SAFETY DATA SHEET
Polypropylene Homopolymer
H316 (1102LQ)

SECTION 1 – IDENTIFICATION

Product Identifier	: Polypropylene (PP)
Other means of identification	: Polypropylene Homopolymer (PPHP)
Chemical Family	: Polyolefin (Polymer)
Product Type	: Pellets
Formula	: (-CHCH3 CH2-)n
Recommended Use	: As described in individual grades Data sheet
Supplier's Details	: Advanced Petrochemical Company (ADVANCED) PO BOX# 11022 Jubail, PIN – 31961 Saudi Arabia.
In Case Of Emergency Call	: From outside company

Security Control Room: +966 13 358 4048 (24/7)

Website: www.advancedpetrochem.com

SECTION 2 – HAZARDS IDENTIFICATION

Critical hazards to man and environment: None
The product is not classified as dangerous preparation (EC).

GHS Classification
The product not a dangerous substance according to Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

GHS Labeling
The product not a dangerous substance according to Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Chemical identity of the substance	CAS	% by weight
Polypropylene (PP)	9003-07-0	>99 %

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

SECTION 4 – FIRST-AID MEASURES

Description of necessary 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.

Most Important symptoms/effects, acute and delayed

Eye contact:
Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Inhalation:
Exposure to airborne concentrations above statutory or recommended exposure Limits. May cause irritation of the nose, throat and lungs.

Skin contact:
No known significant effects or critical hazards.

Ingestion:
No known significant effects or hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician:
No specific antidote. Treatment of exposure should be directed at the control of symptoms and clinical Condition of the patient.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable extinguishing Media:
Small Fire: Use dry chemical, CO2 or water spray.
Large Fire: Use water spray hose from a safe location.

Specific hazards arising from the chemicals:
During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion carbon dioxide, carbon monoxide, ketones, aldehydes, unidentified organic compounds. Dense smoke is emitted when burned without sufficient oxygen.

Special protective equipment and precautions for fire-fighters:
Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not use, fight fire from a protected location or safe distance.

Firefighting procedures:
Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No specific measures are required. Gather at safe assembly point in case of accident.

For emergency responders: In case of fire, barricade the area. Spilled material may cause a slipping hazard. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment.

For emergency responders:
Response as per company rules.

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

Methods and materials for contaminant and cleaning up

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, STORAGE AND SHELF LIFE

Precautions for safe 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.

Conditions for safe storage, including any incompatibilities

Storage:
Store in a cool, well-ventilated place away from direct sunlight and at ambient temperature not exceeding +40°C and relative humidity not exceeding 80%. 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.

Shelf life:
Regarding shelf life of polypropylene, the expiry period or shelf life of polypropylene cannot be defined accurately as it is strongly dependent on packing material, package handling and storage conditions, which vary considerably with different users. However, as a guideline, it is affirmed that Polypropylene shelf life is minimum One year from the date of manufacturing, subject to proper Handling & Storage conditions such as protection from direct or indirect sunlight exposure, temperature, dust and chemical fumes or similar exposure, etc.

The above given statement is valid only for material stored in original intact package and without any damage to the package.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Appropriate engineering controls

- Minimize source of ignition, such as static build-up, heat, spark or flame.
- Ventilation: Good general ventilation should be sufficient for most conditions.
- Local exhaust ventilation may be necessary for some operations.
- Check the recommended threshold exposure limit.

Individual protection measures such as personal protective equipment (PPE)

Eye/face protection:
Wear Safety glasses with side shields. 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.

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

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

Thermal hazards:
Hot molten polymer can stick to skin. Use proper PPE before handling the hot molten polymer. Hot fumes can come out from hot molten polymer. Use appropriate mask. Provide appropriate exhaust ventilation at machinery.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor	Granular, Translucent to white solid pellets/ Odorless	Threshold odor concentration	Not available.
Melting Point	150-170 °C (DSC)	Boiling point	Not applicable
Relative Density (H_2o = 1): At 23 °C	0.880 - 0.913	Vapor pressure	Not applicable
PH	Not applicable	Vapor density	Not applicable
Flash point	>300°C (>572°F), Closed cup	Flammable limits in air	Not available
Evaporation rate	Not applicable	Partition coefficient: n-octanol/water	The product is insoluble in water and octanol

Decomposition temperature	>300°C (>572°F)	Percent volatile by volume	<0.1 %
Soluble in:	Hot Xylene	Viscosity	Not applicable
Auto-ignition temperature	>410°C (>770°F)	Molecular weight	approx. >200000 Dalton

SECTION 10 – STABILITY AND REACTIVITY

Reactivity:
No specific test data related to reactivity available for this product or its ingredients.

