Polyisobutene (PIB)

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Revision date: 02 Aug 2017 Version: 6.3

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	Polyisobutene (PIB)
CAS No	:	9044-17-1
Product code	:	PIB06 TF / PIB06 TR / PIB06 / PIB08 TF / PIB08 TR / PIB08 / PIB10 TF / PIB10 TR / PIB10 / PIB12 TF / PIB12 TR / PIB12 / PIB16 TF / PIB16 TR / PIB16 / PIB18 TF / PIB18 TR / PIB18 / PIB20 TF / PIB20 TR / PIB20 / PIB24 TF / PIB24 TR / PIB24 / PIB28 TF / PIB28 TR / PIB28 / PIB30 TF / PIB30 TR / PIB30 / PIB32 TF / PIB32 TR / PIB32 / PIB80 TF / PIB80 TR / PIB80 / PIB122 TF / PIB122 TR / PIB122 / PIB126 TF / PIB126 TR / PIB126 / PIB128 TF / PIB128 TR / PIB128 / PIB240 TF / PIB240 TR / PIB240 / PIB28LZ / PIB 122LZ
Type of product	:	Polymer
Formula	:	(C4H8.C4H8)x
Product group	:	Trade product
REACH authorisation exemptions		Exempted from REACH registration

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

1.2.1. Relevant identified uses

Use of the substance/mixture	:	Use as an intermediate Formulation & (re)packing of substances and mixtures Coatings Agrochemicals Fuels Lubricants and additives Laboratory chemicals Functional fluids Consumer use Metal working fluids Cosmetics, personal care products

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier (Only Representative):
Braskem Netherland BV
Weena 238-240, 9th Floor, Tower C
NL - 3012 NJ – Rotterdam

Manufacturer:
Braskem S.A.
Av. Presidente Costa e Silva, 1178 – Capuava
09270-001 – Santo André – SP – Brasil

productsafety@braskem.com

1.4. Emergency telephone number

Emergency number	:	+31 10 205 2945

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

No labelling applicable

2.3. Other hazards

other hazards which do not result in classification	:	Spilled material may present a slipping hazard.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Polymer

Name	Product identifier	%
Butene, polymer with 2-methyl-1-propene	(CAS No) 9044-17-1	100

Comments : The substance has a variable viscosity and some grades meet the criteria for classification as an aspiration hazard, while some grades do not meet the criteria for classification. The information in Section 3 of this SDS indicates that the CAS number is associated with the Aspiration Toxicity hazard classification. In the absence of a measured viscosity, the substance will be classified as being an aspiration hazard. Where viscosity measurements are available, the overall classification presented in Section 2 of this SDS will reflect the hazard classification based on the measured viscosity

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air. In case of irregular breathing or respiratory arrest provide artificial respiration. Seek medical advice.

First-aid measures after skin contact : In case of contact with cold material: Wash skin with plenty of water and soap. In case of contact with hot material: Rinse immediately with plenty of water for 15 minutes. Seek immediate medical advice. Obtain medical attention.

First-aid measures after eye contact : In case of contact with cold material: Rinse immediately with plenty of water. In case of contact with hot material: Rinse immediately with plenty of water for 15 minutes. Seek medical advice.

First-aid measures after ingestion : Do NOT induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Immediately get medical attention.

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

Symptoms/injuries after inhalation : Overexposure to vapours may result in cough.

Symptoms/injuries after skin contact : Heated product causes burns.

Symptoms/injuries after eye contact : Heated product causes burns.

Symptoms/injuries after ingestion : Ingestion may cause nausea and vomiting.

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

In case of skin burns, to minimize physical damage to the skin, do not remove the polybutene. Cover the injured area with appropriate burn gel.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : carbon dioxide (CO2), dry chemical powder, foam. Water spray.

Unsuitable extinguishing media : Do not use a water jet since it may cause the fire to spread.

5.2. Special hazards arising from the substance or mixture

Fire hazard : On combustion forms: Carbon monoxide. Carbon dioxide.

Explosion hazard : No direct explosion hazard.

5.3. Advice for firefighters

Firefighting instructions : Cool closed containers exposed to fire with water spray.

