

Material Safety Data Sheet

According to GHS
(Globally Harmonized System)



Moplen EP300L

1. IDENTIFICATION OF THE SUBSTANCE

Application of substance/preparation: Synthetic resin for polymer processing
Manufacturer/supplier: PolyMirae Company Ltd.
Informing department: ADTSI
17F, Three IFC, 10, Gukjegemyung-ro, Youngdeungpo-gu, Seoul, 07326, Korea
Phone. +82-2-2167-8983
HSE
3, 220-10, Yeosusandan 2-ro, Yeosu-si, Jeollanam-do, Korea 59611
Phone. +82-61-806-7111

2. HAZARDS IDENTIFICATION

GHS classification: Not a dangerous substance or mixture
GHS labelling: Not a dangerous substance or mixture
Classification system: This product is, according to Regulation (EC) No. 1272/2008 (CLP) and subsequent amendments, not classified as hazardous
Information pertaining to particular dangers for human and environment: The molten product adheres to the skin and causes burns.
Spilled material may present a slipping hazard.
Possible production of electrostatic charging when used.
If small particles are generated during further processing, may form combustible dust concentrations in air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>Composition (Wt. %)</u>	<u>CAS No.</u>
Propylene Ethylene Copolymer (1-propene, polymer with ethene)	> 98	9010-79-1
Additives (Trade secret)	< 2	-

4. FIRST AID MEASURES

General information: The measures listed below apply to critical situations (Fire, incorrect process conditions).
Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.
At room temperature the product is neither an irritant nor gives off hazardous vapors.
If inhaled: In case of excessive inhalation of fumes move the person to fresh air. If signs/symptoms continue, get medical attention. Keep person warm, if necessary give Cardio-Pulmonary Resuscitation (CPR).
In case of skin contact: After contact with the molten product, immediately flush with large amounts of water to cool the affected tissue and polymer.
Do not pull solidified product away from the skin.
Obtain immediate emergency medical attention if burn is deep or extensive.

In case of eye contact: Flush eyes thoroughly with water for several minutes and seek medical attention if discomfort persists.
In case of eye contact with molten polymer, flush eye(s) with cool running water for at least 15 minutes.
Beyond flushing, DO NOT attempt to remove the material adherent to the eye(s).
Seek medical attention.

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

5. FIRE-FIGHTING MEASURES

Suitable extinguishing agents: SMALL FIRES: Use dry chemical, CO₂, or water spray.
LARGE FIRES: Use water spray hose nozzles from a safe location.

Unsuitable extinguishing agents: None

SPECIAL HAZARDS CAUSED BY THE SUBSTANCE OR MIXTURE

Specific hazards during fire-fighting: In case of fire hazardous decomposition products may be produced such as: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)
The formation of hydrocarbons and aldehydes are possible in the initial stages of a fire (especially in between 400°C and 700°C).

ADVICE FOR FIRE-FIGHTERS

Protective equipment: Wear approved positive pressure self-contained breathing apparatus and firefighter protective clothing.

Further information: Combustible particulates solid, will decompose under fire conditions.
Calorific value: 8000 - 11000 kcal/kg
Fight fire from may melt, decompose polymer, and generate flammable vapors.
Move containers from fire area if it can be done without risk.
Evacuate immediately in the event of opening of storage container pressure relief devices or discoloration of container.
Always stay away from tanks engulfed in fire.
Do not attempt to get on top of storage containers involved in fire.
Cool storage containers with large volumes of water even after fire is out.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURE

Personal precautions: Equip responders with proper protection.
Create dangerous slipping hazard on any hard smooth surface.
Equip emergency responders with proper personal protective equipment (PPE).
Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air).
Polymer particles create slipping hazard on hard smooth surfaces.
May contain trace amounts of light hydrocarbons, compounds of oxidation, aldehydes and acid.

Measures for environmental protection: Do not flush into surface water or sanitary sewer system.
See point 12 and 13.

