



VORONEZH SYNTHETIZKAUCHUK JSC

SAFETY DATA SHEET

According to 1907/2006/EC, article 31 (REACH)

BUTADIENE RUBBER (BR) GRADE BR -1243 Nd (polybutadiene, solution)

Version: 2.1

Created: 26/012/2011

Regulation: EC No 1272/2008

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

1.1 Product identifier	
Name of Substance:	Cis-(poly)butadiene
Name of IUPAC	butadiene-1,3 polymer
Synonyms	cis-1,4-(poly)butadiene; Polybutadiene (cis); 1.3-Butadiene, homopolymer
TRADE NAMES:	Butadiene Rubber (BR)
PRODUCT GRADES	BR -1243 Nd
Registration #: for 1.3-butadiene (CAS #106-99-0; EC #203-450-8) <i>Index No(CLP):601-013-00-X</i>	01-2119471988-16-0034 01-2119471988-16-0033

1.2 Relevant identified uses of the substance

Most common technical function of cis-(poly)butadiene: tyre production, technical rubber parts (profiles, hoses, shoe soles, belt production, technical rubber goods), rubber compound.

DISCLAIMER

This product is a polymer and is not classified as dangerous under criteria of Directives No 67/458/EEC, No 1999/45/EC and Regulation (EC) No 1272/2008 (Regulation CLP). This polymer does not contain substances classified as dangerous under Article 59.2 Regulation (EC) No 1272/2008, namely:

- in an individual concentration of ≥ 1 % by weight for non-gaseous mixtures posing human health or environmental; or
- in an individual concentration of ≥ 0.1 % by weight for non-gaseous mixtures that is carcinogenic category 2 or toxic to reproduction category 1A, 1B and 2, skin sensitiser category 1, respiratory sensitiser category 1, or has effects on or via lactation or is persistent, bioaccumulative and toxic (PBT) in accordance with the criteria set out in Annex XIII or very persistent and very bioaccumulative (vPvB) in accordance with the criteria set out in Annex XIII; or
- a substance for which there are Community workplace exposure limits.

In accordance with mentioned above, this product does not require and official e-SDS as per Regulations (EC) No 1907/2006 (articles 31.1; 31.2) and Commission Regulation (EU) No 453/2010.

This e-SDS is developed in good faith to provide a customer with sufficient information allowing to take necessary measures to comply with relevant HSE requirements.



1.3 Details of the supplier of the safety data sheet

Only representative

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Suppliers

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Emergency phone in the country of delivery: 112 (Please note that emergency numbers may vary depending upon the country of delivery though 112 remains valid as universal number)

SECTION 2. HAZARDS IDENTIFICATION

Classification:

ANNEX I OF DIRECTIVE 67/548/EEC

Physical/Chemical Hazards:

None.

Health Hazards:

None.

Environmental hazards:

None.

EU CLP 2008

Physical / Chemical Hazards:

None.

Health Hazards:

None.

Environmental hazards:

None.

Specific hazard:

No significant health hazard in normal industrial use conditions.

Contact of melted/ heated product may cause thermal burns.

Processing vapours, which can irritate eyes and respiratory tract, may form when product is heated at high temperatures.

Combustible solid.



SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a synthetic rubber consisting of at least 98.5% polymerised 1.3-butadiene and antioxidants (CAS#128-37-0 /EC#204-881-4 or CAS#119-47-1/ EC# 204-327-1 or CAS#110553-27-0/ EC#402-860-6).

Formula: $(-\text{CH}_2-\text{CH}=\text{CH}-\text{CH}_2-)_n$

Component	Conc. %	CAS / EC #	Classification EC# 67/548/EEC and EC#1272/2008 (CLP)
Cis-(poly)butadiene	≥98.5	9003-17-2/ none	none

The product does not contain impurities or additives that could affect product's labelling and classification according to Regulation (EC) No 67/548/EEC and Regulation (EC) No 1272/2008 (CLP) in the concentration ranges specified.

SECTION 4. FIRST-AID MEASURES

General information:

Spontaneous penetration of butadiene rubber into human organism is impossible.

If heated over 300 °C rubber thermo destruction is possible.

Butadiene rubber при is a stable product under normal conditions. Non-volatile, causes non-exhaustive effects. Inhalation poisoning is unlikely.

Contact with eyes may cause mechanical damage.

Contact with skin has no effects.

Inhalation:

Move any exposed person to fresh air at once. Keep warm and at rest. If there is respiratory distress give oxygen. If respiration stops or shows signs of failing, apply artificial respiration. Get medical attention.

Ingestion:

Wash out mouth with water and give plenty of water to drink, provided person is conscious. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have the exposed person lean forward. Get medical aid.

Skin contact:

Remove contaminated clothing and wash skin with plenty of running water, under a shower if affected area is large enough to warrant this. Get medical attention.

Eye contact:

Rinse immediately eye with plenty of low pressure water for at least 15 minutes.

Remove any contact lenses. Get medical attention.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media:

The substance is combustible. Use foam, dry chemical, carbon dioxide, or water spray.



Special fire fighting procedures:

Keep away from sources of ignition - no smoking.

Unusual fire & explosion hazards:

None.

Specific hazards:

Combustion generates irritating and toxic fumes.

Protective measures in fire:

Wear full protective clothing and MSHA/NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

See section 8.

Environmental precautions:

Take precautionary measures against discharges into the environment.

Spill clean up methods:

Sweep spilled substance into containers. Avoid generating dusty conditions and provide ventilation. All equipment must be grounded.

SECTION 7. HANDLING AND STORAGE

Usage precaution:

Wash thoroughly after handling. Avoid contact with eyes and skin. Do not ingest or inhale. Minimise dust generation and accumulation. Remove all sources of ignition. All equipment must be grounded.

