Trade name: Chlorobutyl Rubber  

Identification of substance/mixture: Chlorobutyl Rubber  
REACH Registration No.: Isobutylene (monomer): 01-2119456616-32-0014  
Isoprene (monomer): 01-2119457891-29-0003  
REACH pre-registration No: Chlorine: 05-2114135539-44-0000 (until 2013)  
Synonyms: Copolymer of isobutylene and chloroisoprene  
Application: Tire and technical rubber industry  

Producer/importer/distributor:  
Supplier/producer: OAO Nizhnekamskneftekhim  
Address: Nizhnekamsk  
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  
- country of origin: +7 (8555) 37-72-07, (8555) 37-78-30,  
+7 (8555) 37-72-65, (8555) 37-74-45  

2 HAZARDS IDENTIFICATION  

1.1 Hazards description: The substance is nonhazardous, nontoxic. No adverse health effects at room temperature.  

2.1.1 Classification:  
This product is not classified as hazardous according to the Directives 67/548/EC, 1999/45/EC, and Regulation (EC) No. 1272/2008 (CLP)  

1.2 Information pertaining to special dangers for human and environment:  
Adverse physicochemical effects: None  
Adverse human health effects and 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 erythema, pain, 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  

Adverse environmental effects: Nonhazardous for environment  
Other adverse hazards: Undergoes transformation in the environment under prolonged influence of atmospheric conditions (atmospheric precipitations, solar irradiation, cold, high temperatures)
3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance related information

<table>
<thead>
<tr>
<th>Chemical name / Synonyms</th>
<th>EC No.</th>
<th>REACH No.</th>
<th>Index No.</th>
<th>CAS No.</th>
<th>Amount (%)</th>
<th>Classification according to Regulation (EC) No 1272/2008 [CLP]</th>
<th>Classification according to 67/548/EEC</th>
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</thead>
<tbody>
<tr>
<td>Polymer of 2-methylprop-1-ene with 2-methylbutadi-1,3-ene chlorinated</td>
<td>No</td>
<td>Not subject to registration</td>
<td>No</td>
<td>68081-82-3</td>
<td>&gt; 98.5</td>
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<tr>
<td>Stabilizers:</td>
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<tr>
<td>Irganox 1010 Pentaeerythritol tetra-kis(3-(3,5-di-tert-butyl-4-hydroxyphényl)propionate)</td>
<td>229-722-6</td>
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<td>No</td>
<td>6683-19-8</td>
<td>&gt; 0.05</td>
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<td>Other admixtures:</td>
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<tr>
<td>Calcium stearate</td>
<td>216-472-8</td>
<td>Not subject to registration</td>
<td>No</td>
<td>1592-23-0</td>
<td>&lt; 1.4</td>
<td>Not classified</td>
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</tr>
</tbody>
</table>

4 FIRST AID MEASURES

4.1 General information: Low hazard material. Intoxication through entry into human body has not been defined and is unlikely.

4.2 In case of inhalation: No hazard at ambient temperature

4.3 In case of skin contact: No hazard at ambient temperature. Wash with water and soap. In case of contact with hot product, wash immediately with plenty of cold water. Apply clean gauze or cotton bandage.

4.4 In case of eye contact: Wash with plenty of water until the product is removed from the eyes

4.5 In case of ingestion: No hazard. When small amount of rubber crumb is swallowed, first air is not normally required.

4.6 Information to physician:
5  FIRE-FIGHTING MEASURES

| 5.1 Suitable extinguishing media          | 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 Extinguishing media which must not be used for safety reasons | No unsuitable fire fighting media. |
| 5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases | Carbon oxides and dioxides. Heated product decomposes and emits carbon oxide (CAS No. 124-38-9), hydrogen chloride emission is possible as well (CAS No. 7647-01-0). Carbon oxides reduce oxygen ($O_2$) content in the air, they may have a toxic effect on the cells causing the cell respiration disturbance. Hydrogen chloride has a percutaneous action, in high concentrations it causes mucous membrane irritation, especially pituitary membrane, conjunctivitis, caligo corneae, choking sensation, running nose, cough (Xi; R36/37/38). |
| 5.4 Special protective and fire-fighting equipment for fire-fighters | Use a fire-resistant suit and a self-contained breathing apparatus. |
| 5.5 Additional information | Remove personnel not participating in fire-fighting from the site of the fire. |

6  ACCIDENTAL RELEASE MEASURES

| 6.1 Personal precautions | Use a fire-resistant suit and a self-contained breathing apparatus. |
| 6.2 Environmental precautions | Contamination of water bodies and soil should be avoided |
| 6.3 Methods for cleaning up and neutralization | Solid product in the form of bales. Collect the product and put it in the appropriate containers for disposal or reuse. |
| 6.4 Additional information | None |

7  HANDLING AND STORAGE

| 7.1 Handling | 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. |
| 7.1.1 Advices on safe handling: Protective measures | No generation of aerosols and dust at handling. |
| 7.1.2 Technical measures: Measures to prevent aerosol and dust generation | |

Chlorobutyl rubber
Measures required to protect the environment:

Minimization of rubber losses during transportation and storage, prevention of discharges into surface waters and sewage.

