

**MATERIAL AND SAFETY DATA SHEET**

Product: Polypropylene

**Revision: 00****Date: 05.07.2010****Page: 1 / 7****FSP-0603-00004****1. PRODUCT AND COMPANY IDENTIFICATION**

Product Name Polypropylene

Internal code of product's identification Polypropylene

Company's Name BRASKEM S.A  
Address **Centro Prod. PP Triunfo**  
Via Oeste, Lote 5 - S/Nº  
CEP 95840-000 Triunfo - RS

Company's phone 55(51) 3457-8100

Emergency phone 55(11) 3957-7148  
55(51) 3457-5500  
55(51) 3721-8100Home Page [www.braskem.com.br](http://www.braskem.com.br)Company's Name BRASKEM S.A.  
Address **Centro Prod. PP/PE Triunfo**  
BR 386 - Rodovia Tabai Canoas,  
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55(51) 3721-8100Home Page [www.braskem.com.br](http://www.braskem.com.br)Company's Name BRASKEM S.A.  
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Company's Name	BRASKEM S.A.
Address	<b>Escritório Eldorado SP</b> Avenida Nações Unidas 8501 CEP 05425-070 São Paulo – SP
Company's phone	55(11) 3576-9000
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### 2. HAZARD IDENTIFICATIONS

Most Important Hazards	Stable product, does not present danger in its normal handling and storage state.
Product's effects - Human Effects or risks from exposure	Does not present specific dangers.  The product does not offer risks in its normal state. Inert and atoxic product. In case of dust, Braskem suggests it to be treated as annoying dust or particulate, according to the international recommendations.
- Environmental Effects	Non biodegradable product. Can be repacked for reuse in case of loss for environment.
- Physical and Chemical Hazards	Handling the product in room temperature presents no risks for the operator.  When in direct burn, generates flame and produces water, carbon dioxide, and in lack of oxygen, also generates carbon monoxide. Products of fire are irritating and toxic. In high combustion temperatures (between 400°C and 700°C) other products as hydrocarbonets and aldehydes may be formed. High concentration of dust, in suspension, is flammable. Heat, sparks and direct flame may cause ignition and explosion in closed areas.
- Specific hazards	Does not present specific danger, for being inert.

### 3. COMPOSITION AND INFORMATION ABOUT THE PRODUCT

Chemical Name	Polypropylene
Other names	PP

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Standard composition

- |              |   |
|--------------|---|
| - Component  | Polypropylene homopolymer                             |
| - CAS Number | 9003-07-0   |
|              |   |
| - Component  | Polypropylene copolymerized with ethene               |
| - CAS Number | 9010-79-1   |
|              |   |
| - Component  | Polypropylene copolymerized with ethane and butene -1 |
| - CAS Number | 25895-47-0  |

Ingredients that contribute for hazard

- |             |                |
|-------------|----------------|
| - Component | Not applicable |
|-------------|----------------|

### 4. FIRST- AID MEASURES

- |                |  |
|----------------|--|
| - Eye contact  | Protection glasses are recommended for any environment. Cornea may be irritated or damaged by mechanical action. In this case washing the affected area with current water is recommended.   |
| - Skin contact | There are no risks to health when keeping contact with the material in room temperature.<br>Contact with heated material might cause burns.<br>Contact with welded material might cause severe burns.<br>Cool affected part applying lots of cold water and do not remove material adhered to skin. Medical assistance required.   |
| - Inhalation   | During processing, ventilated area recommended (natural or mechanical ventilation).<br>No risks concerning inhalation at room temperature.<br>When heated at high temperatures, might dispense vapors as propane and ethane, low MW polymers and their oxidation products.<br>Very low levels of other products of decomposition, as aldehydes and acids, might be generated.<br>In case of processing vapors inhalation, immediately remove affected person to a ventilated place with fresh air. |
| - Ingestion    | As it is a chemical product, shall not be swallowed.<br>There are no known risks to health by swallowing this resin, but might cause throat obstruction when swallowing.   |

### 5. FIRE – FIGHTING MEASURES

- |                          |  |
|--------------------------|--|
| Fire-Fighting Procedures | In case of fire, the area must be isolated, checking aspects of drainage of ashes resulting from the fire.<br>This resin when in combustion, cause class A fire.<br>Fire must be fought with water spray, foam, dry chemical dust or CO2 (carbon dioxide), as extinguisher agents. |
| Special methods          | Fight fire from a safe distance. Evacuate the area.  |

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**Firefighter's Protection**      People who don't have adequate breathing device must abandon the area to prevent significant exposure to combustion gases.  
Full protection clothing and autonomous breathing device.

