

Safety Data Sheet

According to Regulation (EC) 1907/2006 (REACH).

Date of edition: 17/05/2012

Date of revision (Revision number): 31/10/2013 (6)

Previous editions and revision of this documents have lost their validity

1. IDENTIFICATION OF SUBSTANCE/MIXTURE AND COMPANY/UNDERTAKING

1.1 Product identifier

Other names: butadiene homopolymer; homopolymer of butadiene

Registration No.: not subject to registration under REACH

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

Identified uses

Industrial end-uses

| Use | Sector of Use SU / Process Category PROC / Environmental Release Category ERC* |
|---|--|
| Rubber processing (compounding, manufacture of rubber articles) | SU 3, SU 10; PROC 1, PROC 5, PROC 6, PROC 8a, PROC 8b, PROC 9, PROC 14, PROC 21; ERC 5 |

Professional end-uses

| Use | Sector of Use SU / Process Category PROC / Environmental Release Category ERC* |
|---|--|
| Outdoor use of rubber articles made of the product by professionals | SU 22 PROC 21 ERC 10a |

Consumer end-uses

| Use | Sector of Use SU / Article Category AC / Environmental Release Category ERC* |
|---|--|
| Outdoor use of rubber articles made of the product by consumers | SU 21 AC 10 ERC 10a |

Non-recommended uses

None.

* nomenclature according to Directives included in the document: Guidance on Information Requirements and Chemical Safety Assessment, Chapter R.12: Use descriptor system (version 2., March 2010)

1.3 Details on MSDS supplier

Name or firm: SYNTHOS PBR, s.r.o.

Registered office or place of business: O. Wichterleho 810, Kralupy nad Vltavou, 278 01, Czech Republic

Identification number: 28252012

Phone switchboard: +420 315 711 111, Business department: +420-315 712 744, +420-315 713 245

Fax: +420 315 713 802, E-mail: synthos-cz@synthosgroup.com

1.4 Emergency phone number

Emergency telephone number SYNTHOS Kralupy a.s. (Inc.): Dispatching: phone 420315727085, 420315713041

Emergency telephone number in the Czech Republic: Toxicological Information Centre, Na Bojišti I, 128 08 Prague 2,

Phone Non-stop phone: +420 224 919 293, +420 224 915 402, Fax: +420 224 914 570

2. HAZARDS IDENTIFICATION

The product is not classified as hazardous according to Council Directive No. 67/548/EEC or Regulation (EC) No. 1272/2008 (CLP).

SYNTHOS PBR, s.r.o.

O. Wichterleho 810, 278 01 Kralupy n. Vltavou, Czech Republic

tel. +420 315 711 111, fax +420 315 713 802

www.synthosgroup.com

3. COMPOSITION/INFORMATION ON INGREDIENTS

The product is a mixture.

| Substance | Concentration [%] | CAS No. | EC No. | Index No. | REACH Registration No. |
|-----------------------------|-------------------|-------------|-----------|-----------|------------------------|
| Polybutadiene (Homopolymer) | min. 99,4 | 9003-17-2 | - | - | - |
| Antioxidant | max. 0,6 | 110553-27-0 | 402-860-6 | - | - |

4. FIRST AID MEASURES

Stop exposure, prevent hypothermia, calm the casualty, check basic vital functions (i.e. blood circulation, breathing, consciousness).

An essential part of the non-professional first-aid treatment is to get medical attention immediately.

4.1. First Aid Description**4.1.1. Inhalation**

Bring to fresh air, if symptoms persist - get medical attention.

4.1.2. Contact with skin

Take off contaminated clothing, wash with soap and water, if symptoms persist - get medical attention.

4.1.3. Contact with eye

Rinse with plenty of water for at least 15 minutes (also under the lids), if symptoms persist - get medical attention.

4.1.4. Ingestion

Do not induce vomiting. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES**5.1. Extinguishing media****5.1.1. Suitable extinguishing media:**

Water, heavy, medium and light foam, dry powder (A,B,C), carbon dioxide.

5.1.2. Unsuitable extinguishing media:

None

5.2. Special hazards arising from the substance or mixture:

Carbon oxides, hydrocarbon mixture and carbon black are produced during combustion.

5.3. Instructions for fire-fighters:

Use self-contained breathing apparatus + complete protective clothing.