Storage precautions:

Store in a cool, dry, well-ventilated area away from direct sunlight and incompatible substances in a closed container. Keep away from source of open fire.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits:

None listed.

Protective equipment:

Protective gloves, safety goggles and protective clothing.

Respiratory equipment: Wear positive pressure self-contained breathing apparatus if warranted by workplace conditions.

Hand protection:

Wear approved protective gloves.

Eye protection:

Wear approved safety goggles.



Hygiene measures:

Wash at the end of each work shift and before eating, drinking, smoking or using the toilet.

Skin protection:

Wear protective clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	elastic solid (briquette)
Colour	light brown to dark-brown
Odour	peculiar
pH value	not applicable, insoluble in water
Melting point	above 160 °C
Decomposition temperature	above 300 °C
Glass transition temperature	102 °C
Auto-ignition temperature	332 °C
Ignition temperature	292 °C
Specific Gravity	0.910–0.930 g/cm ³
Solubility	insoluble in water soluble in hexane, toluene, benzene, chloroform, tetrachloride carbon
Explosive properties	non explosive
Granulometry	not applicable, substance is not marketed or used in granular form.

SECTION 10. STABILITY AND REACTIVITY

Stability:

Stable under normal temperatures and pressures.

Materials to avoid:

Strong acids, alkalis, strong oxidising agents, organic solvents.

Conditions to avoid:

High temperature, oxygen, ozone, naked flame, sparks, long exposure to sunlight, contact with incompatible materials.

Hazardous decomposition products:

Carbon monoxide, carbon dioxide.

SECTION 11. TOXICOLOGICAL INFORMATION

General:

Cis-(poly)butadiene:



LD 50 (oral, rat): 20 000 mg/kg (Russian Register of Potentially Hazardous Chemical and Biological Substances /FBEPH)

Inhalation:

Cis-(poly)butadiene has no local irritating effect on the gastrointestinal tract when inhaled, conjunctiva, skin-resorptive and sensitizing effect.

Ingestion:

Not applicable.

Skin contact:

There is no irritant effect on skin.

Eye contact:

There is no irritant effect on eyes.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic toxicity:

Cis-(poly)butadiene (Russian Register of Potentially Hazardous Chemical and Biological Substances /FBEPH):

LC50 (96 h): >100 mg/L (*Oncorhynchus mykiss*)

LC50 (48 h): >100 mg/L (*Daphnia Magna*)

LC50 (48 h): >100 mg/L (*Algae*)

Ecotoxicity:

The product is poorly biodegradable but does not pose a hazard to the environment.

Water hazard classification:

According to the German VwVwS: WGK- 1 (low danger for water pollution).

SECTION 13. DISPOSAL CONSIDERATIONS

General information:

Place into a suitable closed container for disposal.

Disposal methods:

Dispose of in accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

General:

The product is not covered by international regulations on the transport of dangerous goods.

UN: none.



SECTION 15. REGULATORY INFORMATION

REGULATORY

Chemical Safety Report has been performed for monomer: 1.3-butadiene (CAS #106-99-0; EC #203-450-8) (CAS #106-99-0; EC #203-450-8).

SECTION 16. OTHER INFORMATION

16.1 Indication of changes

VERSION	Date of change	Section	Description of changes
Version: 1.0	05/03/2010		First edition created according to recommendations of Regulations (EC) #1907/2006 (Article 31.1).
Version: 2.0	07/02/2011	1.1, 2	Section 1.1, 2 was updated
Version: 2.1	26/12/2011	1.1; 3; 4; 9; 10; 11; 12; 15; 16	1 Product name BR SKD-ND was renamed into BR -1243 Nd. 2. Section 1.1 was updated. 3. DISCLAIMER was added on the first page. 4. "General information" subsection was added in Section 4. 5 "General" subsection was added in Section 11. 6. "Aquatic toxicity" subsection was added in Section 12. 7. Sections 3, 9, 10; 15, 16 were fully updated.

16.2 Relevant R-phrases, Hazard- and EU Hazard-statements

Labelling: none.

R-phrases: none.

Safety Advice (S-phrases):

S 16 Keep away from sources of ignition - no smoking
S 41 In case of fire and/or explosion do not breathe fumes
S 47 Keep at temperature not exceeding 30°C

16.3 Abbreviations and acronyms

LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)
LC50 Lethal Concentration to 50 % of a test population
PBT Persistent, bioaccumulative, toxic chemical
vPvB Very Persistent, Very Bioaccumulative
UN United Nations
WGK Wassergefährdungsklasse (*German: Water Hazard Class*)

16.4 Key literature references and sources

EU DIRECTIVES

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 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.

Regulations. Commission regulation (EU) no 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

DIRECTIVE 1999/45/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances.

COMMISSION DECISION of 16 January 2001 amending Decision 2000/532/EC as regards the list of wastes (notified under document number (2001/118/EC).

NATIONAL REGULATIONS (GERMANY)

Major Accident Hazard Legislation 82/501/EWG.

Russian Register of Potentially Hazardous Chemical and Biological Substances (FBEPH).

Cis-(poly)butadiene. Dossier for potentially hazardous chemical and biological substance # BT 001360, 1998, Ministry of Health of the Russian Federation.

DISCLAIMER

This information is based on our current level of knowledge. This information may be subject to revision as new knowledge and experience becomes available, and SIBUR makes no warranties and assumes no liability in connection with any use of this information. Since SIBUR cannot be aware of all aspects of your business and the impact the REACH Regulation has for your company, SIBUR strongly encourages you to get familiar with the REACH Regulation in order to comply with its requirements and timelines.