PIB / Polybutene in Non-Bulk Packaging

Safety Data Sheet

Conforms to Regulation (EC) 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830

Revision date: 01/12/2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	:	Polybut™ Medium & High Viscosity Series Polybut 0, 0E, 06, 09, 010, 025, 3, 4, 5, 10, 28, 30, 32, 80, 120, 150, 190, 200, 600, 1800
Product description	:	Polybutene Polymer
REACH tegistration number	:	Exempt from REACH: Polymer
CAS number	:	The inventory status and regulatory information are based on CAS number 9003-29-6 This material may also be described by CAS number 9044-17-1
Product type	:	Liquid
Other means of identification	:	Not available

1.2. Relevant identified uses of the substance or mixture and uses advised against

Product use	:	Not available
Area of application	:	Consumer applications, Industrial applications, Professional applications.

1.3. Details of the supplier of the safety data sheet

Kemat Belgium
Rue de la sablonniere 7
B-1000 Brussels - Belgium
T +32 2 219 48 11 - F +32 2 219 46 58
sales@kematbelgium.com
www.kematbelgium.com

1.4. Emergency telephone number

National advisory body / Poison Centre	:	For immediate, life-threatening emergencies, call local emergency number
Supplier Emergency Number	:	+32 2 219 48 11

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Product definition : Polymer

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2. Label elements

Signal word	:	No signal word.
Hazard statements	:	No known significant effects or critical hazards.

Precautionary statements

General	:	P103 - Read carefully and follow instructions. P102 - Keep out of reach of children. P101 - If medical advice is needed, have product container or label at hand.
Prevention	:	Not applicable.
Response	:	Not applicable.
Storage	:	Not applicable.
Disposal	:	Not applicable.
Hazardous ingredients	:	Not applicable.
Supplemental label elements	:	Not applicable.
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	:	Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings	:	Not applicable.

Tactile warning of danger : Not applicable.

2.3. Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

PBT	P	B	T	vPvB	vP	vB
No	N/A	N/A	No	N/A	N/A	N/A

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Polymer

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Polybutene (Isobutylene/butene copolymer)	CAS: 9003-29-6	100	Not classified	[A]

This material may also be described by CAS number 9044-17-1.

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type
[A] Constituent
[B] Impurity
[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye contact : Hot material: Flush eyes with plenty of water for at least 15 minutes. Seek medical assistance for mechanical removal of this material from the eye. The use of flushing fluid, other than water, is not recommended. Cold material: flush eyes with plenty of water.

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical advice/attention.

Skin contact : Hot material: Immediately flush with cool water for at least 15 minutes. Get immediate medical attention. Cold material: Clean exposed skin with waterless hand cleaner.

Ingestion : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Wash out mouth with water. Call physician immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2. Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : May cause slight transient irritation. Heated material can cause thermal burns.

Inhalation : Exposure to aerosols or particulates from heated material may cause adverse lung effects if high concentrations are inhaled.

Skin contact : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/ or dermatitis. Heated material can cause thermal burns.

Ingestion : Ingestion may cause gastrointestinal irritation and diarrhoea.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician : Medical personnel may leave the material in place to minimise physical damage to the skin.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : In case of fire, use water spray (fog), foam, dry chemical or CO_2.

Unsuitable extinguishing media : Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Rapid depolymerisation can occur in a fire and produce flammable vapours. May depolymerise at temperatures above 200°C with the production of extremely flammable butene monomers. Vapour may cause fire. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials: carbon dioxide, carbon monoxide

5.3. Advice for firefighters

Special protective actions for fire-fighters : Where open cell insulation has been contaminated with polybutene, spontaneous combustion may occur at temperatures as low as 138°C (280°F). Therefore, where open cell insulation has been used, the temperature of storage tanks and heat tracing must be kept well below 120°C (250°F) and any insulation contaminated with polybutene should be replaced immediately.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or spray. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in 'For non-emergency personnel'.

6.2. Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Small spill : For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal.

Large spill : For large spills, dyke spilt material or otherwise contain material to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal. Avoid contact of spilt material and runoff with soil and surface waterways. Treat as an oil spill. See section 13 for waste disposal information.

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2. Conditions for safe storage, including any incompatibilities

Store in a segregated and approved area. A potentially flammable atmosphere may be generated if material is held hot for prolonged periods. For prolonged storage at temperatures of 60°C and above, keep in rust-free tanks and exclude oxygen by use of a nitrogen blanket. Heating systems which generate localised hot spots should never be used. Suitable storage materials are: mild steel / carbon steel. Store and use away from heat, sparks, open flame or any other ignition source. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use.