5.4. Other information:

None

6. ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures****6.1.1. For non-emergency personnel**

Avoid direct contact with product. Follow instructions given by the people who remedy escape.

6.1.2. For emergency responders

Avoid direct contact with product. Wear suitable personal protective equipment.

6.2. Environmental precautions

None

6.3. Methods and material for containment and cleaning up**6.3.1. Advice on how to contain a spill**

Not applicable. The product is a solid body with low mobility.

6.3.2. Recommendations for disposal of spillage

Collect the product into designated containers. Use suitable gloves and/or broom and shovel. Reuse or dispose of in compliance with applicable legislation.

6.4. References to other sections

Not applicable.

7. HANDLING AND STORAGE

7.1. Safe handling precautions

Do not eat and drink when using the product.

Wear suitable work clothing. If necessary, wear personal protective equipment.

Avoid direct contact with product.

Avoid contact with eyes.

Ensure ventilation at the workplace.

Prevent dust build up.

7.2. Conditions for safe storage of substances and mixtures, including any incompatibilities

Store in well-ventilated places at the temperature not exceeding 30°C.

Protect against moisture, light and weather.

Keep away from sources of heat and fire.

Do not store together with organic solvents.

In case of 1.0 t wooden pallets, do not stack two or more layers.

Conditions to avoid and dangerous reactive substances - see Section 10 of this MSDS.

7.3. Specific final applications

Not applicable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

8.1.1. National occupational exposure limit values valid for the Czech Republic

| Substance | PEL (mg/m ³) | MAC (mg/m ³) |
|--------------------|--------------------------|--------------------------|
| 1,3-butadiene | 10 | 20 |
| Cyclohexane | 500 | 1000 |
| Methyl cyclohexane | 1500 | 2000 |

8.1.2. Information on monitoring procedures: not required (non-hazardous product)

8.2. Exposure controls

8.2.1 Appropriate engineering controls: See also Section 7.

8.2.2 Individual protection measures, such as personal protective equipment:

8.2.2.1. Eye and face protection

When carrying out work where danger to eyes from product particles, which may cause mechanical damage to the eye, cannot be avoided, wearing safety goggles is required.

8.2.2.2. Skin protection

Hand protection

Wear protective gloves. Suitable material: leather, polyvinyl chloride; thickness: approx. 0.3 mm; break-through time: > 480 min. Gloves made of other materials may be used on condition that equivalent protection level is guaranteed. Destroyed gloves should be replaced.

Other

Wear work clothing and footwear.

8.2.2.3. Respiratory protection

In case of inefficient ventilation or dust build up from the product, wear a mask according to EN 143 with P1-type filter..

8.2.2.4. Thermal risks

The product poses no thermal risk.

8.2.3. Environmental hazard control

Avoid release to the environment, do not discharge into drainage.

Any emissions from the exhaust systems and process equipments will be monitored to establish compliance with the requirements of environmental protection regulations. On this basis, the necessity to use appropriate emission-reducing devices is determined.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

- a) Appearance: white to yellowish amorphous solid pressed to blocks of approx. 700 x 350 x 180 mm.
- b) Odour: characteristic
- c) Odour threshold limit: Not determined
- d) pH: Not determined
- e) Melting/solidification point (°C): Not determined
- f) Initial boiling point or range (°C): Not determined
- g) Flash point (°C): >200
- h) Evaporation rate: Not determined
- i) Flammability: Not determined
- j) Upper/lower explosion limits: Not determined
- k) Vapour pressure (20°C): Not determined
- l) Vapour density: Not determined
- m) Relative density: 950 kg/m³ at 20 °C
- n) Solubility (25°C): insoluble
- o) Partition coefficient n-octanol/water: Not determined
- Autoignition temperature (°C): >200
- r) Viscosity (20°C): Not determined
- s) Explosive properties: not classified as explosive substance
- t) Oxidizing properties: not classified as oxidizing agent

9.2. Other information:

- u) Soluble in aliphatic and aromatic hydrocarbons.
- v) Decomposition temperature (°C): >200

10. STABILITY AND REACTIVITY

10.1. Reactivity

See Section 10.3. of this MSDS.

10.2. Chemical stability

The product is stable under the mentioned conditions of storage and handling.

10.3. Possibility of hazardous reactions

The product can ignite due to high temperature.

