MATERIAL DATA SAFETY SHEET

Based on Regulation (EC) 1907/2006 of the European Parliament and Council (REACH)

Trade Name: **CIS-isoprene synthetic rubber (SKI-3)**

**Issue Date:** 2010-11  
**Review Date:** -  
**Revision:** 1

### 1 Identification of substance/mixture
#### Identification of company/enterprise

| **Identification of substance/mixture:** | Cis-1,4-polyisoprene Rubber |
| **REACH Registration Number:** | Isoprene (monomer): 01-2119457891-29-0013 |
| **Synonyms:** | Cis-1,4-polyisoprene |
| **Application:** | Tire and technical rubber industry |
| **Producer/importer/distributor:** | OAO Nizhnekamskneftekhim |
| **Supplier/producer** | Nizhnekamsk |
| **Address** |  |
| **Telephone/fax** | +7(8555)377445 |
| **MSDS prepared by:** | e-mail: …nknh@nknh.ru… |

**Emergency telephone number:**
- product recipient country: To be specified in each country by the consumer  
  +7 (8555) 37-72-07, (8555) 37-78-30,  
  +7 (8555) 37-72-65, (8555) 37-74-45

### 2 Hazards Identification

#### 2.1 Hazard Description:
The substance is nonhazardous, nontoxic. No adverse health effects at room temperature.

#### 2.1.1 Classification:
This product is not hazardous as defined in Regulations 67/548/EC, 1999/45/EC and Resolution (EC) №1272/2008 (CLP)

#### 2.2 Information on special hazards for humans and environment:
No physical and chemical impact: None

**Negative health effects and their symptoms:**

- **Eye contact:** For open systems where the contact is most probable the particulates may scratch eye surfaces / cause mechanical irritation.
- **Skin contact:** Exposure to hot materials may cause thermal burns.
- **Inhalation:** Rubber does not contain highly volatile fractions and there is no pollutant emissions during storage.
- **Ingestion:** Entry inside is unlikely. No hazard when swallowed.

**Negative environmental impact:** Poses no hazard for environment provided handling, transportation and storage rules are complied with.

**Other hazards:** Transforms in the environment at long weather impact (atmospheric precipitation, solar radiation, cold, high temperatures).
3 Composition / Information on components

3.1 Substance Information:

<table>
<thead>
<tr>
<th>Chemical name/ Synonyms</th>
<th>No EC</th>
<th>No REACH</th>
<th>No Index</th>
<th>No CAS</th>
<th>Content (%)</th>
<th>Classification according to Directive (EC) No 1272/2008 [CLP]</th>
<th>Classification according to 67/548/EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymer 2-methylbutadi-1,3-ene</td>
<td>None</td>
<td>Not subject to registration</td>
<td>None</td>
<td>9003-31-0</td>
<td>99.6</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Stabilizer:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine</td>
<td>212-344-0</td>
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<td>793-24-8</td>
<td>0.35</td>
<td>Not classified</td>
<td></td>
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<tr>
<td>Other admixtures:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium stearate</td>
<td>216-472-8</td>
<td>Not subject to registration</td>
<td>None</td>
<td>1592-23-0</td>
<td>&lt;0.06</td>
<td>Not classified</td>
<td></td>
</tr>
</tbody>
</table>

4 First aid measures

4.1 General: Low hazard material. Intoxication through entry into human body has not been defined and is unlikely.
4.2 Inhalation: No hazard at ambient temperature.
4.3 Skin contact: No hazard at ambient temperature. Wash with water and soap. Incase of contact with hot product, immediately wash with plenty of cold water. Apply a dressing of clean cheesecloth or cotton cloth.
4.4 Eye contact: Wash with plenty of water to remove the product from eyes.
4.5 Ingestion: No hazard. When small amount of rubber crumb is swallowed, first air is not normally required.
4.6 Advice to physician: -

5 Fire fighting measures

5.1 Recommended fire-extinguishing means: Dry chemical foam, fine sprayed water or mist, carbon dioxide, sand or earth could be used only in case of small fire. Fire-extinguishers of any type, water, water vapor, fire-extinguishing foams, inert gases, sand, asbestos cloth.

