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

1.1 Product identifier

Name of Substance: Styrene Butadiene Rubber (Solution type)
Name of IUPAC: benzene, ethenyl-, polymer with buta-1,3-diene
Synonyms: Poly(styrene-co-butadiene)
Product Grades: SSBR-2560
Registration # for 1,3-butadiene: 01-2119471988-16-0034
(CAS #106-99-0; EC #203-450-8)
Index No(CLP): 601-013-00-X
Registration for styrene: 01-2119457861-32-0016
(CAS #100-42-5; EC #202-851-5)
Index No(CLP): 601-026-00-0

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 1, 2 or toxic to reproduction category 1A, 1B and 2, skin sensitis 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 REACH or very persistent and very bioaccumulative (vPvB) in accordance with the criteria set out in Annex XIII REACH; 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.
1.2 Relevant identified uses of the substance
Most common technical function of Styrene Butadiene Rubber (Solution type): tyre production, technical rubber parts (profiles, hoses, shoe soles, belt production, technical rubber goods), rubber compound.

1.3 Details of the supplier of the safety data sheet

Only representative
- **Company name:** Gazprom Marketing and Trading France
- **Address:** 68 avenue des Champs-Elysées, 75008, Paris, France
- **Contact Telephone:** +33 1 42 99 73 50
- **Fax:** +33 1 42 99 73 99
- **Email Address:** Yury.severinchik@gazprom-mt.com

**Suppliers**
- **Company name:** Voronezhsynthezkauchuk JSC
- **Address:** 2, Leninsky prospect, Voronezh, Russia, 394014
- **Phone:** +7 473 220 68 88
- **Fax:** +7 473 220 68 69
- **Email Address:** VSK-office@vsk.sibur.ru
- **Emergency phone:** +7 473 249 09 00, +7 473 220 76 30 (round the clock)

**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

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

#### 2.2 Label elements

2.2.1 Labelling according to Regulation (EC) No 1272/2008 (CLP/GHS)
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.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a synthetic rubber, consisting of at least 98.0% co-polymer from styrene and butadiene (23 - 27% bound styrene), 0.2 - 0.4% antioxidant (CAS#82209-88-9). May contain traces of styrene (< 0.05%).

<table>
<thead>
<tr>
<th>Name</th>
<th>EC #</th>
<th>CAS #</th>
<th>Content,%</th>
<th>Classification (EC) 1272/2008 (CLP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly(styrene-co-butadiene)</td>
<td>none</td>
<td>9003-55-8</td>
<td>≥ 98.0</td>
<td>none</td>
</tr>
</tbody>
</table>
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

4.1 Description of first aid measures

General information
Spontaneous penetration of styrene-butadiene rubber into human organism is impossible. Styrene-butadiene rubber at normal conditions is stable and non-volatile.
Under high temperatures and during rubber processing release of monomer vapors are possible which in poor ventilated areas may cause irritation of eyes mucous and upper respiratory ways. Contact with eyes may cause mechanical damage, irritation of eyes mucous, delacrimation.
No significant health hazard in normal industrial use conditions.
Contact with melted/ heated product may cause thermal burns.

Inhalation
In emergency and in case of poisoning by rubber combustion products or if decomposition or thermal destruction products are inhaled:
Move an 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:
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 attention.

Skin contact
There are no risks in normal industrial use conditions. In case of contact with hot product remove contaminated clothing and wash skin with plenty of running water. Get medical attention.

Eye contact
Rinse the eye immediately with plenty of water (low pressure) for at least 15 minutes. Remove 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
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
Use foam, dry chemical, carbon dioxide, sand or water spray.
5.2 Special fire fighting procedures
Keep away from sources of ignition – no smoking.
Extinguish fire keeping safe distance. Not yet ignited rubber briquettes to be kept cool by means of water spraying.

5.3 Unusual fire & explosion hazards
None.

5.4 Specific hazards
Combustion generates irritating and toxic fumes.
Burning causes emissions of carbon oxide.

5.5 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 Individual safety measures
Remove sources of ignition.
Provide workplace ventilation, process equipment and communication sealing, air monitoring of the workplace, avoid contact with skin and eyes.

6.2 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.

6.3 Spill clean-up methods
Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

6.4 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.
Provide input-extract and local ventilation of work zones.
Provide thorough sealing and grounding of process equipment.
Regularly control work zone air.

