

MATERIAL SAFETY DATA SHEET (MSDS)

POLYPROPYLENE



CAS No. : 9003-07-0
 UN No. : Not applicable
 EC No. : Not applicable

SECTION I. PRODUCT AND COMPANY IDENTIFICATION

| | |
|--|--|
| - Product name: Polypropylene | Product code: Not applicable |
| - Trade name: Polypropylene | In case of emergency: Binh Son Refinery & Petrochemical Co., Ltd. Head office: 208 Hung Vuong Avenue, Quang Ngai City, Quang Ngai Province, Viet Nam + Phone No: +84 (55) 3825.825 + Fax No: +84 (55) 3825.826 + Website: http://bsr.vn |
| - Synonyms: PP plastic, Propene polymers. | |
| - Producer: Binh Son Refinery & Petrochemical Co., Ltd. Address: Binh Tri Commune, Binh Son District, Quang Ngai province, Vietnam | |
| - Recommended use: Polypropylene is used in the automotive industry, construction, electrical, packaging and processing, yarn and supplies to serve human life. | |

SECTION II. COMPOSITION/IN-FORMATION ON INGREDIENTS

| Components | CAS Number | Formula | Weight (%) |
|---------------|------------|---|------------|
| Polypropylene | 9003-07-0 | (C ₃ H ₆) _n | ≅ 100 |

SECTION III. HAZARDS IDENTIFICATION

Hazard rating: NFPA Flammability: 1

Hazard summary

- Hazard pictograms: Not applicable
- Signal words: Not applicable
- Physical hazards: Not available
- Health hazards: Irritating vapors to respiratory system and eyes may form when polymer is processed at high temperatures. Molten or heated material in skin contact can cause severe burns.
- Environmental hazards: Not available.

Potential Health effects

Eyes: Dust may cause mechanical irritation to eye. Heated Polymer: Eye contact can cause serious thermal burns. Vapors formed when polymer is heated may be irritating to the eye.

Inhalation: Negligible at room temperature. Nuisance dusts can be irritating to the upper respiratory tract. Irritating vapors may form when the polymer is processed at high temperatures.

Skin: No known acute effects of this product resulting from skin contact at room temperature. Heated Polymer: skin contact can cause serious thermal burns.

Ingestion: No effects are expected for ingestion of small amounts. Can cause irritation and intestinal obstruction if ingestion of big amounts. May be a choking hazard.

SECTION IV. FIRST-AID MEASURES

General advice: Remove from exposure, lie down. In the case of accident or if you feel unwell, seek medical advice immediately. Never give anything by mouth to an unconscious person.

Eye contact: Remove contact lenses, if present and easy to do. Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Seek medical attention.

Skin contact: If heated polymer contacts the skin, immediately flush with large amounts of water to cool the affected tissues and polymer. Do not attempt to peel the polymer from skin. Seek immediately emergency medical attention.

Inhalation: Get person out of contaminated area to fresh air and keep at rest in a position comfortable for breathing. Loosen tight clothing such as a collar, tie, belt or waistband to facilitate breathing. If breathing is difficult, administer oxygen. If breathing is stopped, perform mouth-to-mouth resuscitation. Seek medical attention immediately.

Ingestion: Rinse mouth thoroughly. DO NOT induce vomiting unless directed to do so by medical personnel. If vomiting occurs spontaneously, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

SECTION V. FIREFIGHTING MEASURES

Flammability of the product: may be combustible at high temperature.

Products of combustion: Carbon dioxide (CO₂), carbon monoxide (CO), soot and other hydrocarbons.

Unusual fire and explosion hazards: Non-explosive in presence of shocks. Beware of dust accumulating to form explosive concentrations. Smoke may contain substances that could have the potential for adverse health impacts.

Fire fighting media and Instructions:

+ **Small fire:** Use dry chemical powder, carbon dioxide (CO₂).

+ **Large fire:** Use water spray or fog. Do not use water jet. Use water to keep fire exposed containers cool.

Special protective equipment for fire-fighters: Wear full appropriate protective equipment, including helmet, protective clothing, boots and gloves and self-contained breathing apparatus (SCBA).

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION VI. ACCIDENTAL RELEASE MEASURES

General guidelines

Isolate area. Keep unnecessary personnel away. Alert stand-by emergency and fire fighting personnel. Monitor surrounding area for build-up of flammable air concentrations.

Small spills: Eliminate ignition sources. Spill or leak area should be isolated. Stop leak if without risk. Keep upwind and out of low areas. Avoid dispersion of dust in air to reduce potential for dust ignition/explosions. Sweep up and shovel into suitable containers for disposal. Prevent entry into

water intakes and waterways.

Large spills: Alert stand-by emergency and fire fighting personnel. Eliminate ignition sources. Keep upwind and out of low areas. Spill or leak area should be isolated. Stop leak if without risk. Avoid dispersion of dust in air to reduce potential for dust ignition/explosions. Prevent entry into water intakes and waterways. Dike area of spill to prevent spreading (using dry earth, sand or other non-combustible material). Sweep up and shovel into suitable containers for disposal.

Personal precautions: Evacuate personnel to safe areas. Ensure adequate ventilate the area. Remove all sources of ignition. Beware of dust accumulating to form explosive concentrations. Dust can accumulate in low areas. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental precautions: No special environmental precautions required.