10.4. Conditions to avoid

High temperature. Direct effect of sun radiation.

10.5. Incompatible materials

Organic solvents. Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides and sodium oxide may form during combustion.

11. TOXICOLOGICAL INFORMATION

The product was not subject to toxicological tests. Human health risk assessment was carried out in accordance with the rules applicable to mixtures (see also Section 2 of this MSDS).

11.1. Information on toxicological effects

11.1.1. Acute toxicity

Based on available data, the classification criteria are not met.

11.1.2. Skin causticity / irritation

Based on available data, the classification criteria are not met.

11.1.3. Serious damage / irritation to eyes

Based on available data, the classification criteria are not met.

11.1.4. Respiratory / skin sensitisation

Based on available data, the classification criteria are not met.

11.1.5. Mutagenic impacts in elementary cells

According to the conventional (classical) method referred to in Art. 6 Par. 1(a) of Directive 1999/45/EC and based on relevant information on substances reported in Section 3 (if applicable), this product is not classified as mutagenic.

11.1.6. Carcinogenic effects

According to the conventional (classical) method referred to in Art. 6 Par. 1(a) of Directive 1999/45/EC and based on relevant information on substances reported in Section 3 (if applicable), this product is not classified as carcinogenic.

11.1.7. Toxicity for reproduction

According to the conventional (classical) method referred to in Art. 6 Par. 1(a) of Directive 1999/45/EC and based on relevant information on substances reported in Section 3 (if applicable), this product is not classified as having toxic effects on reproduction.

11.1.8. STOT - single exposure

Based on available data, the classification criteria are not met.

11.1.9. STOT - repeated exposure

Based on available data, the classification criteria are not met.

11.1.10. Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on likely routes of exposure

Skin, airways.

11.3. Symptoms related to the physical, chemical and toxicological characteristics

This product is not classified as hazardous mixture.

11.4. Delayed and immediate effects as well as chronic effects from short and long-term exposure

This product is not classified as hazardous mixture. Respiratory irritation may occur in sensitive individuals due to inhalation of vapours during thermal processing of the product.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Acute toxicity for aquatic organisms: None.

12.2. Persistence and degradability

The product is poorly biodegradable. Product residues may be disposed of mechanically or in a suitable waste-water treatment facility.

12.3. Bioaccumulation potential

The product is not expected to be bio-disposable due to its consistence and insolubility in water.

12.4. Mobility in soil

None.

12.5. PBT and vPvB Assessment Results

The product does not meet the criteria for PBT and vPvB.

12.6. Other Adverse Effects

None

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal of escaped substance: in special chemical waste incinerators, follow applicable legislative measures. PE foils should be incinerated in special chemical waste incinerators, follow applicable legislative measures. Metal transport boxes are returnable.

13.2. Disposal of used packaging

Reusable packaging can be used again after cleaning.

15 01 02 Plastic packaging.

15 01 04 Metallic packaging.

"Thoroughly cleaned" means packaging where maximum amount of product was removed from the package using physical or mechanical methods, leaving only residues or contamination which cannot be removed using these methods.

Codes have been assigned with reference to actual product composition, both initial form and dry residues. If mixed with other wastes, the assigned waste code may change.

14. TRANSPORT INFORMATION

The product is not classified as dangerous for transport according to ADR/RID, ADNR, IMDG, IATA/ICAO regulations.

15. REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

15.2. Chemical Safety Assessment

The supplier did not perform a chemical safety assessment for the mixture. In compliance with REACH requirements, the chemical safety assessment for this product is not required.

15.3. Notice

The users are notified of the possible existence of local, national and international regulations related to the product.

16. OTHER INFORMATION

16.1. Indication of the MSDS sections changed

Not applicable - new issue.

16.2. List of relevant phrases mentioned in Sections 2-15, and (if appropriate) full wording of all phrases which were not mentioned in Sections 2-15 as a whole.

Not applicable.

This document is of an informative character. The data and information presented in this document correspond to the present state of our knowledge and experience. It makes neither product properties nor qualitative parameters guarantee and cannot be used as a basis of any claims. The information provided cannot be used for any mixtures with any other substances. The product must be transported, stored and used in accordance with valid regulations and in the compliance with good occupational hygiene practice.

Making use of the information as well as product application is beyond the producer control and determination of the safe conditions of use is the sole responsibility of a customer.