Protective equipment for firefighters : Fully enclosed impervious protective suit with integral or tight-fitting gloves, boots, self-contained or supplied air respirator must be worn. Refer to chapter 8.

Other information : Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Stop leak if safe to do so. Stay upwind/keep distance from source. Clean up even minor leaks or spills if possible without unnecessary risk.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures	:	Eliminate leaks immediately. Stay upwind/keep distance from source. Clean up any spills as soon as possible, using an absorbent material to collect it. Collect all waste in suitable and labelled containers and dispose according to local legislation. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Do not discharge into drains or the environment.

6.3. Methods and material for containment and cleaning up

For containment	:	Eliminate leaks immediately. Ventilate affected area. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	:	Take up liquid spill into dry absorbent material e.g.: dry sand/earth/vermiculite. Collect all waste in suitable and labelled containers and dispose according to local legislation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13: Disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Use only in well-ventilated areas. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Provide adequate ventilation.
Storage conditions	:	Keep container tightly closed. Store in a well-ventilated place. Keep cool. Bulk storage does not require any special measure.
Incompatible materials	:	Strong acid. Strong oxidizing agents.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Provide adequate ventilation. Either local exhaust or general room ventilation is usually required. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:

Insulating protective gloves. Impermeable protective gloves

Eye protection:

Wear chemical goggles if material is handled hot. No special eye protection equipment recommended under normal conditions of use

Skin and body protection:

When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection must be worn

Respiratory protection:

If excessive exposure exists, use only approved air-purifying or supplied air respirator operated in a positive pressure mode

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear. Viscous.
Colour	:	colourless.
Odour	:	Not available.
Odour threshold	:	No data available
pH	:	not applicable
Relative evaporation rate (butylacetate=1)	:	Not available
Melting point	:	No data available
Freezing point	:	Not available

Boiling point	:	Not available
Flash point	:	PIB06, PIB06 TF, PIB06 TR : 125°C PIB08, PIB08 TF, PIB08 TR : 130°C PIB10, PIB10 TF, PIB10 TR : 130°C PIB12, PIB12 TF, PIB12 TR : 135°C PIB16, PIB16 TF, PIB16 TR : 135°C PIB18, PIB18 TF, PIB18 TR: 150°C PIB20, PIB20 TF, PIB20 TR: 165°C PIB24, PIB24 TF, PIB24 TR: 190°C PIB28, PIB28 TF, PIB28 TR: 190°C PIB30, PIB30 TF, PIB30 TR: 190°C PIB32, PIB32 TF, PIB32 TR: 190°C PIB122, PIB122 TF, PIB122 TR: 240°C PIB126, PIB126 TF, PIB126 TR: 240°C PIB128, PIB128 TF, PIB128 TR: 240°C PIB240, PIB240 TF, PIB240 TR: 245°C
Auto-ignition temperature	:	Not available
Decomposition temperature	:	> 260 °C
Flammability (solid, gas)	:	Not available
Vapour pressure	:	Not available
Relative vapour density at 20 °C	:	Not available
Relative density	:	≈ 0.841 g/cm³ (water =1)
Solubility	:	Soluble in hydrocarbons. Water: ≤ 0.1 % Negligible in water
Log Pow	:	Not available
Viscosity, kinematic	:	PIB06, PIB06 TF, PIB06 TR : 26 - 34 mm²/s (37.8°C) PIB08, PIB08 TF, PIB08 TR : 102 -110 mm²/s (37.8°C) PIB10, PIB10 TF, PIB10 TR : 20 - 30 mm²/s (100°C) PIB12, PIB12 TF, PIB12 TR : 550 mm²/s PIB16, PIB16 TF, PIB16 TR : 46 - 52 mm²/s (100°C) PIB18, PIB18 TF, PIB18 TR: 1700 mm²/s(37.8°C) PIB20, PIB20 TF, PIB20 TR: 3050 mm²/s(37.8°C) PIB24, PIB24 TF, PIB24 TR: 200 - 240 mm²/s (100°C) PIB28, PIB28 TF, PIB28 TR: 10000 mm²/s(37.8°C) PIB30, PIB30 TF, PIB30 TR: 600 - 650 mm²/s (100°C) PIB32, PIB32 TF, PIB32 TR: 640 - 720 mm²/s (100°C) PIB122, PIB122 TF, PIB122 TR: 3000 - 3400 mm²/s (100°C) PIB126, PIB126 TF, PIB126 TR: 3900 – 4200 (100°C) PIB128, PIB128 TF, PIB128 TR: 4000 – 4700 (100°C) PIB240, PIB240 TF, PIB240 TR: 11000 – 14000 (100°C)
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	Not available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable in use and storage conditions as recommended in item 7.

