

POLYETHYLENE WAX

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Product name	Polyethylene Wax
Synonyms	PE wax; polyethylene homopolymer wax; low molecular weight polyethylene
Grades covered	PE370, PE380, PE120F, PE120P, PE115F
CAS number	9002-88-4
EC / EINECS number	Polymer — exempt from EINECS listing
REACH status	Polymers are exempt from registration under Article 2(9) of Regulation (EC) No 1907/2006. Registration obligations may apply to the monomers used in manufacture; these rest with the manufacturer.
Identified uses	External lubricant in PVC processing; filler and colour masterbatch; hot-melt adhesives; PVC stabiliser systems; plastics compounding; coatings and inks. Industrial use.
Uses advised against	Food contact unless the specific grade is separately documented as compliant.
Supplier	BHD Dış Ticaret A.Ş. Yeşilköy Mah. Atatürk Cad. No:10 A2 Blok D:182, İstanbul Dünya Ticaret Merkezi / İstanbul, Türkiye Tel: +90 212 485 50 69 sales@bhdtrade.com
Emergency telephone	[BHD 24-hour emergency number to be inserted] Türkiye: Zehir Danışma Merkezi 114 (national poison centre)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance

Regulation (EC) No 1272/2008 (CLP): not classified. Polyethylene wax does not meet the criteria for classification in any physical, health or environmental hazard class.

2.2 Label elements

No signal word, pictogram, hazard statement or precautionary statement is required under CLP.

2.3 Other hazards

Thermal burns. Molten polyethylene wax is processed at 100 - 150 °C and adheres to the skin, producing deep burns. This is the principal hazard of the product.

Combustible dust. Powder grades — in particular PE120P — and dust generated by handling flake can form an explosible atmosphere in air. Avoid dust clouds, earth and bond handling equipment, and apply the requirements for potentially explosive atmospheres where dust is generated.

Decomposition fume. Overheating above approximately 250 °C during compounding or extrusion generates fume containing aldehydes, ketones, organic acids and carbon monoxide, which irritate the eyes and respiratory tract. Extraction at the die and hopper is required.

Slip hazard. Spilled pellets, flake and powder produce slippery walking surfaces.

The substance does not meet the PBT or vPvB criteria of REACH Annex XIII.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substance. Low molecular weight polyethylene homopolymer. No hazardous additives.

BHD grade	Physical form	Density (g/cm ³)	Penetration index	Flash point (°C)
PE370	Flake	0.82 - 0.85	15 - 20	min 130
PE380	Flake	0.85 - 0.89	5 - 6	min 140
PE115F	Flake	0.92 - 0.94	3 - 6	min 170
PE120F	Flake	0.92 - 0.94	3 - 4	min 180
PE120P	Powder	0.92 - 0.94	3 - 4	min 180

Grade PE120P is supplied as a powder and presents the greatest dust exposure and dust explosion potential of the range. See Sections 2, 7 and 8.

SECTION 4: FIRST AID MEASURES

Molten product on skin	Cool the affected area immediately with large amounts of cold water for at least 15 minutes. Do not attempt to remove solidified polymer from the skin — removal strips tissue. Cover with a clean dressing and obtain medical attention: molten polymer burns are typically deeper than they appear.
Molten product in eyes	Flush with water for at least 15 minutes. Do not attempt to remove solidified material. Obtain medical attention immediately.
Solid product on skin	No adverse effects expected. Wash with soap and water.
Inhalation of dust or fume	Move the person to fresh air. If irritation from processing fume persists, obtain medical attention.
Ingestion	Low hazard. Rinse the mouth. Obtain medical attention if a significant quantity has been swallowed.
Note to physician	Treat as a thermal burn. Adherent polymer should be left in place until it can be removed under clinical conditions.