SECTION VII. HANDLING AND STORAGE

Precautions for safe handling: Well ventilated workplace. Beware of dust accumulating to form explosive concentrations. Avoid contact with eyes, skin. Wear suitable protective clothing. Emergency eyewash should be available in the near work place. Wash thoroughly after handling

Requirements for storage areas: Keep container tightly closed in a dry, cool, well-ventilated place and clearly labeled. Store and use away from heat, sparks, open flame or any other ignition source. Do not store with strong oxidizing agents.

SECTION VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures

Use in a well-ventilated area. If handling results in dust generation, special ventilation may be needed to minimize dust exposure.

Personal protective equipment

Eye protection: Wear safety glasses.

Hand protection: Wear gloves.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: Use dust mask.

Foot protection: Wear safety shoes.

Personal Protection in Case of a Large Spill

Full suit, splash goggles, gloves, dust respirator/gas mask or a self contained breathing apparatus.

Work/ Hygiene practices

Emergency eyewash and safety shower should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Wash thoroughly after handling. Promptly remove contaminated clothing and launder before reuse

SECTION IX. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|-----------------------|------------------|---------------------------|------------------|
| Physical state | : Solid pellets | Melting point | : > 120°C |
| Odor: | : Odorless | Boiling point (°C) | : Not determined |
| Color | : White | Flash point | : > 300°C |
| pH | : Not applicable | Auto ignition | : > 400°C |

Molecular weight : Not applicable **Evaporation rate** : < 0,2%
Solubility (H₂O) : Insoluble **Density (kg/m³)** : Report

SECTION X. STABILITY AND REACTIVITY

Chemical stability: This product is stable under normal temperature conditions and recommended use.

Conditions to avoid: Keep away from heat and open flame.

Reactivity: Reactive or incompatible with strong oxidizing agents.

Hazardous decomposition products: Carbon monoxide, carbon dioxide and various hydrocarbons.

Hazardous polymerization: Will to occur.

SECTION XI. TOXICOLOGICAL INFORMATION

| Components | Test | Result | Routes | Species |
|---------------|------|---------------|--------|---------|
| Polypropylene | LD50 | Not available | | |
| | LC50 | Not available | | |

Potential chronic health effects

Carcinogenicity: Not listed as carcinogen by OSHA, IARC.

Mutagenicity: Not available.

Reproductive toxicity: Not available.

SECTION XII. ECOLOGICAL INFORMATION

Ecotoxicity

| Components | Species | Exposure time | Result |
|---------------|---------------|---------------|--------|
| Polypropylene | Not available | | |

Tác động trong môi trường

Biodegradation: Not available.

BOD and COD index: Not available.

Products of Biodegradation: Not available.

Toxicity of the Products of Biodegradation: Not available.

SECTION XIII. DISPOSAL CONSIDERATIONS

Disposal regulations (Legal information): Not available

Hazard classification of disposal: Non-hazardous waste

Disposal method: Not available

Products of disposal process, treatment measures: Not available

SECTION XIV. TRANSPORT INFORMATION

Vietnamese Regulations: Not regulated as a dangerous goods for transportation.

Proper shipping name : Not applicable

UN number : Not applicable
Hazard Class : Not applicable
Packing group : Not applicable
Required Label : Not applicable

International Regulations (EU, USA): Not regulated as a dangerous goods for transportation.

SECTION XV. REGULATORY INFORMATION

Vietnamese Law and Regulations

This product is controlled under Vietnamese Regulations:

- + **The Law No. 27/2001/QH10** – Law on fire prevention and fire fighting
- + **The Law No. 06/2007/QH12** – Law on chemical
- + **The Law No. 52/2005/QH11** – Law on environment protection
- + **The Decree No. 104/2009/NĐ-CP** – Decree providing for the list of dangerous goods and the transport of dangerous goods by road motor vehicles
- + **The Decree No. 29/2005/NĐ-CP** – Decree providing for the list of dangerous goods and the transport of dangerous goods on inland waterways.

Registered: None

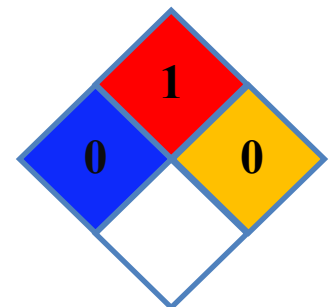
Hazard Classification following Registered Nation: Not available

Compliance technical regulations: Not available

SECTION XVI. OTHER INFORMATION

National Fire Protection Association (NFPA): (Scale 0 – 4)

Health: 0
Flammability: 1
Reactivity: 0
Specific hazard:



Hazardous Material Identification System (HMIS III): (Scale 0 – 4)

Health Hazard: 0
Fire Hazard: 1
Physical Hazard: 0
Personal Protection (B): Safety glasses, gloves.

| HMIS III | |
|----------------------------|----------|
| HEALTH | 0 |
| FIRE | 1 |
| PHYSICAL HAZARD | 0 |
| PERSONAL PROTECTION | B |

Created: 27-Jul-2014

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Prepared by: Binh Son Refinery & Petrochemical Co., Ltd.

Notice to reader

The information provided in this Safety Data Sheet is believed to be accurate and represents the best of our knowledge and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. If the product is used as a component in another product, this MSDS information may not be applicable. Users should make their own investigations to determine the suitability of the information for their particular purposes.