VORONEZHSYNTHEZKAUCHUK JSC

SAFETY DATA SHEET


STYRENE-BUTADIENE THERMOPLASTIC RUBBER (SBS)
Block-Copolymer

GRADE DST R 30-00

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

1.1. Product identifier

Name of Substance: Styrene-butadiene thermoplastic rubber (SBS)
Name of IUPAC: benzene, ethenyl-, polymer with buta-1,3-diene
Synonyms: Synthetic thermoplastic rubber; Poly(styrene-co-butadiene)
Product Grades: DST R 30-00

Registration # for 1,3-butadiene:
(CAS #106-99-0; EC #203-450-8)
Index No(CLP): 601-013-00-X

Registration # for styrene:
(CAS #100-42-5; EC #202-851-5)
Index No(CLP): 601-026-00-0

Registration # for oil filler:
(CAS #64742-54-7; EC #265-157-1)
Index No(CLP): 649-467-00-8

Registration # for silicon dioxide:
(CAS # 7631-86-9/112926-00-8; EC# 231-545-4)

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 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 REACH; or
- a substance for which there are Community workplace exposure limits.

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

This 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
1.2.1 Most common technical function of Styrene-butadiene thermoplastic rubber: used for preparation of bituminous, roofing and road construction materials, shoe bottom compositions, glue, adhesive, medical goods, general mechanical rubber goods for plastic modification.
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.

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

Supplier
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
According to CLP Regulation the product is a mixture of poly(styrene-co-butadiene), oil filler (Distillates (petroleum), hydrotreated heavy paraffinic. Base oil – unspecified) and antioxidants:

2.1 Classification and labelling of mixture according to EC/1272/2008 Annex VI (CLP)
Physical/Chemical Hazards:
Not classified

Health Hazards:
Not classified

Environmental hazards:
Chronic Category 3. H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 (CLP/GHS)
Not applicable.

Signal word
Not applicable
Hazard pictogram
Not applicable

2.3 Other hazards
No significant health hazard in normal industrial use conditions. Contact with 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.

2.4 Precautionary Statement Prevention
P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with local, state and national legislation

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS
This product is a synthetic thermoplastic rubber, consisting of at least 92% co-polymer from styrene and butadiene (with 28.5 – 31.5% bound styrene), oil filler ≤ 6.5% (CAS#64742-54-7/ EC# 265-157-1), 0.2 – 0.6% antioxidant (CAS# 128-37-0/ EC# 204-881-4 or CAS#2082-79-3/ EC#218-216-0), adhesion reducing powder: about 0.3% calcium distearate (CAS#1592-23-0/ EC# 216-472-8) or 0.2 – 0.5% silicon dioxide (CAS#7631-86-9/ EC#231-545-4). May contain traces of styrene (< 0.02%).

Formula:
\[
\left\{ \frac{\text{C}_4\text{H}_9\left[\text{C}_2\text{H}_5-\text{CH}_2\right]_n\left[\text{C}_4\text{H}_9\text{CH}_3\right]_m}{\text{C}_4\text{H}_8} \right\}_4 \text{Si}
\]
where \( n = 0.3 \) is the number of polystyrene block fragments; \( m = 0.7 \) is the number of polybutadiene block fragments;

<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>≥ 92.0</td>
<td>None</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated heavy paraffinic. Base oil – unspecified (oil filler)</td>
<td>265-157-1</td>
<td>64742-54-7</td>
<td>≤ 6.5</td>
<td>None^1)</td>
</tr>
</tbody>
</table>
| 2,6-di-tert-butyl-p-cresol (BHT)          | 204-881-4 | 128-37-0    | ≤ 0.6      | ^2) Aquatic Chronic 1.
H410: Very toxic to aquatic life with long lasting effects (M-Factor chronic = 1)
H400: Very toxic to aquatic life (Additional hazard classes) |

^1) The substance is not classified as carcinogenic (GHS08, Carc 1B, H350) as it complies with Note L having polynuclear aromatic hydrocarbon content <3% determined in accordance with IP 346 (dimethyl sulfoxide extraction) (Annex VI – Regulation EC 1272/2008)

^2) Notified classification and labelling according to CLP criteria. No Harmonised C&L (Table 3.1 Annex VI, Index #: None). The substance is not PBT/vPvB.