7.3. Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures : Not applicable.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available.

8.2. Exposure controls

Appropriate engineering controls : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields. Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to aerosols or splashes or when material is handled hot.

Skin protection

Hand protection : Wear gloves that cannot be penetrated by chemicals or oil. Nitrile rubber.

When handling hot material, wear heat resistant protective gloves, clothing and face shield that are able to withstand the temperature of the heated product.

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Body protection : Wear apron or coverall if there is a risk of exposure to splashes. When handling hot material, wear heat-resistant protective gloves, clothing and face shield that are able to withstand the temperature of the molten product.

Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	:	If ventilation is inadequate, use respirator that will protect against organic vapour and dust/mist.
Environmental exposure	:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	:	Liquid.
Colour	:	Clear, Colourless to slightly yellow
Odour	:	Characteristic.
Odour threshold	:	Not available.
pH	:	Not available.
Melting point/freezing point	:	Not available.
Initial boiling point and boiling range	:	Polymer that decomposes before reaching a boiling point.
Flash point (ASTM D-92 / Cleveland Open Cup)	:	Polybut 0, 0E, 06, 09, 010, 025, 3 : >125 °C Polybut 4, 5, 10, 28 : > 160 °C Polybut 30, 32, 80, 120, 150, 190 : >200 °C Polybut 200, 600, 1800 : >240 °C
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Upper/lower flammability or explosive limits	:	Not available.
Vapour pressure	:	<0.1 kPa [room temperature]
Vapour density	:	Not available.
Relative density	:	0,82 to 0,92
Solubility(ies)	:	None.
Partition coefficient: n-octanol/water	:	Not available
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	May depolymerise at temperatures above 200°C with the production of extremely flammable butene monomers.
Kinematic Viscosity at 40 °C (ASTM D-445)	:	Polybut 0 : Typical 30 cSt
Kinematic Viscosity at 100 °C (ASTM D-445)	:	Polybut 06 : Typical 10,5 cSt Polybut 0E : Typical 10,5 cSt Polybut 09 : Typical 28 cSt Polybut 010 : Typical 30 cSt Polybut 025 : Typical 50 cSt Polybut 3 : Typical 80 cSt Polybut 4 : Typical 85 cSt Polybut 5 : Typical 110 cSt Polybut 10 : Typical 220 cSt Polybut 28 : Typical 270 cSt Polybut 30 : Typical 620 cSt Polybut 32 : Typical 700 cSt Polybut 80 : Typical 1.500 cSt Polybut 120 : Typical 2.600 cSt Polybut 150 : Typical 3.200 cSt Polybut 190 : Typical 3.700 cSt Polybut 200 : Typical 4.700 cSt Polybut 600 : Typical 13.000 cSt Polybut 1800 : Typical 40.000 cSt
Viscosity properties	:	Not available.
Oxidising properties	:	Not available.

9.2. Other information

Solubility in water	:	Not available.
Physical/chemical properties comments	:	No additional information.

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under recommended storage and handling conditions (see Section 7).

10.3. Possibility of hazardous reactions

May depolymerise at temperatures above 200°C with the production of extremely flammable butene monomers.

10.4. Conditions to avoid

Keep away from all sources of ignition, heat, sparks, flame. Avoid strong oxidising conditions. Avoid extended exposure to temperatures above 60° C in the presence of air.

10.5. Incompatible materials

Strong oxidizing agents; acidic clays at > 100 °C

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Polybutene (Isobutylene/ butene copolymer)	LD50 Dermal LD 50 Oral	Rabbit Rat	>10250 mg/kg >34600 mg/kg	- -

Conclusion/summary : Not available.

Irritation/Corrosion

Conclusion/summary : Not available.

Sensitisation

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : No component of this product at levels greater than or equal to 0.1% is classified by established regulatory criteria as a mutagen.

Carcinogenicity

Conclusion/Summary : No component of this product at levels greater than or equal to 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).

Reproductive toxicity

Conclusion/Summary : No component of this product at levels greater than or equal to 0.1% is classified by established regulatory criteria as a reproductive toxin.

Teratogenicity

Conclusion/Summary : No component of this product at levels greater than or equal to 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

Specific target organ toxicity (single exposure) : Not available.

Specific target organ toxicity (repeated exposure) : Not available.

Aspiration hazard : Not available.

