

VORONEZH SYNTEZKAUCHUK JSC

SAFETY DATA SHEET

According to Regulations (EC) 1907/2006 (REACH), (EC) 1272/2008 (CLP) & (EU) 2015/830

STYRENE-BUTADIENE-STYRENE BLOCK COPOLYMER (SBS)

**GRADES: SBS L 7417, SBS L 7420, SBS L 7413, SBS L 7322, SBS L 7342,
SBS R 7382**

Version: 1.0
Created: 26/02/2020

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

1.1 Product identifier

Name of Substance:	Styrene-butadiene-styrene block copolymer (SBS) Grades: SBS L 7417, SBS L 7420, SBS L 7413, SBS L 7322, SBS L 7342, SBS R 7382
Name of IUPAC:	benzene, ethenyl-, polymer with buta-1,3-diene
Synonyms:	Synthetic thermoplastic rubber; Poly(styrene- <i>co</i> -butadiene)
Registration # for 1,3-butadiene:	01-2119471988-16-0034
(CAS #106-99-0; EC #203-450-8)	01-2119471988-16-0033
<i>Index No(CLP):601-013-00-X</i>	01-2119471988-16-0233
Registration for styrene:	01-2119457861-32-0016
(CAS #100-42-5; EC #202-851-5)	
<i>Index No(CLP): 601-026-00-0</i>	

1.2 Relevant identified uses of the substance

1.2.1 Identified use(s):

For manufacture of rubber technical goods (adhesives, fillet sealant, shoe compositions, mastics, adhesive matters, for modifying of plastics and bitumen, for road and roofing materials manufacturing, protective coatings and waterproofing materials)

1.2.2 Uses advised against:

Uses other than those given in section 1.2.1 are not recommended unless an assessment is completed prior to commencement of that use, which demonstrates that the use will be controlled

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 an 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

Manufacturer

Company name: Voronezhsynthetizkauchuk JSC
Address: 2, Leninsky prospect, Voronezh, Russia, 394014
Phone: +7 473 220 65 26
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Emergency phone: +7 473 249 09 00, +7 473 220 76 30 (round the clock)

1.4 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

2.1 Classification of the substance or mixture

Not classified as a hazardous substance according to Regulation (EC) No 1272/2008 (CLP/GHS).

2.2 Label elements

Hazard pictograms (CLP): Not applicable.
Signal word (CLP): Not applicable.
Hazard statements (CLP): Not applicable.
Precautionary statements (CLP): Not applicable.

2.3 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.
Not classified as PBT or vPvB.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC #	CAS #	Content, %	Classification EC#1272/2008 (CLP)
Poly(styrene-co-butadiene)	none	9003-55-8	≥98	none

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

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

General information: at normal conditions the product is stable non-volatile, causes non-exhaustive effects. No significant health hazard in normal industrial use conditions.

Spontaneous penetration of the product into human organism is impossible.

Contact with eyes may cause mechanical damage.

Contact with skin has no effects.

Inhalation poisoning is unlikely.

Contact with melted/heated product may cause thermal burns.

Thermal decomposition products inhalation may irritate respiratory system, eye irritation

Inhalation: In emergency and in case of poisoning by combustion products or if decomposition or thermal destruction products are inhaled:

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: In case of accidental swallowing:

Particles of the product in case of accidental penetration of the airways may cause mechanical irritation of respiratory tract, cough. In this case the following actions are to be taken.

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: After contact with hot product immediately wash skin with large volume of cold water. 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.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation Symptoms: thermal-oxidative products inhalation may irritate respiratory system, eye irritation.

Skin Contact Symptoms: contact with hot product may cause serious burns.

Eye Contact Symptoms: eye Contact may cause mechanical damage, irritation of eyes mucous. Contact with hot product may cause serious burns.

Ingestion/aspiration Symptoms: ingestion/aspiration may cause irritation of digestive tract. May cause gastrointestinal blockage.

4.3 Notes for the doctor

If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Use chemical and air-filled foam, dry chemical, water spray. For small flame formation: carbon dioxide extinguisher or powder fire extinguisher, fire blanket.

Unsuitable extinguishing media: Do not use water jets.

5.2. Special hazards arising from the substance or mixture

Combustion generates irritating and toxic fumes.

Burning causes emissions of carbon oxide.

Unusual fire & explosion hazards: none.

5.3. Advice for fire fighters

Wear canvas protective suit, gloves, helmets, face shields, rubber or kersey boots, gas mask.

