



SECTION 1 - IDENTIFICATION

1.1 Product identifier

Product name: **POLYBUT**
Product Identifier:

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

Relevant identified uses: Industrial use.

1.3 Details of the supplier of the Safety Data Sheet

YPF S.A.

Macacha Güemes n° 515, (C1106BKK) Puerto Madero, Ciudad Autónoma de Buenos Aires, Argentina.
P: +54 11 5441 2000. F: +54 11 5441 5796.

1.4 Emergency telephone number

Emergency phone (24 hours): CIQUIME 0800 222 2933 (from Argentina)
+54 11 4552 8747 (other countries)

SECTION 2 – HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to the Globally Harmonized System

Long-term (chronic) aquatic hazard (Category 4)

2.2 Label elements

Pictogram: NO PICTOGRAM
Signal word: NO SIGNAL WORD

Hazard statements:

H413 - May cause long lasting harmful effects to aquatic life.

Precautionary statements:

P273 - Avoid release to the environment.

P501 - Dispose of contents and/or container in accordance with national and international regulations.

2.3 Other hazards

There are no other additional hazards of consideration in the classification.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance

Butene, homopolymer (CAS 9003-29-6): > 99% - Aquatic Chronic 4

The inventory status and regulatory information shown here are based on CAS number 9003-29-6. This material may also be described by CAS number 9044-17-1

3.2 Mixtures

Does not apply.

SECTION 4 – FIRST-AID MEASURES

4.1 Description of first aid measures

| | |
|-----------------|--|
| General advice: | Avoid exposure to the product and take appropriate protective measures. Consult your doctor with the safety data sheet. |
| Inhalation: | Move victim to an area with clean air. Keep her at rest. If not breathing, apply CPR. Call the doctor. |
| Skin contact: | Immediately wash skin with plenty of soap and water for at least 15 minutes. |
| Eye contact: | Immediately flush eyes with water for at least 15 minutes, keeping eyelids open. If you have contact lenses, remove them after 5 minutes and continue rinsing eyes. Consult the doctor. |
| Ingestion: | DO NOT INDUCE VOMITING. Rinse mouth with water. If the victim is unconscious, call a doctor immediately, and turn her on her side to reduce the risk of aspiration. Do not give the victim anything to drink or eat. |

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: may cause nausea, dizziness and headache.

Skin contact: may cause irritation.

Eye contact: may cause irritation.

Ingestion: may cause nausea, vomiting, and stomach upset.

4.3 Indication of any immediate medical attention and special treatment needed

Medical advice: Perform symptomatic treatment. For more information, consult a Poison Center.

SECTION 5 – FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Use dry chemical, foam, sand or carbon dioxide (CO₂). Use the product according to surrounding materials. DO NOT USE water jets as it may spread fire.

5.2 Special hazards arising from the substance or mixture

The liquid will not ignite easily.

5.3 Advice for firefighters

5.3.1 Firefighting instructions

Spray containers and/or tanks with water to keep them cool.

Continue cooling with water after fire is out.

Prevent water used for fire control from entering watercourses, drains or springs.

5.3.2 Protective clothing

Use SCBA and structural protection clothing for firefighters.

5.3.3 Hazardous combustion products

In case of fire, it may release irritating and/or toxic fumes and gases, such as carbon monoxide, and other substances derived from incomplete combustion.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

6.1.1 For non-emergency personnel

Evacuate personnel to a ventilated area.

6.1.2 For emergency responders

Wear positive pressure self-contained breathing apparatus and fire-fighting protective clothing (includes fire-fighting helmet, jacket, pants, boots, and gloves). Avoid contact with the product during operations.

For non-fire spills or post-fire cleanup phase, wear chemical protective clothing specifically recommended by the manufacturer.

Eliminate all sources of ignition (no smoking, flares, sparks or open flames in danger area). Evacuate people to a ventilated area. Ventilate immediately, especially in low areas where vapors may accumulate. Do not allow reuse of spilled product.

6.2 Environmental precautions

Contain spilled liquid with a dam or barrier. Prevent entry into navigable waterways, sewers, basements or uncontrolled confined areas.

6.3 Methods and material for containment and cleaning up

Contain and recover the liquid when possible. Collect the liquid product with sand, vermiculite, earth, or inert absorbent material and then completely clean the affected area. Dispose of the waste properly. Dispose of the water and collected waste in marked containers for disposal as waste.

