SAFETY DATA SHEET

Product name: Polyisobutene (PIB)
Revision date: 19/02/2024
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Compiled according to GB/T 16483, GB/T 17519
SDS Nr: P2019060402
Version: 3.1

SECTION 1 Chemical product and company identification

Chemical name (Chinese Name)	:	聚异丁烯(PIB)
Chemical name (English name)	:	Polyisobutene (PIB)
CAS-No.	:	9003-27-4
Product code	:	PIB06, PIB06 IBC, PIB06 TF, PIB06 TR, PIB08, PIB08 TF, PIB08 TR, PIB10, PIB10 IBC, PIB10 TF, PIB10 TR, PIB10B, PIB10B IBC PIB10B TF, PIB12, PIB12 TF, PIB12 TR, PIB16, PIB16 IBC, PIB16 TF, PIB16 TR, PIB18, PIB18 TF, PIB18 TR, PIB20, PIB20 TF, PIB20 TR, PIB24, PIB24 A, PIB24 A TR, PIB24 TF, PIB24 TR, PIB28, PIB28 TF, PIB28 TR, PIB28LZ, PIB30, PIB30 TF, PIB30 TR, PIB32, PIB32DM, PIB32 TF, PIB32 TR, PIB32 3M, PIB80, PIB80 TF, PIB80 TR, PIB90, PIB120, PIB120 TF, PIB120 TR, PIB121, PIB121 TR, PIB122, PIB122 TF, PIB122 TR, PIB122LZ, PIB126, PIB126 TF, PIB126 TR, PIB128, PIB128 TF, PIB128 TR, PIB128KL, PIB128KL TR, PIB240, PIB240 TF, PIB240 TR, PIB240KL, PIB240KL TR, PIB N/E.
Recommended use	:	Use as an intermediate Formulation & (re)packing of substances and mixtures coatings Adhesives Agrochemicals Fuels Lubricants and additives Laboratory chemicals Functional fluids Consumer use Metal working fluids Cosmetics, personal care products
Uses advised against	:	No additional information available
Supplier Information	:	Braskem S.A. Rua Eteno, 1561, Polo Petroquímico de Camaçari Camaçari, BA, CEP: 42810-000, Brasil Tel: +55 (71) 3413-3600 productsafety@braskem.com
Emergency number	:	CHEMTREC: +1 703-741-5970 (International - 24h) CHEMTREC: +(86) 4001-204937 (China - 24h - must be dialed within the country)

SECTION 2 Hazards identification

Emergency overview

Colourless viscous liquid

GHS classification

Not classified.

Label elements

No labelling applicable

Additional information

Physical and chemical hazards	:	No additional information available
Health hazard	:	Not expected to present a significant hazard under anticipated conditions of normal use Heated product causes burns Ingestion may cause nausea and vomiting Overexposure to vapours may result in cough Heated product causes burns
Environmental hazards	:	No additional information available
Other hazards not contributing to the classification	:	Spilled material may present a slipping hazard

SECTION 3 Composition/information on ingredients

Product form : Substance.

Name	CAS-No.	Concentration (%)
Polyisobutylene	9003-27-4	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.

This report applies to product with high viscosity.

SECTION 4 First aid measures

Emergency

First-aid measures general	:	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible)
First-aid measures after inhalation	:	Remove victim to fresh air. If breathing stops, give artificial respiration. Get medical advice/attention.
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.
Get medical advice/attention.

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.
Seek medical attention immediately.

Most Important Symptoms/Effects

Not expected to present a significant hazard under anticipated conditions of normal use
Heated product causes burns
Ingestion may cause nausea and vomiting
Overexposure to vapours may result in cough

Personal Protection in First Aid and Measures

No additional information available

Notes for the doctor

Note to physician : 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 Fire fighting measures

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

Special hazard

Fire hazard : On combustion forms:
Carbon dioxide
Carbon monoxide

Explosion hazard : No direct explosion hazard

Advice for firefighters and protective measures

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

For further information refer to section 8: "Exposure controls/personal protection"

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

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

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。

For emergency responders

Protective equipment : Wear suitable protective clothing

For further information refer to section 8: "Exposure controls/personal protection"

Emergency procedures : Stop leaks if it can be done without personal risk

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

Ventilate area

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

Prevent entry to sewers and public waters

Notify authorities if liquid enters sewers or public waters

Methods and Equipment for Containment and Cleaning up

Methods for cleaning : 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.

For containment : Stop leaks if it can be done without personal risk
Ventilate spillage area
Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams

Prevention Measures for Secondary Accidents

Prevention Measures for Secondary Accidents	:	No additional information available

SECTION 7 Handling and storage

Handling

Precautions for safe handling	:	Work in a well-ventilated area In case of insufficient ventilation, wear suitable respiratory equipment Avoid contact with skin and eyes Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work Provide good ventilation in process area to prevent formation of vapour
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
Local and general ventilation	:	No additional information available

Storage

Storage conditions	:	Store tightly closed in a dry, cool and well-ventilated place Bulk storage does not require any special measure
Technical measures	:	Provide adequate ventilation
Material used in packaging/containers	:	No additional information available
Incompatible materials	:	Strong acids. Strong oxidizing agents. Sources of ignition. Direct sunlight.