SECTION 5: FIREFIGHTING MEASURES

Suitable extinguishing media	Water spray or fog, foam, dry chemical, carbon dioxide.
Unsuitable media	Solid water jet directed into molten polymer — spreads burning material.
Specific hazards	Burns readily once ignited. Molten polymer flows and carries fire with it. Combustion produces dense black smoke and carbon monoxide. Dust suspended in air may explode.
Hazardous combustion products	Carbon monoxide, carbon dioxide, aldehydes, ketones, organic acids and other products of incomplete combustion.
Protection for firefighters	Self-contained breathing apparatus and full protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Eliminate ignition sources. Avoid raising dust. Spilled material is slippery — clear walkways promptly. For molten spills, allow the material to solidify before handling.
Environmental precautions	Prevent entry into drains and watercourses. Polyethylene is persistent in the environment; pellets, flake and powder released to the aquatic environment contribute to microplastic pollution.
Containment and cleaning	Sweep or vacuum without generating a dust cloud; a vacuum with HEPA filtration is preferred for powder. Do not use compressed air. Collect into labelled containers for recovery or disposal.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Dust control. Handle powder and flake so as to avoid dust cloud formation. Earth and bond all conveying, mixing and processing equipment against static discharge before transfer begins. Provide extraction at charging points and at any operation generating dust. Where dust is routinely generated, assess the area against the requirements for potentially explosive atmospheres.

Melt temperature control. Process at the lowest workable melt temperature. Above approximately 250 °C the polymer degrades and releases irritant fume; provide local exhaust ventilation at the die, hopper and vent. Avoid contact with molten material and use heat-resistant protection at purge and die-change operations. Clear walkways of spilled pellets and powder to prevent slips.

7.2 Conditions for safe storage

Store in closed containers in a cool, dry, ventilated place away from heat, direct sunlight, ignition sources and strong oxidising agents. Keep bags palletised and closed to limit dust release and moisture pick-up.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Nuisance dust (inhalable)	10 mg/m ³ — general limit for particulates not otherwise regulated
Nuisance dust (respirable)	3 mg/m ³
Türkiye	Verify the current national limit for inert dusts before use.
Processing fume	No specific limit. Control by extraction; degradation products include aldehydes and carbon monoxide, for which separate limits apply.

8.2 Exposure controls

Engineering controls	Local exhaust ventilation at dust-generating points and at extrusion dies, hoppers and vents. Enclosed transfer for powder grades.
Respiratory protection	Not normally required with adequate ventilation. Where dust or fume may exceed the limit, use a particulate respirator (minimum FFP2).
Hand protection	Heat-resistant gloves when handling molten product or at purge and die-change operations. Ordinary work gloves otherwise.
Eye protection	Safety glasses with side shields; face shield at purge operations.
Body protection	Long-sleeved clothing and closed footwear; heat-resistant apron and sleeves where molten material is handled.
Facilities	Cold running water available at molten polymer handling points.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White flake or powder, free of black spots (grade dependent)
Odour	Odourless to faint
Density	0.82 - 0.94 g/cm ³ across the grade range (ASTM D-1505)
Viscosity @140 °C	10 - 50 cP across the grade range (ASTM D-3236)
Penetration index	3 - 20 (0.1 mm) across the grade range (ASTM D-1321)
Flash point (open cup)	min 130 - 180 °C, grade dependent (ASTM D-92)
Auto-ignition temperature	Approximately 330 - 350 °C
Water solubility	Insoluble
Vapour pressure	Negligible at ambient temperature
Oxidising properties	None

Explosive properties	None. Dust suspended in air may form an explosible atmosphere.
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SECTION 10: STABILITY AND REACTIVITY

Reactivity / stability	Stable under normal conditions of storage and handling.
Conditions to avoid	Processing above approximately 250 °C. Ignition sources. Dust cloud formation and static discharge.
Incompatible materials	Strong oxidising agents.
Hazardous decomposition	Thermal degradation above approximately 250 °C produces aldehydes, ketones, organic acids, carbon monoxide and carbon dioxide.
Hazardous polymerisation	Does not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute oral toxicity	LD50 (rat) above 5,000 mg/kg — not classified. The polymer is not absorbed.
Acute dermal toxicity	LD50 above 2,000 mg/kg — not classified.
Acute inhalation toxicity	Not a hazard as supplied. Processing fume may irritate the respiratory tract.
Skin irritation	Not irritating. Contact with molten product causes thermal burns.
Eye irritation	Dust may cause mechanical irritation. Molten product causes thermal injury.
Sensitisation	Not a skin or respiratory sensitiser.
Carcinogenicity	Not classified. Polyethylene is not listed as a carcinogen by IARC, NTP or OSHA.
Mutagenicity	No evidence of mutagenic activity.
Reproductive toxicity	No evidence of reproductive toxicity.
Aspiration hazard	Not applicable.