In proximity to 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.

Keep away from sources of ignition, no smoking.

Extinguish fire keeping safe distance. Not yet ignited product to be kept cool by means of water spraying.

5.4 Special Protective Equipment for fire-fighters

Wear canvas protective suit, gloves, helmets, face shields, rubber or kersey boots, gas mask.

In proximity to 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

6.1 Personal precautions, protective equipment and emergency procedures

Take precautionary measures against static discharges.

Ensure adequate ventilation.

For additional information, refer to Section 8, Exposure Controls and Personal Protection equipment.

6.2 Individual safety measures

Remove sources of ignition, provide workplace ventilation, air monitoring of the workplace, avoid contact with skin and eyes.

6.3 Environmental precautions

Do not allow penetration of the product into water reservoirs, surface and ground water, sewer ducts and soil.

Preventing disposal into water reservoirs of contaminated water without treatment.

Monitor content of hazardous substances in the air.

Provide sealing of process equipment.

6.4 Spill clean-up methods

When the product gets into water or ground collect the product in a separate container for recycling or disposal.

6.5 Reference to other sections

For additional information, refer to Section 8, Exposure Controls and Personal Protection equipment.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Avoid all sources of ignition.

Take precautionary measures against static discharges. Provide thorough sealing and grounding of process equipment.

Provide input-extract and local ventilation of work zones to ensure that the occupational exposure limit is not exceeded. In case of insufficient ventilation, wear suitable respiratory equipment (See Section: 8). Regularly control work zone air.

Do not swallow. Avoid contact with eyes.

Do not ingest or inhale combustion or decomposition products.

Workers should be protected from the possibility of contact with molten product.

7.2. Storage precautions

Shelf life is 1 year from the date of manufacture.

Store in a dry, well-ventilated area, at temperature not exceeding 40 °C. Keep away from direct sunlight, atmospheric precipitation and incompatible substances in a closed container.

7.3. Specific end use(s)

Please check the identified uses given in Section 1.2 of this safety data sheet.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

For Poly(styrene-co-butadiene) (CAS: 9003-55-8): not established

Occupational Exposure Limits for the possible products of thermal-oxidative degradation (see section 10): for Styrene: International Limit Values¹⁾

SUBSTANCE	LTEL 8 hr TWA ppm	LTEL 8 hr TWA mg/m ³	STEL ppm	STEL mg/m ³	Note
Styrene CAS #100-42-5					
Austria	20	85	80	340	
Belgium	50	216	100	432	
France	50	215	46.6 (1)	200(1)	(1) Restrictive statutory limit

		23.3 (1)	100 (1)		values Restrictive statutory limit values will come into force on 1 July 2014
Germany (AGS)	20	86	40 (1)	172(1)	(1) 15 minutes average value
Germany (DFG)	20	86	40	172	
Hungary		50		50	
Latvia		10		30(1)	(1) 15 minutes average value
Poland		50		200	(1) Ceiling limit value
Spain	20	86	40	172	

¹⁾ GESTIS International Limit values:
http://bgia-online.hvbg.de/LIMITVALUE/WebForm_ueliste.aspx

8.1.2 DNEL/ PNEC values:

8.1.2.1 For Poly(styrene-co-butadiene)

DN(M)ELs for workers have not been derived.

DN(M)ELs for the general population have not been derived.

DNEL and PNECs for freshwater, saltwater, sediment and soil have not been derived.

8.1.2.2 For Styrene(CAS 100-42-5; EINECS 202-851-5)

DN(M)ELs for workers

Acute - systemic effects, inhalation 289 mg/m³

Acute - local effects, inhalation 306 mg/m³

Long-term - systemic effects, dermal 406 mg/kg bw/day

Long-term - systemic effects, inhalation 85 mg/m³

DN(M)ELs for the general population

Acute - systemic effects, inhalation 174.25 mg/m³

Acute - local effects, inhalation 182.75 mg/m³

Long-term - systemic effects, dermal 343 mg/kg bw/day

Long-term - systemic effects, inhalation 10.2 mg/m³

Long-term - systemic effects, oral 2.1 mg/kg bw/day

PNEC water

PNEC aqua (freshwater): 0.028 mg/L

PNEC aqua (marine water): 0.0028 mg/L

PNEC aqua (intermittent releases): 0.04 mg/L

PNEC sediment

PNEC sediment (freshwater): 0.614 mg/kg sediment dw

PNEC sediment (marine water): 0.0614 mg/kg sediment dw

8.2 Exposure controls

8.2.1 Technical safety measures

Provide adequate forced-air and exhaust ventilation in work zones.