Reference: http://echa.europa.eu/information-on-chemicals
SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

General information
Styrene-butadiene thermoplastic rubber at normal conditions is stable non-volatile, causes non-exhaustive effects. No significant health hazard in normal industrial use conditions. Spontaneous penetration of styrene-butadiene thermoplastic rubber 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 rubber 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:
Rubber particles 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
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 and 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 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 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases

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 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
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:

Occupational Exposure Limits for the possible products of thermal-oxidative degradation (see section 10.6):

for Styrene: International Limit Values

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>STYRENE CAS #100-42-5</th>
<th>LTEL 8 hr TWA ppm</th>
<th>LTEL 8 hr TWA mg/m³</th>
<th>STEL ppm</th>
<th>STEL mg/m³</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>20</td>
<td>85</td>
<td>80</td>
<td>340</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>50</td>
<td>216</td>
<td>100</td>
<td>432</td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>50</td>
<td>215</td>
<td>46.6 (1)</td>
<td>200 (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>23.3 (1)</td>
<td>100 (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany (AGS)</td>
<td>20</td>
<td>86</td>
<td>40 (1)</td>
<td>172 (1)</td>
<td>(1) 15 minutes average value</td>
<td></td>
</tr>
<tr>
<td>Germany (DFG)</td>
<td>20</td>
<td>86</td>
<td>40</td>
<td>172</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>50</td>
<td></td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>10</td>
<td></td>
<td>30 (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>50</td>
<td></td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>20</td>
<td>86</td>
<td>40</td>
<td>172</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

for Oil (mist)

<table>
<thead>
<tr>
<th>No.</th>
<th>COMPONENT</th>
<th>Limit value, mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Long term exposure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 hours</td>
</tr>
<tr>
<td>1.</td>
<td>Oil (mist)</td>
<td>5 mg/m³</td>
</tr>
</tbody>
</table>

for 2,6-di-tert-butyl-p-cresol
No harmonized OEL values are established for 2,6-di-tert-butyl-p-cresol in the EU.
Below are provided International Occupational Exposure Limit values (OEL) for 2,6-di-tert-butyl-p-cresol.

<table>
<thead>
<tr>
<th>Control parameter</th>
<th>Standard</th>
<th>Data source</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLV (TWA, 8 hours)</td>
<td>2 mg/m³ inhalable particulate and vapour</td>
<td>ACGIH</td>
<td>No harmonized OEL values are established for BHT in the EU. These values are not legally binding and are referred here for recommendation purpose only. All currently adopted by the national/regional competent authority levels on safe exposure to this chemical shall apply.</td>
</tr>
</tbody>
</table>

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

8.1.2.3 For 2,6-di-tert-butyl-p-cresol (CAS#128-37-0 /EC#204-881-4)
DMEL=2 mg/m³ (inhalable particulate and vapour)
(Note: These values are not legally binding and are referred here for recommendation purpose only. All currently adopted by the national/regional competent authority levels on safe exposure to this chemical shall apply).

PNEC (water) = 0.004 mg/L;
PNEC (sediment) = 0.731 mg/kg;
PNEC (soil) = 0.350 mg/L.
(Note: These values are not legally binding and are referred here for recommendation purpose only. All currently adopted by the national/regional competent authority levels on safe exposure to this chemical shall apply).

