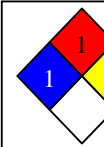


MATERIAL SAFETY DATA SHEET

Advanced-PP

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/PREPARATION

| | | |
|-----------------------------------|--|---|
| CHEMICAL NAME AND SYNONYMS | : Polypropylene Homopolymer |  |
| TRADE AND / OR COMMON NAME | : Advanced-PP | |
| CHEMICAL FAMILY | : Polyolefin (Polymer) | |
| FORMULA | : (-CHCH ₃ CH ₂ -) _n | |
| CAS RN | : 9003-07-0 | |
| EC NO | : The product is not classified as a dangerous preparation (EC). | |
| UN NO | : Not applicable | |

SECTION 2 - HAZARDS IDENTIFICATION

INHALATION: Inhalation of polymer dust may irritate the respiratory tract. At high temperature, prolonged inhalation of high doses of decomposition products may give headache or irritation of respiratory tract.

SKIN CONTACT: The molten product adheres to the skin and causes burns.

SKIN ABSORPTION: No known acute effects of this product resulting from skin contact.

EYE CONTACT: Heated polymer can cause serious thermal burns. Vapors formed when polymer is heated may be irritating to the eye.

INGESTION: No effects are expected for ingestion of small amounts. May be a choking hazard.

SECTION 3- COMPOSITION/INFORMATION ON INGREDIENTS

| Name | CAS | % by weight | Exposure Limits |
|----------------------------|-----------|-------------|---|
| Polypropylene homo polymer | 9003-07-0 | ~100 % | TLV-TWA: Not available. TLV-STEL: Not available. IDLH: Not available. |

Additives have been incorporated to stabilize the polymer in appropriate amount according to specification of particular grade of Polypropylene.

'ADVANCED' Homo polymer resins are not considered to be hazardous under normal processing conditions.

SECTION 4 : FIRST-AID MEASURES

SKIN: Hot molten product stick to the skin immediately. Treat the affected part with cold water (by spraying or immersion),no attempt should be made to detach molten product adhering to the skin or to remove clothing attached with molten material, injured areas should be treated as thermal burns ,in case of server burns, seek hospital treatment.

EYES: Polymer dust/powder irritates the eyes. Treat the eyes with cold water; seek immediately special attention at hospital or medical centre, in case of irritation caused by fine dust. Wash with copious volumes of water, until the irritation disappears. If irritation persists, get immediate medical attention.

INGESTION: Get medical advice if necessary. No specific measures have to be taken if the product is swallowed/ ingested.

INHALATION: Exposure to elevated temperatures can cause PP to decompose. Decomposition products may include trace amounts of hydrocarbons, Carbon dioxide & Carbon monoxide. Fumes from decomposition or burning can be irritating. In case of inhalation, bring patient into fresh air. Get medical advice if the symptoms continue.

SECTION 5- FIRE-FIGHTING MEASURES

FLASH POINT : >300°C (>572°F), Closed cup

AUTO-IGNITION TEMPERATURE : >410°C (>770°F)

MINIMUM IGNITION ENERGY : Not available.

FLAMMABLE LIMITS IN AIR : Not applicable.

EXTINGUISHING MEDIA: Water in spread jet, dry chemicals, foam or carbon dioxide should be used.

FIRE FIGHTING PROCEDURES: Firefighters should be equipped with self-contained breathing apparatus.

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USUAL FIRE AND EXPLOSION HAZARDS: Processing or material handling equipment may generate dust of sufficiently small particle size, that when suspended in air may be explosive. Molten plastics, dust can cause explosion hazards. A risk of explosion of the product in presence of static discharge is possible. Fire may produce irritating gases and dense smoke.

SECTION 6- ACCIDENTAL RELEASE MEASURES

Personal precautions: No specific measures are necessary.

Environmental precautions: No special measures required. Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

Large spill: Vacuum or sweep up material and place in a disposal container. Not biodegradable. Do not allow environmental contamination.

Small spill: Caution: it is easy to slide and lose footing on granule spillages. Sweep up material and place in a disposal container.

SECTION 7- HANDLING AND STORAGE

HANDLING: During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released. Provide adequate ventilation. Local exhaust ventilation may be necessary. Avoid inhalation of dust and decompositions fumes. Dust from the product gives a potential risk for dust explosion. All equipment shall be grounded.

Fine particle material (< 0.125 mm) should not be allowed to accumulate, particularly when transported pneumatically. The product is combustible. The product contains combustible polymers. The relevant fire protection measures thus apply.

STORAGE: Store in a cool, well ventilated place away from direct sunlight and at ambient temperature. Do not store near an open flame, heat or other sources of ignition. Material will accumulate static charges that may cause an electric spark.

Three pallets must never be stacked. Under normal storage conditions, and following good working practices, two pallets may be stacked on flooring in sound condition. When pallets are stored in racks, it should be checked whether the pallet is fit stacking in the concerned racks. Conical pile discharge to be considered for storage in large silos.