Compulsory monitoring of air conditions in work areas.

Sealing and grounding of equipment and communications.

Usage of intrinsically safe equipment.

8.2.2 Personal protection equipment

Use of personal protective equipment must be consistent with good occupational hygiene practices.

Hygiene measures:

Personal hygiene and industrial sanitation in the production at the facility (wash hands at the end of each work shift and before eating, drinking, smoking or using the toilet).

Eye/Face protection

Wear Goggles giving complete protection to eyes (BS EN 166).

Skin Protection (Hand and Body)

Wear approved protective gloves (Nitrile rubber. BS EN 374)

If contact with hot product is anticipated, gloves should be heat-resistant and thermally insulated.

Wear insulating gloves BS EN407 (heat).

Wear apron or other protective clothing and antistatic boots.

Respiratory Protection

Not required (if is used workplace conditions).

In emergency or in case of increase of hazardous substances concentration at the workplace wear positive pressure MSHA/NIOSH-approved self-contained breathing apparatus (BS EN 14387:2004).

8.2.3 Environmental Exposure Controls

None specific.

Do not allow penetration of the product into water reservoirs, surface and ground water, sewer ducts and soil.

Preventing disposal into water reservoirs of contaminated water without treatment.

Provide sealing of process equipment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value	Method	Remarks
Physical state (at 20 °C and 1013 hPa)	Hard homogeneous elastic mass Thermoplastic rubber is produced in the form of powder and granules (powdered)	visual method	
Colour	from white to light-beige		yellowness index measurement using an automatic spectrometer
Odour	Peculiar, at processing temperatures slight odour of organic compounds is possible.	sensory examination	
pH (Value)	Not applicable, insoluble.	-	
Melting Point (°C)	Not available.		
Initial boiling point/boiling range (°C)	Not available.	-	
Ignition temperature (°C)	260 ± 15	ISO 4589-84 (GOST 12.1.044)	
Auto Ignition Temperature (°C)	330 ± 10	ISO 4589-84 (GOST 12.1.044)	
Flash-point (°C)	Not available.		
Evaporation rate	Not available.	-	
Flammability (solid, gas)	Does not ignite spontaneously, burn only upon entering into a source of fire.	-	
Upper/low flammability or Explosive limit ranges	Not available.	-	
Vapour Pressure (hPa):	Not available (does not evaporate)	-	
Vapour Density (Air=1)	Not available (does not evaporate)	-	
Density (g/cm ³)	0.94-0.96	ASTM D 792	
Solubility (Water)	Insoluble		

Solubility (Other)	Soluble in toluene. Insoluble in aliphatic hydrocarbons.		
Partition Coefficient n-Octanol/Water	Not available.	-	
Decomposition Temperature (°C)	Not available.	-	
Viscosity (kinematic, dynamic, flow time)	Not available, product is elastic solid		
Explosive properties	Non explosive.	-	
Oxidising properties	Not available.	-	
Granulometry, mm	≤ 2.5 (for powder) ≤ 7.1 (for granules)		manufacturer`s SOP (CK9420)

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under all ordinary circumstances at ambient temperatures.
 Oxidizes, hydrogenates

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions:

None specific.

10.4 Conditions to avoid

Avoid naked flame, prolonged heat, contact with incompatible substances.
 Keep away from heat and sources of ignition.

10.5 Materials to avoid

Acids, alkalis, organic solvents, aliphatic and aromatic hydrocarbons, oxidizing agents.

10.6 Hazardous decomposition products

None under normal conditions at ambient temperatures.

Combustion products: Carbon oxides.

Decomposition products can include trace amounts of styrene.

SECTION 11. TOXICOLOGICAL INFORMATION

General information

No significant health hazard in normal industrial use conditions.