7.2 Usage precaution
Use in in accordance with safety measures, rules of personal hygiene and industrial sanitation in the production at the facility.
Avoid contact with eyes and skin. Do not ingest or inhale combustion or decomposition products.
7.3 Storage precautions
Store in a dry, well-ventilated area, at temperature not exceeding 30 °C. Keep away from direct sunlight, atmospheric precipitation and incompatible substances in a closed container. Prevent from freezing.

7.4 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 Exposure limits
None listed.

8.2 Personal protective equipment
Respiratory tract
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.

Hand protection
Wear approved protective gloves.

Eye protection
Wear approved safety goggles.

Skin protection
Wear protective clothing and footwear, in contact with the hot product wear thermally resistant gloves.

8.3 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).

8.4 Technical safety measures
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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>elastic solid (firm homogeneous spongy mass) rubber is produced in the form of briquettes</td>
<td>visual method</td>
</tr>
<tr>
<td>(at 20 °C and 1013 hPa)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td>creamy to light brown</td>
<td></td>
</tr>
<tr>
<td>Odour</td>
<td>peculiar</td>
<td>sensory examination</td>
</tr>
<tr>
<td>pH (Value)</td>
<td>Not applicable, insoluble</td>
<td>-</td>
</tr>
<tr>
<td>Melting Point (°C)</td>
<td>&gt; 200</td>
<td>ASTM E537-98</td>
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<tr>
<td>Initial boiling point/boiling range (°C)</td>
<td>Not available</td>
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</tr>
<tr>
<td>Ignition temperature (°C)</td>
<td>&gt; 315</td>
<td>ISO 4589-84</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
<td>Method</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Auto Ignition Temperature (°C)</td>
<td>&gt; 400 °C</td>
<td>ISO 4589-84</td>
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<tr>
<td></td>
<td></td>
<td>(GOST 12.1.044)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Does not ignite spontaneously, burn only upon entering into a source of fire</td>
<td></td>
</tr>
<tr>
<td>Upper/low flammability or Explosive limit ranges</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Vapour Pressure (hPa)</td>
<td>Not available (does not evaporate)</td>
<td></td>
</tr>
<tr>
<td>Vapour Density (Air=1)</td>
<td>Not available (does not evaporate)</td>
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</tr>
<tr>
<td>Density (g/cm³)</td>
<td>1.0</td>
<td>ASTM D 792</td>
</tr>
<tr>
<td>Solubility (Water)</td>
<td>Insoluble</td>
<td></td>
</tr>
<tr>
<td>Solubility (Other)</td>
<td>soluble in aromatic and aliphatic solvents (benzene, toluene, heptane, hexane, benzene)</td>
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</tr>
<tr>
<td>Partition Coefficient n-Octanol/Water</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature (°C)</td>
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<td></td>
</tr>
<tr>
<td>Viscosity, cSt</td>
<td>Not available</td>
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</tr>
<tr>
<td>Explosive properties</td>
<td>Non explosive</td>
<td></td>
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<tr>
<td>Oxidising properties</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Granulometry, mm</td>
<td>Not available substance is not marketed or used in granular form</td>
<td></td>
</tr>
<tr>
<td>Other information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average molecular weight</td>
<td>200000-260000</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 10. STABILITY AND REACTIVITY**

**10.1 Reactivity**
Undergoes oxidation, oxidative destruction.

**10.2 Chemical stability**
Stable under normal temperatures and pressures.

**10.3 Possibility of hazardous reactions**
None specific.

**10.4 Materials to avoid**
Strong oxidising agents, acids and alkalis.

**10.5 Conditions to avoid**
Avoid high temperatures, naked flames, sparks, long term exposure to direct sunlight, contact with incompatible materials.
10.6 Hazardous decomposition products
None under normal conditions at ambient temperatures.
Thermal decomposition products can include trace amounts of styrene.
Combustion products: carbon monoxide, carbon dioxide.

### SECTION 11. TOXICOLOGICAL INFORMATION

**General information**
No significant health hazard in normal industrial use conditions.

**Acute toxicity**
LD₅₀ (oral, rats): > 5000 mg/kg.
Inhalation toxicity: very low toxicity.
The substance is a non-volatile elastic solid and is produced in the form of briquettes. There is therefore no potential for inhalation exposure.