10.3. Possibility of hazardous reactions

No dangerous reactions known. Hazardous polymerization will not occur.

10.4. Conditions to avoid

Extremely high temperatures.

10.5. Incompatible materials

Strong acid. Strong oxidizing agents.

10.6. Hazardous decomposition products

Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified pH: not applicable
Serious eye damage/irritation	: Not classified pH: not applicable
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Polyisobutene (PIB) (9044-17-1)	
Log Pow	Not available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Polyisobutene (PIB) (9044-17-1)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Waste disposal recommendations : Consult the appropriate local waste disposal expert about waste disposal.

SECTION 14: Transport information

Classification for ROAD and RAIL transport: ADR / RID

Transport at elevated temperature (at or above 100°C)

14.1 UN Number	: UN3257
14.2 Proper shipping name	: ELEVATED TEMPERATURE LIQUID, N.O.S. (Butene, polymer with 2-methyl-1-propene)
14.3 Class / Division	: 9
14.4 Packing group	: III
14.5 Environmental hazards	: Yes, when transported at elevated temperature (> 100°C)
14.6 Special precautions for user	: No additional data

Transport at temperature below 100°C

Not regulated for transport

Classification for SEA transport: IMO - IMDG

Transport at elevated temperature (at or above 100°C)

14.1 UN Number	:	UN3257
14.2 Proper shipping name	:	ELEVATED TEMPERATURE LIQUID, N.O.S. (Butene, polymer with 2-methyl-1-propene)
14.3 Class / Division	:	9
14.4 Packing group	:	III
14.5 Environmental hazards	:	Yes, when transported at elevated temperature (> 100°C)
14.6 Special precautions for user	:	No additional data
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:		
Product name	:	Poly(4+)isobutylene

Transport at temperature below 100°C

Not regulated for transport

Classification for AIR transport: IATA - ICAO

Transport at elevated temperature (at or above 100ºC)

14.1 UN Number	:	UN3257
14.2 Proper shipping name	:	Elevated temperature liquid, n.o.s. (Butene, polymer with 2-methyl-1-propene)
14.3 Class / Division	:	9
14.4 Packing group	:	III
14.5 Environmental hazards	:	Yes, when transported at elevated temperature (> 100°C)
14.6 Special precautions for user	:	TRANSPORT FORBIDDEN

Transport at temperature below 100°C

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product, therefore it cannot be considered exhaustive. See guidelines of ADR, RID, IMDG and IATA regulations before transporting the product. The transportation organization is responsible for compliance with laws, regulations and rules for the transport of the material.

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Polyisobutene (PIB) is not on the REACH Candidate List

Polyisobutene (PIB) is not on the REACH Annex XIV List

15.1.2. National regulations

Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV	:	Is not subject of the 12. BlmSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen	:	The substance is not listed
SZW-lijst van mutagene stoffen	:	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	:	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	:	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	:	The substance is not listed

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Sources of Key data : Data arise from reference works and literature.

Braskem – SDS EU 160531

Other information:

The regulatory information is based on date available for CAS # 9003-29-6.This material is very similar in composition to CAS 9003-29-6 and as such may be described as CAS 9003-29-6. This material consist more than 50% (w/w) of polymer molecules with more than 3 monomer unit and less than 50% of polymer molecules with the same molecular weight

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. It warns that the handling of any chemical substance requires the previous knowledge of its hazards for the user. It is up to the user of the product company providing this SDS to and promote the training of its employees about possible risks come upon of the product. The information contained herein is not absolute, but only general information on the use of the chemical and indication of safety and security measures.