SECTION 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: NIOSH approved respirator for dust and vapors. Ventilation is normally required when handling this product at high temperatures.

SKIN PROTECTION: Protective gloves are required when handling hot polymer. Also, long sleeve cotton shirt and long pants if handling molten polymer.

EYE PROTECTION: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to molten polymer, mists, gases or dusts.

OTHER PROTECTIVE EQUIPMENT: Safety non-slip shoes in areas where spills or leaks can occur. Provide appropriate exhaust ventilation at machinery.

SECTION 9- PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--|---|-----------------------------------|------------------------|
| APPEARANCE AND ODOR | Granular, Translucent to white solid pellets/ Odorless | THRESHOLD ODOR CONC | Not available. |
| MELTING POINT | 150-170 °C (DSC) | BOILING POINT | Not applicable |
| SPECIFIC GRAVITY (H₂O = 1): at 23 °C | 0.880 - 0.913 | VAPOR PRESSURE | Not applicable |
| DECOMPOSITION TEMPERATURE | >300°C (>572°F) | PERCENT VOLATILE BY VOLUME | <0.1 % |
| SOLUBLE IN: | Hot Xylene | ELECTRICAL CONDUCTIVITY | Not available. |
| SOLUBILITY IN WATER | Insoluble | MOLECULAR WEIGHT | approx. >200000 Dalton |
| SURFACE TENSION | Not applicable | VISCOSITY | Not available. |
| REFRACTION INDEX | Not available. | EVAPORATION RATE | Not applicable |

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SECTION 10- STABILITY AND REACTIVITY

| | |
|---|--|
| STABILITY ■ Stable. The product is a stable thermoplastic with no chemical reactivity under normal handling and storage conditions. | CONDITIONS TO BE AVOIDED: Strong oxidation agents, avoid temperatures above 300 degree C (570 F). |
| INCOMPATIBILITY: Incompatible or reactive with fluorine gas, oxidizing agents (nitric acid and perchloric acid), free halogens, benzene, petroleum ether, gasoline and lubricating oils, and aromatic and chlorinated hydrocarbons. | |
| HAZARDOUS DECOMPOSITION PRODUCTS: Under normal conditions of storage and use, hazardous decomposition products should not be produced. The product burns, but is not classified as flammable. Principal toxicant in the smoke is carbon monoxide & carbon dioxide. | |
| HAZARDOUS POLYMERIZATION ■ Under normal conditions of storage and use, hazardous polymerization will not occur. | |

SECTION 11-TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Intraperitoneal Rat >110 g/kg

LD50 Intravenous Rat >99 g/kg

LD50 Oral Rat >5000 mg/kg

Potential chronic health effects:

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Eco-toxicity: The Advanced homo polymer is not toxic under normal conditions. It is not biodegradable.

SECTION 12- ECOLOGICAL INFORMATION

No specific ecological information available regarding this product. Please refer the section -6 for information regarding environmental precautions.

IRDS:

Eye Irritation: This material is not expected to be irritating to the eyes.

Skin Irritation: This material is not expected to be irritating to the skin.

SECTION 13- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: (1) Recycle (reprocess). (2) Incineration including energy recovery of waste material in a permitted facility in accordance with local, state or provincial and federal regulations. (3) Land filling in a licensed facility in accordance with local, state or provincial and federal regulations.

SECTION 14-TRANSPORT INFORMATION

This product is not transport regulated. According to national and international guidelines, which regulate the road-, rail-, air- and sea transport, this product is classified as not dangerous.

UN NUMBER: Not applicable

CLASS AND SUBSIDIARY RISK: None allocated

PACKING GROUP: None allocated

HAZCHEM CODE: Not applicable.

SECTION 15- REGULATORY INFORMATION

FDA regulations:

The product is mentioned in Title 21 177.1520(a)1(i).

The product complies with the FDA CFR Title 21, 177.1520 Olefin polymer. The additives incorporated in it comply with FDA CFR Title 21, 178.2010, & European Regulation (EU) 10/2011.

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EU regulations:

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use. The product is not classified according to EEC directives 67/548/EEC (dangerous substances) and 1999/45/EC (dangerous preparations).

Risk phrases: This product is not classified according to EU legislation.

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16- OTHER INFORMATION

IN CASE OF EMERGENCY CALL:

Inside company

Security control room- 7777

Central control room-7444

Fire station-7888

Clinic-7555

Safety engineer Radio = 4

Fire Radio = 5

From outside company

Safety engineer: 00966 133566220

Security chief: 00966 133566212

Fire chief: 00966 133566219

Communication address:

Advanced Petrochemical Company (ADVANCED)

PO BOX# 11022

Jubail, PIN- 31961

Saudi Arabia.

FOR ADDITIONAL INFORMATION CALL: 00966 133566231/00966 133566232

Notice to Reader

Ensure that all those within their control who use the products are supplied with all relevant information contained within the Material Safety Data Sheet and Technical Bulletin concerning the applications for which this product is designed and any instructions or warnings contained therein. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.