6.4 Reference to other sections

See Section 8 - Exposure Controls and Personal Protection, and Section 13 – Disposal considerations.

SECTION 7 – HANDLING AND STORAGE

7.1 Precautions for safe handling

Do not eat, drink or smoke during handling. Avoid contact with eyes, skin and clothing. Wash after handling.

7.2 Conditions for safe storage, including any incompatibilities

Store in a clean, dry, well-ventilated area. Protect from sunlight. Keep containers/packages closed.

Packaging materials: Supplied by the manufacturer.

Incompatibilities: Keep away from Strong oxidizing agents, acids and bases. silver peroxide.

7.3 Specific end use(s)

Industrial use.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

| | |
|-------------------|-----|
| TLV-TWA (ACGIH): | N/D |
| TLV-STEL (ACGIH): | N/D |
| PEL (OSHA): | N/D |
| IDLH (NIOSH): | N/D |

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Keep workplace ventilated. The normal routine ventilation is usually adequate. Local hoods should be used for operations that produce or release large amounts of product. In low or confined areas should be provided mechanical ventilation. Provide showers and eyewash stations.

8.2.2. Individual protection measures, such as personal protective equipment

Eye and face protection: When necessary, wear safety glasses complying with EN 166.

Skin protection: When necessary, wear impermeable protective PVC, nitrile or butyl gloves (complying with standards EN 374), clothes and safety footwear resistant to chemicals.

Respiratory protection: When necessary, wear an organic gas or steam (A) and dust respirator. Special attention to oxygen levels in the air should be paid.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | |
|----------------------------------|---|
| Appearance: | Clear liquid. |
| Colour: | Yellow. |
| Odour: | Characteristic. |
| Odour threshold: | N/D |
| pH: | N/D |
| Melting point: | N/D |
| Boiling point: | 202°C (396°F) |
| Evaporation rate: | N/D |
| Flammability: | The product is not flammable. |
| Flash point: | 120°C a 190°C (248°F a 374°F) |
| Explosive limits: | N/D |
| Auto-ignition temperature: | 399°C (750,2°F) |
| Decomposition temperature: | 350°C (662°F) |
| Vapour pressure (20°C): | N/D |
| Vapour density (air=1): | N/D |
| Relative density (20°C): | 0,850 g/cm ³ |
| Solubility (20°C): | Insoluble in water. Easily soluble in non-polar liquids. |
| Partition coefficient (logKo/w): | N/D |
| Viscosity (37.8°C): | POLYBUT 0: 27 - 33 cSt |
| Viscosity (100°C): | POLYBUT 0E: 9.4 - 11.8 cSt POLYBUT 5E: 70 - 90 cSt POLYBUT 10: 210 - 250 cSt POLYBUT 30: 595 - 665 cSt POLYBUT 150: 2150 - 2700 cSt POLYBUT 200: 4009 - 4503 cSt |
| Henry constant (20°C): | N/D |
| Explosive properties: | Not explosive. This study is not required because in the molecule no chemical groups are associated with explosive properties. |
| Oxidizing properties: | This study is not necessary because the substances present in the product, due to their chemical structures, are incapable of reacting exothermically with combustible materials. |

9.2 Other information

| | |
|-------------------|-------|
| Other properties: | None. |
|-------------------|-------|

SECTION 10 – STABILITY AND REACTIVITY

10.1. Reactivity

Reactions or decompositions of the product are not expected to occur under normal storage conditions. Does not contain organic peroxides. It is not corrosive to metals. It does not react with water. Mixtures of silver peroxide with 1% polyisobutylene are explosive.

10.2. Chemical stability

The product is chemically stable and does not require stabilizers.

10.3. Possibility of hazardous reactions

Hazardous polymerization is not expected.

10.4. Conditions to avoid

Avoid high temperatures.

10.5. Incompatible materials

Keep away from Strong oxidizing agents, acids and bases. silver peroxide.

10.6. Hazardous decomposition products

When heated, it may release toxic and irritating vapors. In case of fire, see section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

There is no information about the toxicity of the product, but acute toxicity estimations are presented.