SECTION 12: ECOLOGICAL INFORMATION

Aquatic toxicity	Not expected to be harmful. Insoluble and not bioavailable.
Persistence / degradability	Not biodegradable. Polyethylene is persistent in the environment.
Bioaccumulation	Not expected; the polymer is not absorbed by organisms.
Mobility in soil	Immobile.
PBT / vPvB	Does not meet the criteria of REACH Annex XIII.
Other effects	Pellets, flake and powder released to the environment persist and contribute to microplastic pollution. Prevent loss to drains, soil and watercourses; contain and recover spillage promptly.

SECTION 13: DISPOSAL CONSIDERATIONS

Recover and recycle where practicable. Dispose of the product and contaminated packaging through an authorised waste contractor in accordance with national and local regulations — in Türkiye the Atık Yönetimi Yönetmeliği, in the EU by assigning the appropriate European Waste Catalogue code. Incineration with energy recovery is a suitable route; the product has a high calorific value. Do not discharge to drains, soil or watercourses.

SECTION 14: TRANSPORT INFORMATION

Polyethylene wax is not classified as a dangerous good for transport under ADR/RID, IMDG or ICAO/IATA.

UN number	None — not classified
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Proper shipping name	Not classified. Declare as: polyethylene wax
Transport hazard class	Not classified
Packing group	Not assigned
Marine pollutant	No
Special precautions	Protect from heat and moisture. Keep bags closed and palletised.

SECTION 15: REGULATORY INFORMATION

EU classification	Not a hazardous substance or mixture under Regulation (EC) No 1272/2008 (CLP).
REACH	Polymers are exempt from registration under Article 2(9). Monomer registration obligations rest with the manufacturer.
Türkiye	SEA Yönetmeliği and KKDİK Yönetmeliği apply. A Turkish-language Safety Data Sheet must be prepared and certified by a registered preparer (Güvenlik Bilgi Formu Hazırlayıcısı).
Food contact	Not documented for these grades. Polyethylene for food-contact use requires qualification under Regulation (EU) No 10/2011 (EU) or 21 CFR 177.1520 (US), with the manufacturer's declaration of compliance.
Explosive atmospheres	Where dust is generated, the workplace may fall within the scope of the ATEX Directive 1999/92/EC or, in Türkiye, the Muhtemel Patlayıcı Ortamda Kullanılan Teçhizat mevzuatı. Carry out a dust explosion risk assessment.
Chemical safety assessment	Not performed by BHD. Refer to the manufacturer's dossier.

SECTION 16: OTHER INFORMATION

Data gaps to close with the manufacturer

Softening point and melting range are not published for these grades and are commonly requested by hot-melt and masterbatch buyers; request them from the manufacturer. For any grade to be offered into food-contact applications, obtain the declaration of compliance required by Section 15.

Relationship to other BHD documents

This Safety Data Sheet covers the polyethylene wax grades listed in Section 1. Paraffin wax, slack wax, petroleum jelly and liquid paraffin are petroleum-derived products with different hazard profiles and are covered by separate Safety Data Sheets. Grade-specific limits are given in the corresponding Technical Data Sheet.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists; ADR — European Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM — American Society for Testing and Materials; BP — British Pharmacopoeia; CLP — Classification, Labelling and Packaging; DMSO — dimethyl sulphoxide; DNEL — Derived No-Effect Level; IMDG — International Maritime Dangerous Goods Code; IP 346 — Institute of Petroleum method for DMSO extractables; KKDİK — Turkish REACH; LD50 — median lethal dose; PAH — polycyclic aromatic hydrocarbons; PBT — Persistent, Bioaccumulative and Toxic; PNEC — Predicted No-Effect Concentration; REACH — Registration, Evaluation, Authorisation and Restriction of Chemicals; SEA — Maddelerin ve Karışımların Sınıflandırılması, Etiketlenmesi ve Ambalajlanması; TLV — Threshold Limit Value; USP — United States Pharmacopoeia; vPvB — very Persistent, very Bioaccumulative.

Revision status

Revision 1, August 2026 — first issue.

This Safety Data Sheet has been prepared from data supplied by the manufacturers and from publicly available information on the substance. The information relates to the product as supplied and does not constitute a guarantee of any specific property. It is the responsibility of the user to determine suitability and to comply with all applicable national and local legislation. For placing on the Turkish market this document must be issued in Turkish and certified by a registered Safety Data Sheet preparer.