPOL AND THE IBC CODE
   Not applicable

15. REGULATORY INFORMATION

   Not available
16. OTHER INFORMATION

This Safety Data Sheet has been prepared on the basis of the currently available data on the product as well as of the Manufacturer’s experience and knowledge. It should be treated as a guide for safe transportation, storage and handling. The given information is not to be considered as a warranty or quality specification. Additionally, it is the user’s responsibility to handle the product in accordance with local regulations and standards.