**Irritation/Corrosivity**
Skin: none.
Eye: none.
Respiratory tract: none.

**Sensitisation**
Skin: none.
Eye: none.
Respiratory tract: none.

**Cumulative:** low

**Carcinogenicity:** no carcinogenic effects.

**Mutagenicity:** negative.

**Toxicity for reproduction:** not investigated.

**Repeated dose toxicity:** not investigated.

Reference: Russian Register of Potentially Hazardous Chemical and Biological Substances /FBEPH.

### SECTION 12. ECOLOGICAL INFORMATION

**General information**
At normal conditions rubber is a very stable product.
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 polymer 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.

**Aquatic toxicity:** not investigated.

**Abiotic degradation:** t₁/₂ > 30 d extremely stable.

**Chemical degradation:** not investigated.

**Bioaccumulative potential:** not investigated.

**Mobility in soil:** not investigated.

Reference: Russian Register of Potentially Hazardous Chemical and Biological Substances /FBEPH.

**Water hazard classification**
According to the German VwVwS: WGK- 0 (not classified).
SECTION 13. DISPOSAL CONSIDERATIONS

13.1 General information
Place into a suitable closed container for disposal.

13.2 Disposal methods
Dispose in accordance with local and national regulations.
Waste water containing rubber should be treated.
Packaging waste (paper bags) shall be collected and send for recycling. Plastic waste shall be removed to disposal.

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

15.1 EU regulations
Authorisations: Not applicable.
Restrictions on use: None

15.2 National regulations
None known.

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:

<table>
<thead>
<tr>
<th>VERSION</th>
<th>Date of change</th>
<th>Section</th>
<th>Description of changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version: 1.0</td>
<td>10/02/2010</td>
<td></td>
<td>First edition created according to recommendations of Regulations (EC) #1907/2006 (Article 31.1).</td>
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<tr>
<td>Version: 2.0</td>
<td>07/02/2011</td>
<td>1.1, 2</td>
<td>Sections 1.1, 2 were updated.</td>
</tr>
<tr>
<td>Version: 2.1</td>
<td>11/05/2012</td>
<td>1; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 15; 16</td>
<td>1 Product name STYRENE-BUTADIENE RUBBER (DSSK) was changed into STYRENE-BUTADIENE RUBBER (SSBR) and grade’s names (DSSK - 2525; DSSK – 2545; DSSK - 2560) were changed into (SSBR-2525; SSBR-2545; SSBR-2560) accordingly. 2. Section 1.1 was updated. 3. DISCLAIMER was added on the first page. 4. Section 1.3 was updated (E-mail address, Emergency phone for suppliers). 5. Sections 4: General information subsection was added. Inhalation Subsections were updated was updated.</td>
</tr>
<tr>
<td>VERSION</td>
<td>Date of change</td>
<td>Section</td>
<td>Description of changes</td>
</tr>
<tr>
<td>---------</td>
<td>----------------</td>
<td>---------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Version: 2.2</td>
<td>07/07/2016</td>
<td>Title; 1.1; 1.3; 8; 16</td>
<td>1. Title, section 1.1: Grades SSBR-2525, SSBR-2545 were removed. 2. Section 1.3: Supplier’s contact details were updated. 3. Section 16: Information was updated. 4. Besides mentioned above changes all sections were formatted without modification of content.</td>
</tr>
</tbody>
</table>

6. Section 5. Extinguishing media, Special fire fighting procedures were updated. 7. Section 6: Individual safety measures, Environmental precautions were updated. 8. Section 7. Storage precautions, Handling Subsections were updated. 9. Section 8: Personal protective equipment, Hygiene measures, Technical safety measures Subsections were updated. 10. Sections 3, 9, 10; 11; 12; 15; 16 were fully updated.

16.2 Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50</td>
<td>Lethal Dose to 50% of a test population (Median Lethal Dose)</td>
</tr>
<tr>
<td>STOT</td>
<td>Specific Target Organ Toxicity</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, bioaccumulative, toxic chemical</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent, Very Bioaccumulative</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>WGK</td>
<td>Wassergefährdungsklasse (German: Water Hazard Class)</td>
</tr>
</tbody>
</table>

16.3 Key literature references and sources

**EU DIRECTIVES**


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 #77.99.27.15.Y.2564.3.05, 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