Measures for cleaning/collecting: See point 13.
Small spills: Put into a labeled container and provide safe disposal.
Large spills: Act as during a limited release.
Recycle product or dispose properly.

7. HANDLING AND STORAGE

Precaution of safe handling:	No special requirements necessary, if handled at room temperature. Avoid spilling the product, as this might cause falls. When bringing the material to processing temperatures gases might develop, forming: Propylene, hydrocarbon substances with low molecular weight and their oxidation products, solvent residues, traces of formaldehyde and acrylaldehyde and traces of acids (Formic acid, acetic acid). Provide appropriate ventilation for such processing conditions. Experimental tests under different application conditions showed maximum limits of formaldehyde, acrylaldehyde, formic acid, and acetic acid being significantly below TLV-values. Take precautionary measures against explosion risks, as all types of polymers may develop dust during transporting or grinding of granules.
------------------------------	--

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMATIBILITIES

Requirements for storage areas and containers:	Store in a dry location. Use good housekeeping practices during storage, transferring and handling. Store away from excessive heat and away from strong oxidizing agents. Keep container closed to prevent contamination. Take measures to prevent the build-up of electrostatic charge. Store either in the closed original containers in well ventilated area or in silos with vents.
--	--

8. EXPOSURE CONTROLS AND PROTECTION

Engineering measures:	Follow the recommendations in international standard NFTA 654 (as amended and adopted). Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
Components with limit values that require monitoring at the workplace:	Not required.
Additional exposure limit values for possible processing dangers:	107-02-8 acrylaldehyde Short-term value: 0.70 mg/m ³ , 0.3 ppm WEL Long-term value: 0.23 mg/m ³ , 0.1 ppm 50-00-0 formaldehyde Short-term value: 2.5 mg/m ³ , 2 ppm WEL Long-term value: 2.5 mg/m ³ , 2 ppm 64-18-6 formic acid Long-term value: 9.6 mg/m ³ , 5 ppm WEL
Additional information:	See point(s) 7, 9.

PERSONAL PROTECTIVE EQUIPMENT

General protective and hygienic measures:	Do not eat or drink while working. Eliminate ignition sources. Provide system for collecting the vapors which are created during the working process.
Respiratory protection:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Use appropriate respiratory protection where atmosphere exceeds recommended limits. If appropriate ventilation is not available use face mask when handling the molten product.
Protection of hands:	Wear gloves that provide thermal protection where there is a potential for contact with heated material.
Material of gloves:	The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Penetration time of glove material:	The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Eye protection:	Dust service goggles should be worn to prevent mechanical injury or other irritation to eyes due to airborne particles which may result from handling this product.

Skin and body protection:	Wear suitable protective clothing.
Hygiene measures:	Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

GENERAL INFORMATION

Form:	Pellets
Color:	Natural
Odor:	Slight or no data available

CHANGE IN CONDITION

Melting point/melting range:	50°C~170°C
Boiling point/boiling range:	Not determined.
Flash point:	Not applicable (see attachment to guideline 92/69/EEC, A.9).
Ignition temperature:	> 400 °C
Decomposition temperature:	> 300 °C
Danger of explosion:	Product is not explosive. See point(s) 7.
Density at 20 °C:	0.89 ~ 0.91 g/cm ³
Solubility in/miscibility with water:	Insoluble.
Additional information:	Soluble in boiling, aromatic chlorinated solvents.

10. STABILITY AND REACTIVITY

Thermal decomposition/conditions to be avoided:	The product is stable at normal handling- and storage conditions.
Materials to be avoided:	Strong oxidation agent.
Dangerous reactions:	No dangerous reactions known.
Dangerous products of decomposition:	No hazardous decomposition products known at room temperature. Carbon monoxide, olefinic and paraffinic compounds, trace amounts of organic acids, ketones, aldehydes and alcohols may be formed under thermal decomposition.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	Acute oral toxicity: Not classified. Acute dermal toxicity: Not classified. Acute inhalation toxicity: Not classified.
-----------------	--

PRIMARY IRRITANT EFFECT

Skin corrosion/irritation:	No irritant effect.
Eye damage/irritation:	No irritant effect.
Sensitization:	No sensitizing effect known.
Additional toxicological information:	When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12. ECOLOGICAL INFORMATION

INFORMATION ABOUT ELIMINATION (PERSISTENCE AND DEGRADABILITY)

Other information: The product is not biodegradable.