7.1.3 Specific requirements or handling rules:
None

7.1.4 Precautions against fire and explosion:
Open flame sources are not allowed

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. Rubber packed in pallet boxes is stored in stacks, not more than three pallet boxes stacked.

Packaging materials:
- EVA film (thermosetting);
- polyethylene film;
- all-purpose plastic container;
- wooden pallet box.

Requirements for storage rooms and vessels:
The room temperature should not exceed 30°C.

Further information on storage conditions:
Storage together with oxidizers, acids and caustics is prohibited. Shelf life – 1 year max..

8. **EXPOSURE CONTROLS / PERSONAL PROTECTION**

8.1 Exposure limits: threshold permissible concentration (working area), predicted no effect level (working area)
Due to physical and chemical properties and low toxicity there is no hygienic regulations for the air exposure limits

8.2 Occupational exposure controls
Ensuring that the content of hazardous substances is within permissible concentration limits by using supply-and-exhaust ventilation system in of the most contaminant air locations/

8.3 Personal protection equipment
Use protective clothing made of cotton fabric

8.3.1 Respiratory protection:
Not required under normal operating conditions. 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 Body protection:
Protective clothing made of cotton fabric

8.4 Environmental exposure controls
Concentration of pollutants should be measured in the process of thermal treatment.

8.5 Consumer exposure control:
Not used in household activity.

9 **PHYSICAL AND CHEMICAL PROPERTIES**

| Appearance | Solid baled product of light-yellow color |
| Odor       | No odor or slight odor |

**Chlorobutyl rubber**

Page 4 / 7
Odor threshold | Not established  
---|---  
PH | Not applicable  
Boiling temperature | Not applicable  
Glass transition temperature | -70 °C  
Flash point | 230 °C (open cup)  
Ignition temperature | 270 °C  
Self-ignition temperature | 412 °C  
Vapor pressure | Not applicable  
Density | 0.9 g/cm³ at 20 °C

### 10. STABILITY AND REACTIVITY

Contains a stabilizer

- **10.1 Stability** | Extremely stable under normal conditions  
- **10.2 Conditions to avoid** | Heating above 150 °C  
- **10.3 Materials to avoid** | Strong oxidizers  
- **10.4 Hazardous decomposition products** | Carbon oxides, hydrogen chloride

### 11. TOXICOLOGICAL INFORMATION

- **Acute oral toxicity** | Non toxic  
- **Acute dermal toxicity** | Non toxic  
- **Acute inhalative toxicity** | Non toxic  
- **Skin irritation** | Causes no irritation  
- **Eye irritation** | Causes no irritation  
- **Irritation of respiratory tract** | Causes no irritation  
- **Sensibilization** | None  
- **Repeated toxicity** | None  
- **Mutagenicity** | None  
- **Carcinogenicity** | Not established  
- **Toxicity for reproduction** | None

### 12. ECOLOGICAL INFORMATION

- **12.1 Ecotoxicity:** Rubber bales do not pose a hazard for environment  
- **12.2 Mobility:** Solid product  
- **12.3 Persistence and degradability:** Transforms in the environment at prolonged weather impact (atmospheric precipitation, solar radiation, cold, high temperatures).  
- **12.4 Bioaccumulative potential:** Non cumulative  
- **12.5 Other adverse effects:** Not established
13. DISPOSAL CONSIDERATIONS

13.1 Methods of wastes (residues) disposal

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 specialized landfills.

- Waste codes
  - 07 02 99 wastes from the MFSU of synthetic rubber (not otherwise specified)

- S61 – Avoid release to the environment

13.2 Methods of used packaging disposal

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

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
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<td>IMDG</td>
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<tr>
<td>Proper Shipping Name</td>
<td>Chlorobutyl rubber</td>
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15. REGULATORY INFORMATION

Labelling (Regulation (EC) No. 1272/2008) Not classified

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

National regulations:
16. OTHER INFORMATION

Risk phrases: -

Safety phrases: S61 – Avoid release to the environment

Data sources: 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.

Head of Technical Department V.A. Shamanskiy