SECTION 8 Exposure controls / Personal protection equipment

Occupational Exposure Limits

No additional information available

Biological limit values

No additional information available

Monitoring methods

No additional information available

Appropriate engineering controls	:	Ensure 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

Personal protective equipment

Personal protective equipment	:	Avoid all unnecessary exposure
Other information	:	Do not eat, drink or smoke during use
Hand protection	:	Insulating protective gloves Impermeable protective gloves Wear protective gloves.
Eye protection	:	Wear chemical goggles if material is handled hot No special eye protection equipment recommended under normal conditions of use Chemical goggles or safety glasses
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 Wear appropriate mask

SECTION 9 Physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear. Viscous
Colour	:	Colourless
Odour	:	Characteristic
pH	:	Not applicable
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	PIB06, PIB06 IBC, PIB06 TF, PIB06 TR : 125° C PIB08, PIB08 TF, PIB08 TR : 130° C PIB10, PIB10 IBC, PIB10 TF, PIB10 TR : 130° C PIB10B, PIB10B IBC, PIB10B TF: 130° C PIB12, PIB12 TF, PIB12 TR : 135° C PIB16, PIB16 IBC, 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 PIB24 A, PIB24 A TR: 190° C PIB28, PIB28 TF, PIB28 TR: 190° C PIB30, PIB30 TF, PIB30 TR: 190° C PIB32, PIB32 TF, PIB32 TR: 195° C PIB32 3M: 200° C

		PIB32DM: >=220°C
		PIB80, PIB80 TF, PIB80 TR: 220°C
		PIB90 : > 190° C
		PIB120, PIB120 TF, PIB120 TR: 220°C
		PIB121,PIB121 TR: 240° C
		PIB122, PIB122 TF, PIB122 TR: 235° C
		PIB126, PIB126 TF, PIB126 TR: 240° C
		PIB128, PIB128 TF, PIB128 TR: 240° C
		PIB128KL, PIB128KL TR: 240° C
		PIB240, PIB240 TF, PIB240 TR, PIB240KL TR: 245° C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	> 260 ° C.
Flammability (solid, gas)	:	Not applicable
Vapour pressure	:	No data available
Relative vapour density at 20 ° C	:	No data available
Relative density	:	0,84 (PIB06) - 0,92 (PIB240) (water = 1)
Density	:	No data available
Solubility	:	Soluble in hydrocarbons.
Solubility in water	:	<= 0.1 % Negligible in water
Viscosity	:	PIB06, PIB06 IBC, 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 IBC, PIB10 TF, PIB10 TR : 20 - 30 mm²/s (100° C)
		PIB10B, PIB10B IBC, PIB10B TR: 20 - 30 mm²/s (100° C)
		PIB12, PIB12 TF, PIB12 TR: 34 - 42 mm²/s (100° C)
		PIB16, PIB16 IBC, PIB16 TF, PIB16 TR : 46 - 52 mm²/s (100° C)
		PIB18, PIB18 TF, PIB18 TR: 65 - 80 mm²/s (100° C)
		PIB20, PIB20 TF, PIB20 TR: 100 - 120 mm²/s(100° C)
		PIB24, PIB24 TF, PIB24 TR: 200 - 240 mm²/s (100° C)
		PIB24 A, PIB24 A TR: 200 - 240 mm²/s (100° C)
		PIB28, PIB28 TF, PIB28 TR: 260 - 320 mm²/s(100° C)
		PIB30, PIB30 TF, PIB30 TR: 600 - 660 mm²/s (100° C)
		PIB32, PIB32DM, PIB32 TF, PIB32 TR: 640 - 720 mm²/s (100° C)
		PIB80, PIB80 TF, PIB80 TR: 1450 - 1700 mm²/s (100°C)
		PIB90 : 1900 - 2100 ° C mm²/s (100° C)
		PIB120, PIB120 TF, PIB120 TR: 2500 mm²/s (100° C)
		PIB121, PIB121 TR: 2900 - 3200 mm²/s (100° C)
		PIB122, PIB122 TF, PIB122 TR: 3000 - 3400 mm²/s (100° C)
		PIB126, PIB126 TF, PIB126 TR: 3900 - 4200 mm²/s (100° C)
		PIB128, PIB128 TF, PIB128 TR: 4000 - 4700 mm²/s (100° C)

		PIB240, PIB240 TF, PIB240 TR: 11000 - 14000 mm²/s (100° C)
Log Pow	:	No data available
Lower explosive limit (LEL)	:	No data available
Upper explosive limit (UEL)	:	No data available
Radioactive	:	No