5.2 Prohibited fire-extinguishing means: Prohibited fire extinguishing means are not established.
### 5.3 Special hazards of the product exposure, hazardous products of combustion and thermal decomposition

Carbon oxides and carbon dioxides. Heated product decomposes and emits carbon oxide (CAS No. 124-38-9), isoprene emission is possible as well (CAS No. 78-79-5).

Carbon oxides reduce oxygen (O<sub>2</sub>) content in the air; they may have a toxic effect on the cells causing the cell respiration disturbance. Isoprene – is toxic in high concentrations, causes mucous membrane irritation in low concentrations, causes functional deviance in the central nervous system (F+, TR: 45-12-63-52/53).

Use a fire-resistant suit and a self-contained breathing apparatus.

### 5.4 Personal protection and fire-extinguishing equipment

Remove personnel not participating in fire-fighting from the site of the fire.

### 5.5 General recommendations

Remove personnel not participating in fire-fighting from the site of the fire.

### 6 Measures for prevention and management of emergencies

<table>
<thead>
<tr>
<th>6.1 Personal protection</th>
<th>Use a fire-resistant suit and a self-contained breathing apparatus.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2 Environmental protection measures</td>
<td>Contamination of water bodies and soil should be avoided.</td>
</tr>
<tr>
<td>6.3 Methods of neutralization, removal and cleaning</td>
<td>Solid product in the form of bales. Collect the product and put it in the appropriate containers for disposal or reuse.</td>
</tr>
<tr>
<td>6.4 Supplementary recommendation</td>
<td>None</td>
</tr>
</tbody>
</table>

### 7 Handling and storage

7.1 Handling

7.1.1 Advice for safe handling:

**Safety precautions**

Arrangement of supply-and-exhaust ventilation system and local ventilation. Use of pressure tight equipment for production. Equipment grounding is mandatory.

Use of personal protection equipment.

7.1.2 Technical measures:

Prevention of mist and dust formation

No mist or dust formation during handling

Measures to be taken for environmental protection:

Reduction of rubber loss during transportation and storage, prevention from discharge to water bodies, sewage system
7.1.3 Special requirements and handling rules: None
7.1.4 Prevention from ignition and explosion: Elimination of open fire sources

7.2 Storage

Technical measures and storage conditions: The product is to be stored at the ambient temperature in the indoor area away from open fire sources, direct sunlight and atmospheric precipitations, away from heat sources. Store rubber, packaged in woven polypropylene bags in stacks max. 1.2 m. Store rubber packaged in box pallets in stacks with max. 4 box pallets in height.

Packaging materials:
- Polyethylene film;
- EVA-film (heat-shrinking);
- polypropylene woven bags;
- multipurpose plastic container;
- wooden box pallet

Requirements to storage premises and containers: The inside temperature should not exceed 30°C.
Other information on storage conditions: Storage together with oxidizers, acids and caustics is prohibited. Storage life – max. 1 year.

8 Exposure control and personal protection

8.1 Exposure limits
MACw.a./TSELw.a. Due to physical and chemical properties and low toxicity there is no hygienic regulations for the air exposure limits.

8.2 Exposure control at the working place
Ensuring that the content of harmful substances is within permissible concentration limits by using supply-and-exhaust ventilation system in of the most contaminant air locations.

8.3 Personal protection
8.3.1 Respiratory protection Not required under normal operating conditions.
Use protective clothing made of cotton fabric.
In case of emergency – use filter gas-mask, breathing masks.

8.3.2 Hand protection: Gloves made of cotton fabric.
8.3.3 Eye protection: Only in case of crushing of material in the open systems.
8.3.4 Skin protection: Protective clothing made of cotton fabric.
8.4 Control of environmental impact Concentration of pollutants should be measured in the process of thermal treatment.
8.5 In everyday life: Not used in everyday life.