BEHAVIOR IN ENVIRONMENTAL SYSTEMS

Mobility and bioaccumulation potential: Floats on water.
There is no bioaccumulation.

General notes: The product is not toxic, small particles can have physical effects on water and soil organisms.

13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

Product: All recovered material should be packaged, labeled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices.

Reclaim where possible. Recycle if possible.

Recommendation: The material can be re-used or recycled according to the regulations of Guideline EG 94/62.

Disposal through controlled incineration or authorized waste dump.

European waste catalogue: 070213

UNCLEANED PACKAGING

Recommendation: Disposal must be done according to official regulations.

14. TRANSPORT INFORMATION

Transport/additional information: According to national and international guidelines, which regulate the road-, rail-, air- and sea transport, this product is classified as not dangerous.

IATA: Not dangerous.

15. REGULATORY INFORMATION

Designation according to EC guidelines: The material is not subject to classification according to EC lists and other sources of literature known to us.

Observe the normal safety regulations when handling chemicals.

16. OTHER INFORMATION

The first date of preparation: 2000.09.01

Revised number and date: 2017.02.02 (Rev. 7)

The information supplied has been based upon the current level of information available, for the purpose of specifying the requirements regarding environment, health and safety in conjunction with the product. They are not to be interpreted as a warranty for specific product characteristics.

PolyMirae takes no responsibility for inappropriate use, processing and handling by purchasers and users of the product.

Department issuing data specification sheet: ADTSI (Regulatory Affairs & Product Stewardship)

Contact: CH Lim (ch.lim@polymirae.com)

Disclaimer

This document is generated for the purpose of distributing health, safety, and environmental data.

The above values are for reference only and shall not be construed as specifications.

Before using a PolyMirae product, users shall review carefully Seller's instructions for the use of such product and make their own independent determination of whether the product is suitable for the intended use and can be used safely and legally. If users fail to comply with Seller's restrictions and instructions for the use of the product or an obligation to notify Seller, if applicable, of each specific application before using such product in certain categories of application, users are solely liable for any injuries or damages resulting from their use of such product and Seller shall have no liability whatsoever.

POLYMIRAE MAKES NO WARRANTY, EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) UNLESS AGREED OTHERWISE IN A CONTRACT.

The use of this product(s) is strictly prohibited in

- i. U.S. FDA Class III, Health Canada Class IV, and/or European Union Class III Medical Devices;
- ii. applications involving permanent implantation into the body;
- iii. life-sustaining medical applications; or
- iv. lead, asbestos or MTBE related applications.

Users are solely liable for any injuries or damages resulting from any use of this product(s) in the above categories and Seller shall have no liability whatsoever.

The use of this product is further prohibited in the following categories unless Seller receives a prior notice of each specific application using such product, provided that Seller may refuse to sell such product at its sole discretion.

- i. U.S. FDA Class I, Health Canada Class I, and/or European Union Class I medical devices;
- ii. U.S. FDA Class II, Health Canada Class II or Class III, and/or European Union Class II Medical Devices;
- iii. film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned Medical Devices;
- iv. packaging in direct contact with an active pharmaceutical ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration;
- v. tobacco related products and applications;
- vi. electronic cigarettes and similar devices; or
- vii. pressure pipe or fittings that are considered a part or component of a nuclear reactor

All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.

For the purpose of this Disclaimer, "Seller" shall mean PolyMirae and any person or entity appointed by PolyMirae for the sale of the product covered by this Disclaimer.

Users should review the applicable Material Safety Data Sheet before handling the product.

Trademarks

The Trademark referenced within the product name is owned and used by the LyondellBasell family of companies and it is used by PolyMirae under license.