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.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state (at 20 °C and 1013 hPa)</td>
<td>Hard homogeneous elastic mass Thermoplastic rubber is produced in the form of powder and granules (powdered).</td>
<td>visual method</td>
<td>yellowness index measurement using an automatic spectrometer</td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odour</td>
<td>Peculiar, at processing temperatures slight odour of organic compounds is possible.</td>
<td>sensory examination</td>
<td></td>
</tr>
<tr>
<td>pH (Value)</td>
<td>Not applicable, insoluble</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
<td>Method</td>
<td>Remarks</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------</td>
<td>--------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Melting Point (°C)</td>
<td>&gt; 200</td>
<td>ASTM E537-98</td>
<td></td>
</tr>
<tr>
<td>Initial boiling point/boiling range (°C)</td>
<td>Not available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ignition temperature (°C)</td>
<td>255 ± 15</td>
<td>ISO 4589-84 (GOST 12.1.044)</td>
<td></td>
</tr>
<tr>
<td>Auto Ignition Temperature (°C)</td>
<td>330 ± 15</td>
<td>ISO 4589-84 (GOST 12.1.044)</td>
<td></td>
</tr>
<tr>
<td>Flash-point (°C)</td>
<td>232</td>
<td>GOST 12.1.044</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td></td>
<td></td>
<td>Does not ignite spontaneously, burn only upon entering into a source of fire.</td>
</tr>
<tr>
<td>Upper/lower flammability or Explosive limit ranges</td>
<td>Not available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapour Pressure (hPa)</td>
<td></td>
<td></td>
<td>Vapour Density (Air=1)</td>
</tr>
<tr>
<td>Vapour Density (Air=1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density (g/cm³)</td>
<td>0.930-0.940</td>
<td>ASTM D 792</td>
<td></td>
</tr>
<tr>
<td>Solubility (Water)</td>
<td>Insoluble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility (Other)</td>
<td>Soluble in benzene, toluene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partition Coefficient n-Octanol/Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature (°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Non explosive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidising properties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other information</td>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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 high temperatures, naked flames, sparks, long term exposure to direct sunlight, contact with incompatible materials.

**10.5 Materials to avoid**
Oxidising agents, acids, alkalis, oils, gasoline, kerosene oil.
10.6 Hazardous decomposition products
None under normal conditions at ambient temperatures.
Thermal decomposition products can include trace amounts of styrene.
Combustion products: carbon oxides.

**SECTION 11. TOXICOLOGICAL INFORMATION**

**General information**
No significant health hazard in normal industrial use conditions.
According to CLP Regulation the product is a mixture of poly(styrene-co-butadiene) and oil filler (distillates (petroleum), hydrotreated heavy paraffinic. Base oil – unspecified) and antioxidant

<table>
<thead>
<tr>
<th>Property</th>
<th>Synthetic poly (styrene-co-butadiene) rubber (CAS #9003-55-8)</th>
<th>Distillates (petroleum), hydrotreated heavy paraffinic. Base oil – unspecified (oil filler) (CAS #64742-54-7; EC #265-157-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>LD50/oral/rat: &gt; 5000 mg/kg LD50/dermal/rabbit: &gt;2000 mg/kg</td>
<td>LD50/oral/rat: &gt;5000 mg/kg OECD guideline 401 LD50/dermal/rabbit: &gt;2000 mg/m³ OECD Guideline 402 (Acute Dermal Toxicity). LC50/inhalation: 1.80 to 2.55 mg/L for insufficiently refined lubricant base oil. OECD Guideline 403 (Acute Inhalation Toxicity).</td>
</tr>
<tr>
<td>Irritation and</td>
<td>Not irritating or corrosive.</td>
<td>Not irritating or corrosive (Concave consortium studies)</td>
</tr>
<tr>
<td>corrosion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitisation</td>
<td>Not sensitizing.</td>
<td>Not sensitizing (Concave consortium studies)</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not carcinogenic.</td>
<td>As the DMSO extract determined in accordance with IP 346 is &lt; 3% w/w, the product is not classified as carcinogenic (Concave consortium studies)</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Not mutagenic.</td>
<td>Not mutagenic. From the evaluation of the data obtained in vivo and in vitro on the “OLBO” category (other lubricant base oils), which includes the product, it results that this category of lubricating oils is not mutagenic (Concave consortium studies)</td>
</tr>
<tr>
<td>Toxicity for</td>
<td>Not investigated.</td>
<td>Not toxic for reproduction (toxicological studies on reproduction and growth according to OECD 421 or 422 – Concave consortium).</td>
</tr>
<tr>
<td>reproduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference</td>
<td>Russian Register of Potentially Hazardous Chemical and Biological Substances /FBEPH/ BT#001343, 1998</td>
<td>SDS for oil filler from the supplier (version, Jan.14.2011); <a href="http://apps.echa.europa.eu/registered/data/dossiers">http://apps.echa.europa.eu/registered/data/dossiers</a> (CAS #64742-54-7)</td>
</tr>
</tbody>
</table>
## GENERAL INFORMATION

### At normal conditions

Thermoplastic rubber is a very stable product. 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 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.