ATE-LD50 oral (calc.): > 5000 mg/kg

ATE-LD50 der (calc.): > 5000 mg/kg

ATE-LC50 inh. (4 hs., calc): > 5 mg/l

Skin irr. (rabbit, estim.): irritant

Eye irr. (rabbit, estim.): not irritant

Skin sens (Guinea pig, estim.): not sensitising

Resp. sens (Guinea pig, estim.): not sensitizing

Carcinogenicity, mutagenicity, reproductive toxicity and other effects:

Carcinogenicity: No information is available on any component of this product, present at levels greater than or equal to 0.1%, that is classified as probable, possible or confirmed human carcinogen by IARC (International Agency for Research on Cancer).

Mutagenicity: There are no components of this product, present at a concentration greater than or equal to 0.1%, that classify as mutagens according to the GHS.

Tox. Repr.: There are no components of this product, present at a concentration greater than or equal to 0.1%, that classify as hazardous for reproduction according to the GHS.

Teratogenicity: There are no components of this product, present at a concentration greater than or equal to 0.1%, that classify as a teratogen.

STOT-SE: There are no components of this product, present at a concentration greater than or equal to 1%, that they classify as toxic to target organs according to the GHS.

STOT-RE: There are no components of this product, present at a concentration greater than or equal to 1%, that they classify as toxic to target organs according to the GHS.

Aspiration: The product is toxic by aspiration and its viscosity makes it possible to incorporate it by this route, which is why it is classified as dangerous by aspiration.

Acute and delayed effects:

Routes of exposure: Inhalation, skin and eye contact.

Inhalation: may cause nausea, dizziness and headache.

Skin contact: may cause irritation.

Eye contact: may cause irritation.

Ingestion: may cause nausea, vomiting, and stomach upset.

SECTION 12 – ECOLOGICAL INFORMATION

12.1. Toxicity

No effects were observed in the tests of the product up to the solubility limit of its components.

PNEC (water): N/D

PNEC (sea): N/D

PNEC-STP: N/D

12.2. Persistence and degradability

BIODEGRADABILITY (calculated): Due to the high molecular weight, the product can be slowly biodegraded. The product has long insoluble hydrocarbon chains that hinder its biodegradation.

12.3. Bioaccumulative potential

Log K_{ow} : N/D

BIOCONCENTRATION FACTOR - BCF (OCDE 305): N/D. It is not expected to have the potential to bioaccumulate significantly.

12.4. Mobility in soil

HENRY CONSTANT (20°C): N/D

LogKoc: N/D .

12.5. Results of PBT and vPvB assessment

This product does not meet the PBT criteria of Annex XIII of REACH. This product does not meet the vPvB criteria in Annex XIII of REACH.

12.6. Other adverse effects

AOX and metal containing: Does not contain organic halogens nor metals.

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of excess product and empty containers according to current legislation for the protection of the environment and hazardous waste. Disposal procedure: incineration.

SECTION 14 – TRANSPORT INFORMATION

14.1 Transport by land

| | |
|--------------------------------|-------------------------------------|
| Proper Shipping Name: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| UN/ID Number: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Hazard class: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Packing group: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Hazard identification number: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Excepted and limited quantity: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Special provisions: | NOT CLASSIFIED AS A DANGEROUS GOODS |

14.2 Air transport (ICAO/IATA)

| | |
|-------------------------------------|-------------------------------------|
| Proper Shipping Name: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| UN/ID Number: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Hazard class: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Packing group: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| PAX and Cargo Packing instructions: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Cargo Packing instructions: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| ERC: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Special provisions: | NOT CLASSIFIED AS A DANGEROUS GOODS |

14.3 Sea transport (IMO)

IMDG Code

| | |
|---------------------------|-------------------------------------|
| Proper Shipping Name: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| UN/ID N°: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Hazard class: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Packing group: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| EMS: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Stowage and manipulation: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Segregation: | NOT CLASSIFIED AS A DANGEROUS GOODS |
| Marine pollutant: | NO |
| Proper Shipping Name: | NOT CLASSIFIED AS A DANGEROUS GOODS |

SECTION 15 – REGULATORY INFORMATION

Not dangerous for the ozone layer.

Volatile organic compounds (VOC's): N/D

NFPA: 0 0 0 - EPP: B

Polyisobutylene is listed on the TSCA (EPA) Chemical Inventory.

Regulation

Globally Harmonized System of Classification and Labelling of Chemicals, fifth revised edition, 2013 (GHS 2013 - 'ST / SG / AC 10/30 / Rev.5'). The fifth edition is taken into consideration because it is the one valid for Argentina according to Resolution 801/2015 of the SRT. In any case, the information is contrasted with Revision 7 ('ST / SG / AC 10/30 / Rev.7') and clarification is made if required.