SECTION 10 Stability and reactivity

Reactivity	:	The product is non-reactive under normal conditions of use, storage and transport
Chemical stability	:	Stable in use and storage conditions as recommended in section 7.
Possibility of hazardous reactions	:	No dangerous reactions known Hazardous polymerization will not occur
Conditions to avoid	:	Extremely high temperatures. Direct sunlight. Extremely high or low temperatures
Incompatible materials	:	Strong acids Strong oxidizing agents
Hazardous decomposition products	:	Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases fume
Other properties	:	No additional information available

SECTION 11 Toxicological information

Acute toxicity

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Skin corrosion/irritation

Skin corrosion/irritation	:	Not classified

Serious eye damage/irritation

Serious eye damage/irritation	:	Not classified

Respiratory or skin sensitisation

Respiratory or skin sensitisation	:	Not classified

Germ cell mutagenicity

Germ cell mutagenicity	:	Not classified

Carcinogenicity

Carcinogenicity : Not classified

Reproductive toxicity

Reproductive toxicity : Not classified

STOT-single exposure

STOT-single exposure : Not classified

STOT-repeated exposure

STOT-repeated exposure : Not classified

Aspiration hazard

Aspiration hazard : Not classified

SECTION 12 Ecological information

Ecotoxicity

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

No additional information available

Persistence and degradability

Polyisobutene (PIB)	
Persistence and degradability	Not established

Bioaccumulative potential

Polyisobutene (PIB)	
Bioaccumulative potential	Not established

Mobility in soil

Polyisobutene (PIB)	
Ecology - soil	Not established

Other adverse effects

Classification procedure (Ozone) : No data available

Other information : Avoid release to the environment.

Results of PBT and vPvB assessment

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

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

SECTION 13 Disposal considerations

Waste treatment methods	:	Dispose of contents/container in accordance with licensed collector’ s sorting instructions
Contaminated container and packaging	:	Recycle wherever possible
Product/Packaging disposal recommendations	:	Consult an expert on waste disposal or treatment Dispose in a safe manner in accordance with local/national regulations
Ecology - waste materials	:	Avoid release to the environment.

SECTION 14 Transport information

Overland transport	Transport by sea	Air transport
UN number		
3257	3257	3257
UN proper shipping name		
ELEVATED TEMPERATURE LIQUID, N.O.S. (Polyisobutylene)	ELEVATED TEMPERATURE LIQUID, N.O.S. (Polyisobutylene)	Elevated temperature liquid, n.o.s. (Polyisobutylene)
Transport hazard class(es)		
9	9	9
Packing group		
III.	III.	Not applicable
Environmental hazards		
Dangerous for the environment : yes	Dangerous for the environment : yes Marine pollutant : yes, when transported at elevated temperature (=> 100° C).	Dangerous for the environment : yes
Transport at temperature below 100°C: Not regulated for all modes of transport		

Special transport precautions

Special transport precautions	: The information about transport regulations as supplied herein does not cover all technical and operational requirements and, therefore, can not be considered exhaustive. Please check out the guidelines from the regulations of the National Road and Rail organization, International Maritime Organization (IMO) and the International Air Transport Association (IATA) before transporting the product. The transporting company is responsible for compliance with the laws, regulations and other rules as may apply to the transport of the material.
Overland transport	
Special provisions (UN RTDG)	: 232, 274.
Limited quantities (UN RTDG)	: 0.
Excepted quantities (UN RTDG)	: E0.
Packing instruction (UN RTDG)	: P099, IBC01.
Portable tank and bulk container special instructions (UN RTDG)	: T3.
Portable tank and bulk container special provisions (UN RTDG)	: TP3, TP29.
Transport by sea	
Special provisions (IMDG)	: 232, 274.
Packing instructions (IMDG)	: P099.
IBC packing instructions (IMDG)	: IBC01.
Tank instructions (IMDG)	: T3.
Tank special provisions (IMDG)	: TP3, TP29.
Stowage category (IMDG)	: A.
Flash point (IMDG)	: above 100° C.
Properties and observations (IMDG)	: Any liquid which is transported at or above 100° C but below its flashpoint. May cause fire if in contact with combustible material due to extreme temperature.
Air transport	
PCA Excepted quantities (IATA)	: E0.
PCA Limited quantities (IATA)	: Forbidden.
PCA limited quantity max net quantity (IATA)	: Forbidden.
PCA packing instructions (IATA)	: Forbidden.
PCA max net quantity (IATA)	: Forbidden.

CAO packing instructions (IATA) : Forbidden.
CAO max net quantity (IATA) : Forbidden.
ERG code (IATA) : 9L.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Product name: POLY(+4)ISOBUTYLENE

SECTION 15 Regulatory information

Listed on IECSC Inventory of Existing Chemical Substances in China

SECTION 16 Other information

Other information : None

SDS CN (GB/T 17519-2013)

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.