Mixtures containing polymers and mixtures containing elastomers do not require a label according to the Annex I REGULATION (EC) No 1272/2008 (CLP), if they do not present a hazard to the aquatic environment in the form in which they are placed on the market, although classified as hazardous in accordance with the criteria of this Annex.

The mixture was classified as H412: Harmful to aquatic life with long lasting effects according to data if individual component (polyisoprene and BHT) and calculations using the summation method.

### General information

The mixture was classified as H412: Harmful to aquatic life with long lasting effects according to data if individual component (polyisoprene and BHT) and calculations using the summation method.

<table>
<thead>
<tr>
<th>Property</th>
<th>Synthetic poly (styrene-co-butadiene) rubber (CAS #9003-55-8)</th>
<th>2,6-di-tert-butyl-p-cresol (CAS#128-37-0/EC#204-881-4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic environment</td>
<td>Acute toxicity L(E)C50: ≥100 mg/L fish, estimated</td>
<td>Acute toxicity L(E)C50:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.464 mg/L fish, estimated (ECOSAR v.1.00)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.386 mg/L invertebrates, estimated (ECOSAR v.1.00)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.84 mg/L invertebrates, estimated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.577 mg/L green algae, estimated (ECOSAR v.1.00)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic toxicity L(E)C50:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.053 mg/L fish, measured</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.041 mg/L fish, estimated (ECOSAR v.1.00)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.061 mg/L invertebrates, estimated (ECOSAR v.1.00)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.363 mg/L green algae, estimated (ECOSAR v.1.00)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic toxicity NOEC:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.096 mg/L invertebrates, measured</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BHT is not considered to degrade fast in the environment.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The BCF/BAF values estimated for BHT are above the cut-off values for bioaccumulation (500 L/kg wet-w). Based on the data provided above and taking into account the results of measurements / estimations of toxicity of BHT (LC50/EC50 &lt;1 mg/l, NOEC &lt;1 mg/l) the product is classified for aquatic environment as follows: Hazardous to aquatic life: Chronic Category 1</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>No specific ecological data are available for this product. This water-insoluble rubber is expected to be inert in the environment. No appreciable</td>
<td>Hydrolysis: BHT is a solid substance which is poorly soluble in water. (solubility is less than 1 mg/l at 25 °C). It contains functional groups with weak potential for dissociation. Based on the</td>
</tr>
<tr>
<td>Property</td>
<td>Synthetic poly (styrene-co-butadiene) rubber (CAS #9003-55-8)</td>
<td>2,6-di-tert-butyl-p-cresol (CAS#128-37-0 /EC#204-881-4)</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>biodegradation is expected.</td>
<td>dissociation constant data and assuming poor solubility of BHT, this substance is not likely to dissociate significantly in water under normal environmental conditions. Biodegradation: BHT biodegradation half-life (BIOWIN v 4.10 estimation): water 900 hours (37.5 days); sediment 8100 hours (337.5 days). BHT volatilization half-life (EPI Suite, v 4.00): rivers 10,78 days; lakes 122.8 days.</td>
</tr>
<tr>
<td>Results of PBT and vPvB assessment</td>
<td>Can be stated that the substance does not fulfill the PBT criteria (not PBT) and not the vPvB criteria (not vPvB).</td>
<td>BHT meets the Persistence criteria for PBT and vPvB substances, but doesn’t meet the criteria for classification as bioaccumulative and toxic PBT and vPvB substance. So, BHT is not PBT or vPvB substance.</td>
</tr>
<tr>
<td>Reference</td>
<td>Russian Register of Potentially Hazardous Chemical and Biological Substances /FBEPH/ # BT 000461, 1995</td>
<td>SDS for BHT from the supplier (version, 01.08.2014)</td>
</tr>
</tbody>
</table>