Agreement on Transport of Dangerous Products within the MERCOSUR, MERCOSUR\CMC\DEC N° 2/94.

European Agreement on the International Carriage of Dangerous Goods by Road (ADR 2023) and amendments.

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID 2023) and amendments.

International Maritime Dangerous Goods Code (IMDG 2020 - Amendment 41-22), International Maritime Organization (IMO).

Regulations of the International Air Transport Association (IATA 64 ed., 2023) on the transport of dangerous goods by air.

SECTION 16 – OTHER INFORMATION

16.1 Abbreviations and acronyms

N/A: not applicable.

N/D: no data available.

CAS: Chemical Abstracts Service

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists.

TLV: Threshold Limit Value

TWA: Time Weighted Average

STEL: Short Term Exposure

REL: Recommended Exposure Limit.

PEL: Permissible Exposure Limit.

INSHT: National Institute for Safety and Health at Work.

ATE: Acute toxicity estimate.

LD50: Lethal Dose.

LC50: Lethal Concentration.

EC50: Average Effective Concentration.

IC50: Inhibitory Concentration Medium.

DENOMINATION OF GHS CLASSES

Aer.: aerosols

Oxid. Gas: oxidizing gas

Compressed gas: compressed gas

Dissolved gas: dissolved gas

Flam. Gas: flammable gas

Liquefied Refr. Gas: refrigerated liquefied gas

Liquefied gas: liquefied gas

Oxid. Liquid: oxidizing liquid

Flam. Liquid: flammable liquid

Pyr. Liq.: pyrophoric liquid

Met. Corr.: corrosive for metals

Org. Perox.: organic peroxide

Water React. Flam. Gas: substance reactive with water, which emits flammable gases

Oxid. Solid: oxidizing solid

Flam. Solid: flammable solid

Asp Tox.: aspiration toxicity

Carc.: carcinogenicity

Skin Corr. / Irrit.: Corrosion / skin irritation

Eye Damage / Irrit.: Serious eye damage / eye irritation

Lac.: toxic for reproduction - lactation

Muta.: mutagenicity

Repr.: toxic for reproduction

Skin Sens.: skin sensitizer

Resp. Sens.: respiratory sensitizer

STOT Rep. Exp.: Specific target organ toxicity - repeated exposure

STOT Single Exp.: Specific target organ toxicity - single exposure

Acute Tox.: Acute toxicity

Aquatic Acute: Hazardous to the aquatic environment - acute danger

Aquatic Chronic: Dangerous for the aquatic environment - chronic danger

Ozo.: Dangerous for the ozone layer.

16.2 Key literature references and sources for data

International Agency for Research on Cancer (IARC), classification of carcinogens.
Hazard Classification and Labeling of Petroleum Substances in the European Economic Area – 2020, CONCAWE, Brussels, October 2020
European Chemicals Agency – ECHA
GESTIS-Stoffdatenbank, IFA, DGUV, Germany
Annex VI of Regulation (EC) No. 1272/2008, on classification, labeling and packaging of substances and mixtures (CLP Regulation)
US National Library of Medicine - PUBCHEM
eChem Portal, OECD

16.3 Classification and procedure used to derive the classification for mixtures

The classification was performed based on chemical analogues and product information compiled by CIQUIME.
SECTION 2: classification by hazard extrapolation and based on product data.
SECTION 9: product data.
SECTION 11 and 12: calculation of acute toxicity estimation according to GHS, product data and bibliographic data.

Change's control: v.20 - Update phrases and format; Classification change; General Review.

v.19 - Update phrases and format.

v.18 - Update phrases and format.

The partial or total modification of this file is not allowed, including the renown of the product, without the authorization of CIQUIME S.R.L.

16.4 Disclaimer

This information only concerns the above-mentioned product and is not to be valid for other (s) product (s) or in any process. This safety data sheet provides health and safety information. The information is to our best knowledge, correct and complete. It is given in good faith but without warranty. The product should be used in applications consistent with our product literature. Individuals handling this product should be in-formed of the recommended safety precautions and should have access to this information. For any other use, exposure should be evaluated so that they can implement appropriate handling practices and training programs to ensure safe operations in the workplace.

It remains the user's own responsibility that this information is appropriate and complete for the special use of this product.