### 6. ACCIDENTAL RELEASE MEASURES

- Eliminate ignition sources      Ignition sources must be removed from contact with the resin from spills or leakages.
- Dust control      The material presents it self in the form of dust or pellet.  
When consumed in the form of powder, an anti-dust mask approved by the MTE (Labor and Employment Ministry) must be worn.  
Avoid the formation of dust, for it may form na explosive mixture with air.
- Environmental measures      Stanch the spill. Avoid the spill of the product to public drains and to hydric sources.  
Pelleted Polypropylene is slipping and may cause fall.
- Ways to clean leak and spill areas      Aspirating or sweeping the product for repackaging, reuse or discard.

### 7. HANDLING AND STORAGE

- Handling
- Precautions for safety handling      It is recommended using protective gloves when handling hot material during the processing.  
Protective goggles are recommended to all work environments.
  - Practices to prevent personnel exposure      Natural ventilation shall be sufficient, no respiratory protection shall be necessary.  
Dust must be avoided, as well as eating and drinking in the areas where the product is handled.
- Storage
- Properly technical storage measures      The maximum time of storage of polypropylene is 15 months after production.
  - Properly storage conditions      Store in wood slats, with 55 sacks each (total of 1.375 ton) in pallets to moving with stacking machine.  
The products must be stored protected from sun rays.  
Observed the limit of two pallets piled one over the other.
  - Risk symbols      Not applicable
  - Incompatible materials      It is not recommended the storage with the concentrated acids, chlorinated solvents and aromatic compounds.

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Safety material to package

- Recommended

The polyethylene resin, being an inert material, can be packaged in polyethylene sacking.

### 8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Specific control parameters

- Occupational limit exposition

Not aplicable.

- Biologic indicator

Not aplicable.

Apparatus for personnel protection

- Respiratory protection

No respiratory protection shall be necessary In case of pellets. In case of dust, wear protection mask.

- Hands protection

Gloves are recommended for handling the material during processing, due to the temperature occurring then.

- Eyes protection

Use of safety goggles is recommended in any working environment.

Hygiene measures

Eating and drinking in the areas where the product is handled must be avoided.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical appearance

Solid

Color

Translucid / White

Flash Point

Not aplicable

Auto ignition temperature

> 400 °C

Explosive limits upper

Not aplicable

Vapor pressure

Not aplicable

Density

0,9 g/cm<sup>3</sup>

Solubility in water

Insoluble

Solubility in other products

Solvent organic

### 10. STABILITY AND REACTIVITY

Instability

Polypropylene resins are stable, not occurring depolymerization.

Hazardous reactions

Non-aplicable.

Incompatibility with

Avoid storage with chlorate solvents, concentrated acids and aromatic compounds.

The molecular structure can change under severe conditions of heat and/or radiation, such as long exposure to sun light.



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Hazardous products from Decomposing

The combustion products of this resin, such as other natural and synthetic materials, must be considered toxic. Such as wood, paper and cotton, the highest risk is the carbon monoxide.

### 11. TOXICOLOGICAL INFORMATION

Local effect

Effect specific decurrent of the use are not known carcinogen, mutagenic e teratogenic.

Chronic toxicity

Polypropylene does not appear to possess any toxicological properties.

### 12. ECOLOGICAL INFORMATION

Environmental effects, impacts for the product  
Mobility

Adverse effect to the nature in persistence function and bioaccumulation are not known.

Persistence degradability

Non-biodegradable.

### 13. DISPOSAL CONSIDERATION

Ways for product disposal

Discard of residues must be in accordance with the Federal, State and local applicable rules. According to NBR 10004 this resins are not considered hazardous for disposal.

Ways for used packages disposal

Polypropylene package must be submitted to re-utilization in the working environment. May be used in the movimentation of products, or even destined to recycling by specialidez companies. Big bag packages are returnable and must be returned to Braskem.

Ways for wastes disposal

Follow the same systematic of the treatment and disposal methods for the product.

### 14. TRANSPORTATION INFORMATION

National and international regulations

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Further information for transport  
(FDS)- Further information about  
Transport

Protection is necessary to avoid contact with humidity and leakage.  
In case of this occurrence, sweep or vacuum for reuse or discard.  
For purposes of domestic transport, polyethylene resins are not classified  
as hazardous by the Ministry of Transports.  
Polypropylene is also not classified as hazardous product by the UN.

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**15. REGULATORY INFORMATION**

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Regulatory

- Legal base

There are no regulations specifically applicable to polyethylene resins.

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**16. OTHER INFORMATION**

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Particular requirements of training

BRASKEM advises that the handling of any chemical substance  
requires knowledge of the risks by the user.  
The company using the product must train its employees as to the risks  
involved in handling such substance.

Bibliography

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NBR 14725 for Chemical Product Safety Information Record – MSDS  
ISO 11014-1:1994