Property	Results	Remarks
Routes of Exposure	At ambient temperature the product is a non-volatile elastic solid. There is no potential for inhalation exposure.	
Acute toxicity		
Oral	LD50: >5000 mg/kg bw (rat)	FBEPH. BT#001343, 1998
Inhalation	Not classified. No data available	
Dermal	Not classified. No data available	
Irritation/Corrosivity		
Skin irritation/corrosion	Not classified. Skin contact with melted/heated product may cause serious	

	thermal burns.	
Eye irritation	Not classified. Contact with eyes may cause mechanical damage. Eye contact with melted/heated product may cause serious thermal burns. Thermal decomposition products may cause irritation of eye.	
Respiratory tract	Not classified. Thermal decomposition products inhalation may cause irritation of respiratory system.	
Sensitization		
Skin sensitization	Not classified. No data available	
Respiratory system	Not classified. No data available	
Repeated dose toxicity		
Chronic oral toxicity	Not classified. No data available	
Chronic inhalation toxicity:	Not classified. No data available	
Chronic dermal toxicity	Not classified. No data available	
Germ cell mutagenicity		
In vitro data	Not classified. No data available	
In vivo data	Not classified. No data available	
Carcinogenicity	Not classified. No data available	
Toxicity for reproduction		
Effects on fertility	Not classified. No data available	
Developmental toxicity	Not classified. No data available	
STOT - single exposure	Not classified. No data available	
STOT - repeated exposure	Not classified. No data available	
Other effects:	none	

SECTION 12. ECOLOGICAL INFORMATION

General information

At normal conditions the product is very stable. It does not form toxic compounds with other substances in air and water. The product is poorly biodegradable but does not pose a hazard to the environment. Pollution of water ponds and soil with rubber flakes may occur only if production, handling and transportation rules are not followed, in case of effluent discharge without treatment, as a result of emergencies and accidents.

Property	Value	Remarks
Aquatic toxicity: Not expected to be acutely toxic, but material may mechanically cause adverse effects if ingested by waterfowl or aquatic life.		
Fish	Not classified. No data available	
Aquatic invertebrates	Not classified. No data available	

Sediment organisms	Not classified. No data available	
Toxicity to soil macro-organisms/micro-organisms	Not classified. No data available	
Toxicity to terrestrial plants	Not classified. No data available	
Persistence and degradability	No specific ecological data are available for this product. This water-insoluble product is expected to be inert in the environment. No appreciable biodegradation is expected.	t _{1/2} : > 30 d extremely stable FBEPH. BT#001343, 1998
Environmental distribution	No specific ecological data are available for this product.	
Bioaccumulation	Effects on nature due to bioaccumulation are not known.	
Results of PBT and vPvB assessment	Not classified as PBT or vPvB.	
Other adverse effects	No information available.	

Water hazard classification: According to the German VwVwS: WGK- 0 (not classified).

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal should be in accordance with local, state and national legislation.

Waste water has to be treated. Packaging waste (paper bags) shall be collected and sent for recycling. Plastic waste shall be removed to disposal.

13.2 Additional Information

European Waste Code (2001/118/EC): 19 12 04 plastic and rubber

SECTION 14. TRANSPORT INFORMATION

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

UN: none.

SECTION 15. REGULATORY INFORMATION

15.1 EU regulations

Authorisations: Not applicable.

Restrictions on use: None.

15.2 National regulations

Unknown.

15.3 Chemical Safety Assessment

Chemical Safety Assessment (CSA) is not required for the substance since it is not subject to registration as a polymer according to the provisions of Article 2(9) of REACH.

Chemical Safety Report has been performed for monomers

1,3-butadiene (CAS #106-99-0; EC #203-450-8); styrene (CAS #100-42-5; EC #202-851-5).

SECTION 16. OTHER INFORMATION

16.1 Indication of changes

VERSION	Date of change	Section	Description of changes
Version: 1.0	26/02/2020	All	Initial SDS

16.2 Abbreviations and acronyms

AGS The German Committee on Hazardous Substances (Ausschuss für Gefahrstoffe – AGS)
 DFG Germany Research Foundation

DNEL	Derived No Effect Level
LD50	Lethal Dose to 50 % of a test population (Median Lethal Dose)
LTEL	Long Term Exposure Limit
OSHA	Occupational Safety & Health Administration (USA)
PEC	Predicted No Effect Concentration
PNEC	Predicted No Effect Concentration
PBT	Persistent, bioaccumulative, toxic chemical
vPvB	Very Persistent, Very Bioaccumulative
STEL	Short Term Exposure Limit
STOT	Specific Target Organ Toxicity
TWA	Time Weighted Average

16.3 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 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 and 2015/830 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 labelling 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). BENZENE, ETHENYL-, POLYMER WITH BUTA-1,3-DIENE. Dossier of potentially hazardous chemical and biological substance BT# 001343, 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.

END OF SDS