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
cis-1,4-(poly)butadiene;
Polybutadiene (cis);
1,3-Butadiene, homopolymer
Synonyms

TRADE NAMES:
PRODUCT GRADES
Butadiene Rubber (BR)
BR -1243 Nd
Registration #: for 1,3-butadiene
(CAS #106-99-0; EC #203-450-8) 01-2119471988-16-0034
Index No (CLP): 601-013-00-X 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 67/548/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, IB 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
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**
Company name: Gazprom Marketing and Trading France  
Address: 68 avenue des Champs-Elysées, 75008, Paris, France  
Contact Telephone: +33142997350  
Fax: +33 142 99 73 99

**Suppliers**
Company name: Voronezhsyntheskauchuk JSC  
Address: 2, Leninsky avenue, Voronezh, Russian Federation, 394014  
Phone: +7 4732 20-65-26  
Emergency phone: +7 4732 20-67-40

**Emergency phone in the 112** (Please note that emergency numbers may vary depending  
**country of delivery:** 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#1 19-47-1/ EC# 204-327-1 or CAS#1 10553-27-0/ EC#402-860-6).

Formula: (-CH2-CH=CH-CH2-)

<table>
<thead>
<tr>
<th>Component</th>
<th>Conc. %</th>
<th>CAS / EC #</th>
<th>Classification EC# 67/548/EEC and EC#1 272/2008 (CLP)</th>
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<tbody>
<tr>
<td>Cis-(poly)butadiene</td>
<td>98.5</td>
<td>9003-17-2/ none</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

General information:
Spontaneous penetration of butadiene rubber into human organism is impossible. If heated over 300°C rubber thermo destruction is possible. Butadiene rubber 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 332°C 292 |
| **Auto-ignition temperature** | °C 0.910-0.930 |
| **Ignition temperature** | g/cm³ |
| **Specific Gravity** | insoluble in water |
| **Solubility** | soluble in hexane, toluene, benzene, chloroform, tetrachloride carbon, non explosive |

**Explosive properties**
not applicable, substance is not marketed or used in granular form.

**Granulometry**

## 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:**
C is-(poly)butadiene:
LD 50 (oral, rat): 20000 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):

<table>
<thead>
<tr>
<th>LC50 (96 h)</th>
<th>LC50 (48 h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;100 mg/L (Oncorhynchus mykiss)</td>
<td>&gt;100 mg/L (Daphnia Magna)</td>
</tr>
<tr>
<td>&gt;100 mg/L (Algae)</td>
<td>&gt;100 mg/L (Algae)</td>
</tr>
</tbody>
</table>

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

**Water hazard classification:**
According to the German VwVwS: WGK- I (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

<table>
<thead>
<tr>
<th>VERSION I Date of change</th>
<th>I Section I Description of</th>
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<tbody>
<tr>
<td>Version: 1.0 1 05/03/2010</td>
<td>First edition created according to recommendations of Regulations (EC) # 1 9 0 7 / 2 0 0 6 ( A r t i c l e 3 1 . 1 ) .</td>
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<tr>
<td>Version: 2.0 1 07/02/2011</td>
<td>1.1,2 Section 1. 1 1 1 2 was updated</td>
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<tr>
<td>Version: 2.1 26/12/2011</td>
<td>1.1;3; 1 Product name BR SKD-ND was renamed into BR -1243 Nd.</td>
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<tr>
<td></td>
<td>4; 9; 10;</td>
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<tr>
<td></td>
<td>11; 12; 2. Section 1.1 was updated.</td>
</tr>
<tr>
<td></td>
<td>15; 16 3. DISCLAIMER was added on the first page.</td>
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<tr>
<td></td>
<td>4. &quot;General information&quot; subsection was added in Section 4.</td>
</tr>
<tr>
<td></td>
<td>5 &quot;General&quot; subsection was added in Section 11.</td>
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<tr>
<td></td>
<td>6. &quot;Aquatic toxicity&quot; subsection was added in Section 12.</td>
</tr>
<tr>
<td></td>
<td>7. Sections 3, 9,10; 15, 16 were fully updated.</td>
</tr>
</tbody>
</table>

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

Labelling: none.

R-phrases: none.

Safety Advice (S-phrases):
S16 Keep away from sources of ignition - no smoking
S41 In case of fire and/or explosion do not breathe fumes
S47 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


NATIONAL REGULATIONS (GERMANY)
Major Accident Hazard Legislation 82/501/EWG.


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