Information on likely routes of exposure : Not available.

Potential acute health effects

Eye contact : May cause slight transient irritation. Heated material can cause thermal burns.

Inhalation : Exposure to aerosols or particulates from heated material may cause adverse lung effects if high concentrations are inhaled.

Skin contact : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/ or dermatitis. Heated material can cause thermal burns.

Ingestion : Ingestion may cause gastrointestinal irritation and diarrhoea.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects as well as 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 : Not available.

Conclusion/Summary : Not available.
General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1. Toxicity

Product/ingredient name	Result	Species	Exposure
Polybutene (Isobutylene/ butene copolymer)	EC50 > 1000 mg/l (similar material) LC50 > 1000 mg/l (similar material)	Daphnia Fish	48 hours 96 hours

Conclusion/Summary : Aquatic studies of materials with very low water solubility often refer to the amount of chemical added to the test system, not the amount dissolved in water. Most acute acquatic toxicity studies of these have used the water-accommodated fraction (WAF) obtained by mixing the test chemical in water for 20 to 24 hours, then siphoning the water for use in the test. The water-soluble fraction (WSF) is a similar approach.

These materials are not expected to adversely affect microbial activity. Following a modified OECD Method 209, bacterial inhibition using activated sludge microbes was tested with several grades of this material. The tests showed no bacterial inhibition at loadings of up to 25 mg/L, measured through oxygen consumption (respiration). In separate tests, the biological oxygen demand (BOD) of the microorganisms was measured. In these tests, there was no evidence of bacterial toxicity, even at loadings of about 200,000 mg/L. In addition, an epoxidised form of this material was found to be non-mutagenic and non-toxic to the micro-organism used in the Ames mutagenicity assay, Salmonella typhimurium.

12.2. Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Not available.				

Conclusion/Summary : This product is unlikely to biodegrade at a significant rate.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Not available.			

12.3. Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Not available.			

12.4. Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : This product is not likely to move rapidly with surface or groundwater flows because of its low water solubility. This product is not likely to volatilise rapidly into the air because of its low vapour pressure.

12.5. Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Polybutene (Isobutylene/butene copolymer)	No	N/A	N/A	No	N/A	N/A	N/A

12.6. Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product

Methods of disposal : Avoid contact of spilt material with soil and prevent runoff entering surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of in accordance with all applicable local and national regulations. Empty containers may contain harmful, flammable/combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Labels should not be removed from containers until they have been cleaned.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

Not classified as hazardous for transport (ADR, ADN, IMDG, IATA)

14.1. 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.

14.2. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Proper shipping name : Polybutene

Ship type : 2

Pollution category : Y

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations (EC) No. 1907/2006 (REACH)

Annex XIV – List of substances subject to authorisation

Annex XIV : None of the components are listed.

Substances of very high concern : None of the components are listed.

Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

15.1.2. Other EU Regulations

Europe inventory : Exempted.

Ozone depleting substances (1005/2009/EU) : Not listed.

Prior Informed Consent (PIC) (649/2012/EU) : Not listed.

Seveso Directive : This product is not controlled under the Seveso Directive.

15.1.3. International Regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals	:	Not listed.
Montreal Protocol	:	Not listed.
Stockholm Convention on Persistent Organic Pollutants	:	Not listed.
Rotterdam Convention on Prior Informed Consent (PIC)	:	Not listed.
UNECE Aarhus Protocol on POPs and Heavy Metals	:	Not listed.

15.1.4. Inventory list

Australia	:	Listed
Canada	:	Listed
China	:	Listed
Japan	:	Listed
New Zealand	:	Listed
Phillippines	:	Listed
Republic of Korea	:	Consult Product Stewardship
Taiwan	:	Listed
Turkey	:	Exempted
United States	:	Listed as Active

15.2. Chemical safety assessment

Not applicable

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	:	ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number vPvB = Very Persistent and Very Bioaccumulative
Key literature references and sources for data	:	Regulation (EC) No. 1272/2008 [CLP]; European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), concluded in Geneva on 30 September 1957 plus amendments (Uniform text: Journal of Laws 27/2009 pos. 162 plus amendments); Regulation for the transport of dangerous materials on the Rhine (ADN); Occupational exposure limits; International regulations.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified	

Full text of abbreviated H statements

Not applicable

Full text of classifications [CLP/GHS]

Not applicable

Training advice	:	Ensure operatives are trained to minimise exposures. Training staff on good practice.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the abovenamed supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy, quality or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product