9 Physical and chemical properties

Appearance Solid product bale of grey color.
### Odor
No odor or slight odor

### Odor threshold
Not established

### pH
Not applicable

### Boiling temperature
Not applicable

### Glass transition temperature
Minus 71°C

### Flash point
275 deg. C (open crucible)

### Ignition temperature
300 °C

### Auto-ignition temperature
575 °C

### Vapor pressure
Not applicable

### Density
0.91 g/cm³ at 20 °C

### Solubility in water
Insoluble

### Solubility in other solvents
Soluble in hexane, toluene, benzene, chloroform, tetrachloride

### Appearance
Solid product bale of grey color.

## 10 Stability and reactivity

Contains stabilizer

<table>
<thead>
<tr>
<th>10.1 Stability</th>
<th>Stable under normal conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.2 Conditions resulting in dangerous reactions</td>
<td>Heating above 100°C.</td>
</tr>
<tr>
<td>10.3 Materials causing dangerous reactions</td>
<td>Strong oxidizers</td>
</tr>
<tr>
<td>10.4 Dangerous decomposition products</td>
<td>Carbon oxides, isoprene</td>
</tr>
</tbody>
</table>

## 11 Toxicological properties

| Oral toxicity at single ingestion | Non toxic |
| Skin toxicity at single exposure | Non toxic |
| Toxicity at inhalation at single exposure | Non toxic |
| Skin irritation | Causes no irritation |
| Eye irritation | Causes no irritation |
| Irritation of respiratory tract | Causes no irritation |
| Sensibilization | Absence |
| Toxicity at repeated dosage | Absence |
| Mutagenicity | Absence |
| Carcinogenicity | Not established |
| Toxicity for reproductive function and development | Absence |

## 12 Environmental impact
12.1 Ecotoxicity: Rubber bales do not pose a hazard for environment
12.2 Mobility: Solid product
12.3 Immunity and degradability: Transforms in the environment at long weather impact (atmospheric precipitation, solar radiation, cold, high temperatures).
12.4 Bioaccumulation: Non cumulative
12.5 Other negative effects: Not established

13 Utilization and/or disposal of wastes (remains)

13.1 Methods of disposal of wastes (remains)
Solid wastes generated in the course of rubber processing are not toxic, they do not require neutralization and are subject to reprocessing. Non-treatable wastes are subject to incineration at the specialized landfill.

Code of wastes
07 02 99 wastes from the MFSU of synthetic rubber (not otherwise specified)

S61 – avoid entry into the environment

13.2 Methods of disposal of after-use package

Wooden packing is subject to incineration or is used as solid fuel after respective processing. Polymer packing is subject to subsequent reprocessing.

14 Safety requirements during transportation

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG</td>
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<tr>
<td>IATA</td>
<td>Not classified</td>
</tr>
<tr>
<td>Class</td>
<td>Not classified</td>
</tr>
<tr>
<td>Group of packing</td>
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<tr>
<td>Classification code</td>
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<tr>
<td>Hazard identification number</td>
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<td>UNO number</td>
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<tr>
<td>Precise name for transportation</td>
<td>Isoprene rubber SKI-3</td>
</tr>
</tbody>
</table>

15 Regulatory information
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Based on Regulation (EC) 1907/2006 of the European Parliament and Council (REACH)

Marking (Resolution (EC) №1272/2008) Not classified

Marking (67/548/EEC or 1999/45/EC) Not classified

National legislative documents:


16 Supplementary information

Risk phrases: -

Safety phrases: S61 – avoid entry into the environment

Information source: ESIS – European Chemical Substances Information System (European Chemicals Bureau)

Hazardous Substance Data Bank (HSDB) – U.S. National Library of Medicine, 2001-1

Information in this Material Safety Data Sheet is based on the current state of knowledge and legislation in force and refers solely to the description of rules for safe work with the product. This product should not be used for purposes other than those specified in section 1. The consumer is fully responsible for fulfilling of all the requirements of local rules and laws. The above information is not the guarantee of the product quality.