**General information:** The oil filler is not classified as dangerous for the environment.

<table>
<thead>
<tr>
<th>Property</th>
<th>Oil filler: distillates (petroleum), hydrotreated heavy paraffinic. Base oil – unspecified (CAS #64742-54-7; EC #265-157-1)</th>
</tr>
</thead>
</table>
| Aquatic toxicity | Acute aquatic toxicity  
Toxicity to fish  
(Pimephales promelas):  
LD50(96 h): >100 mg/l  
OECD Guideline 203 (Fish, Acute Toxicity Test)  
Toxicity test on aquatic invertebrates.  
(Daphnia magna):  
EL50 (48 h): >10 000 mg/l  
OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)  
Toxicity to algae growth inhibition  
(Pseudokirchnerella subcapitata):  
NOEL (72 h) >100 mg/l  
OECD Guideline 201 (Alga, Growth Inhibition Test).  
Toxicity to microorganisms (breath inhibition on active mud), 4 days .  
(Photobacterium phosphoreum):  
NOEL >1.93 mg/l tested species  
DIN method 38412, part 34 for the investigation of water: bioluminescence inhibition. |
### SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Disposal should be in accordance with local, state and national legislation.

Packaging waste shall be collected and sent for recycling. Rubber 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

**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
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) and distillates (petroleum), hydrotreated heavy paraffinic. Base oil – unspecified / CAS #64742-54-7; EC #265-157-1 (oil filler).
### 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>16/03/2010</td>
<td>1.1, 2; 3</td>
<td>First edition created according to recommendations of Regulations (EC) #1907/2006 (Article 31.1).</td>
</tr>
<tr>
<td>Version: 2.0</td>
<td>07/02/2011</td>
<td>1.1, 2; 3</td>
<td>Section 1.1; 2; 3 was updated.</td>
</tr>
<tr>
<td>Version: 2.1</td>
<td>11/04/2012</td>
<td>1.1; 1.3; 2;</td>
<td>1. Section 1.1 was updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3; 4-6; 9-13;</td>
<td>2. DISCLAIMER was added on the first page.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15; 16</td>
<td>3. Section 1.3 was updated (E-mail address, Emergency phone for suppliers).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. Section 2: Specific hazard subsection was updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5. Section 4: General information subsection was added.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Inhalation subsections was updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6. Section 5: Extinguishing media, Special firefighting procedures were updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7. Section 6: Individual safety measures, Environmental precautions were updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8. Section 7: Storage precautions, Handling subsections were updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9. Section 8: Personal protective equipment, Hygiene measures, Technical safety measures subsections were updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10. Section 13: Disposal methods subsection was updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11. Sections 3, 9-12; 15, 16 were completely updated.</td>
</tr>
<tr>
<td>Version: 2.2</td>
<td>28/03/2014</td>
<td>All</td>
<td>All Sections were completely updated.</td>
</tr>
<tr>
<td>Version: 2.3</td>
<td>30/07/2014</td>
<td>Title, 1.1</td>
<td>1. Grade DST R 30-00 was added to title of the SDS.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Section 1.1: Grade DST R 30-00 was added. Comments to name of DST - 30R-01 product grade were updated.</td>
</tr>
<tr>
<td>Version: 2.4</td>
<td>28/05/2015</td>
<td>Title; 1.1;</td>
<td>1. In the Section 1.3 Supplier’s information was updated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3; 2; 3;</td>
<td>2. Sections 2, 3, 8, 12 were updated according to CLP classification of the mixture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8; 9; 12;</td>
<td>3. Section 16.2 from the previous version was removed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16.1; 16.2</td>
<td>Section 16 was renumbered.</td>
</tr>
<tr>
<td>Version: 2.5</td>
<td>17/07/2015</td>
<td>3</td>
<td>4. Title and Section 1.1. Grade DST 30-01 was removed.</td>
</tr>
<tr>
<td>Version: 2.6</td>
<td>26/07/2016</td>
<td>1.3</td>
<td>5. Section 9. Color parameter was updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. Section 3. Content of bound styrene was updated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. Section 1.3: Supplier’s contact details were updated.</td>
</tr>
</tbody>
</table>

#### 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
- **PBT**: Persistent, bioaccumulative, toxic chemical
- **vPvB**: Very Persistent, Very Bioaccumulative
16.3 Key literature references and sources

EU DIRECTIVES


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


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.

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END OF SDS