Chemical stability:
This product is a stable thermoplastic with no chemical reactivity under normal handling and storage conditions.

Possibility of hazardous reactions:
Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid:
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.

SECTION 11 – TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure:
Routes of entry anticipated: Oral, Dermal and Inhalation.
The product is not harmful provided handled correctly. Process the material according to given recommendation.

Irritation/Corrosion: Not available.
Sensitization : Not available.
Specific target organ toxicity (single exposure) : Not available.
Specific target organ toxicity (repeated exposure) : Not available.
Aspiration hazard : Not available.

Potential acute health effects

Eye contact/Irritation: No eye irritation
Acute Inhalation Toxicity: Presumed not toxic
Skin contact: No known significant effects or critical hazards
Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: irritation, redness
Inhalation : Adverse symptoms may include the following: respiratory tract irritation coughing
Skin contact : No specific data
Ingestion : No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure
Potential immediate effects: Not available
Potential delayed effects: Not available

Long term exposure
Potential immediate effects: Not available
Potential delayed effects: Not available

Potential chronic health effects

General:
Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Numerical measures of toxicity

Acute toxicity estimates: Data not available.
Mutagenicity: Data not available.
Carcinogenicity: Data not available.
Reproductive toxicity : Data not available.
Teratogenicity : Data not available.

Further Information: This product contains POLYMERIZED OLEFINS.

During thermal processing (>350°F, >177°C) polyolefins can release vapors and gases (aldehydes, ketones and organic acids) which are irritating to the mucous membranes of the eyes, mouth, throat, and lungs. Generally, these irritant effects are all transitory. However, prolonged exposure to irritating off-gases can lead to pulmonary edema. Formaldehyde (an aldehyde) has been classified as a probable human carcinogen by NTP, IARC (2A), and OSHA based on animal data and limited epidemiological evidence.

SECTION 12 – ECOLOGICAL INFORMATION

Eco toxicity:
Wildlife may ingest plastic pellets or bags. Although not toxic, such materials may physically block the digestive system, causing starvation or death. This product is not likely to move rapidly with surface or groundwater flows because of its low water solubility and lower density than water.

Persistence and degradability: Not available
Bio accumulative potential: Not available
Mobility in soil: Not available
Other adverse effect: No known effects or critical hazards

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 allocated
UN PROPER SHIPPING NAME: Not allocated
TRANSPORT HAZARD CLASS: Not allocated
PACKING GROUP: Not allocated

ENVIRONMENTAL HAZARDS: It is not marine pollutant. The Polypropylene is lighter than water hence it floats on water.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not classified

Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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.

EU regulations:
Classification and labeling have been determined according to EU Directives *as per Regulation 1272/2008/EC [CLP]* (including amendments) and take into account the intended product use. The product is not classified according to *Regulation 1272/2008/EC [CLP]*.

Polypropylene Homopolymer manufactured by 'Advanced" complies with European Regulation (EU) 10/2011 (and its amendments as of date)

RoHS Regulations:
Product complies with RoHS regulations 2011/65/EC updated as of date.

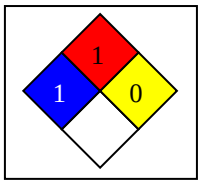
REACH compliance:
The product complies with Reach requirements as per regulation 1907/2006/EC.

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.

HS Code: 3902:10:00

SECTION 16- OTHER INFORMATION

1. NFPA



Abbreviations:

CAS= Chemical Abstracts Service
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
UN = United Nations
IATA = International Air Transport Association
OSHA= Occupational Safety and Health Administration (OSHA)
NFPA=National Fire Protection Association
EC=European commission.
EEC= European Economic Community

MARPOL= marine pollution
IBC= intermediate bulk container
FDA=Food and drug administration
EU = European Regulation
RoHS= Restriction of Hazardous Substances Directive
REACH= Registration, Evaluation, and Authorization of Chemical Substances

Notice to Reader

Caution: Do not use Advanced Petrochemical co. Polypropylene material in application involving implantation within the body, direct or indirect contact with blood pathway, contact with bone, tissue, tissue fluid or blood or prolonged contact with mucus membrane. The material is not designed or manufactured for use in implantation in the human body or contact with internal body fluids or tissues. Company makes no representation, promise, express warranty or implied warranty concerning sustainability of these material for use in implantation in the human body or in contact with internal body tissues or body fluids.

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