

**Material Safety data Sheet**  
in accordance with EEC 91/115 Act  
Trade name  
**Brominated Butyl Rubber**

**1. Material and company information.**

1.1 Trade name:	Brominatedr Butyl Rubber
Chemical name: (IUPAC)	Polymer of 2-methylprop-1-ene with 2-methylbutid-1,3-iene brominated
1.2 Producer	Nizhnekamskneftekhim Inc., 423574, Nizhnekamsk, Republic of Tatarstan, Russia
1.3 Contact	Nizh USA, 92 Front Street, Hempstead, NY 11550 516-542-0500

**2. Состав продукта**

Chemical characterization:	Brominated Butyl Rubber
Molecular formula	(( C <sub>4</sub> H <sub>8</sub> ) <sub>1</sub> (C <sub>5</sub> H <sub>8</sub> ) <sub>m</sub> (Br) <sub>n</sub> ) <sub>x</sub>
Structural formula	$\left( \left[ \text{CH}_2=\text{C}(\text{CH}_3)_2 \right]_1 \left[ \left( \text{CH}_2=\underset{\text{CH}_3}{\text{C}}-\text{CH}=\text{CH}_2 \right)_m \text{Br} \right]_n \right)_x$
Physical state	Solid substance
Color	Light yellow
Odor	None
Identification number	68441 -14-5
CAS - №	

**3. Hazardous effect**

Impact on human health	Moderately hazardous substance. Poisonong by getting inside the human organism is unlikely
Eye contact	For open systems, where eye contact most likely, particles may injure eyes and cause mechanical irritation.
Skin contact	Not dangerous under normal industrial usage Contact with hot product could result in thermal burns.
Hygienic requirements	Hazard class – 4 Assignment of hygienic requirements is nor required due to its physiochemical properties and low toxicity.

**4. First aid**

Inhalation	Under normal industrial usage the product is not dangerous. In case of fire the the victim suffered suffocation should be taken to freshh air. In case of asphexia an artificial “ mouth to mouth” respiration should be performed. Call a physician if necessary.
Skin contact	When contacting with hot product wash skin with plenty of cold water. Apply clean gauze bandage or cotton bandage. Consult a physician if necessary.
Eye contact	This is a hard inert product. If it gets into the eye ( during

rubber fragmentation) it should be removed by some clean object. Consult a physician if necessary.  
Ingestion If rubber crumbs are ingested, rinse the mouth with water and drink a glass of water.

## **5. Fire and explosion safety measures**

Fire-explosion hazard	Explosion-proof product. Combustible product.
Fire- extinguishing means	Water, foam, dry powder, CO <sub>2</sub> ,
Inhibitory fire- extinguishing means	Not established
Thermal decomposition products	CO, CO <sub>2</sub>

## **6. Measures for removal accidentally spilled and scattered product**

The product is solid not a liquid. Collect the product and put it in appropriate containers for disposal or reuse.

## **7. Storage and handling procedure**

7.1 No special safety measures or means are required for finished product. Production areas should be equipped with induced and forced draft ventilation.

### 7.2 Storage

The product is stored in a closed area, out of reach of fire sources, sun rays and atmospheric precipitation. Area temperature should not exceed 30 °C. Storage with oxidizers, acids and alkalies shall not be allowed.

## **8. Safety precautions**

8.1 When using this product working area should be equipped with combined plenum- exhaust ventilation and fire- extinguishing means.

### 8.2 Personal safety measurement and means

Hand protection	Rubber gloves, if the product is hot- thermalproof gloves
Hand protection	Not required
Respiratory organs protection	At normal working conditions personal safety means are not required, at emergency situation – filter gas mask, Model A, BKF
Protective clothing	Overalls, type 3 ( GOST 12.4. 103) shall be in accordance with typical branch standards

## **9. Physical and chemical properties**

9.1 Product property	Solid
Aggregative state	
Color	Light yellow
Odor	None
9.2 Fire risk and other properties	
Molecular weight	[[56]1 + [78]m+ [79,9]n]x
Density at 50 °C	0,9 g/cm <sup>3</sup>
Chemical reactivity	Oxidized if an antioxidant is not present

Solubility	Not soluble in water. Good solubility in fat series hydrocarbons, more difficult – in aromatic hydrocarbons
Flash point in open crucible	267 °C
Ignition temperature	301 °C
Selfignition temperature	402 °C

### **10. Stability and chemical activity**

Stability	Highly stable
Thermal decomposition products	CO, CO <sub>2</sub> , Bromhydrogen (in small amount)

### **11. Toxicity**

Toxicity	DL <sub>50</sub> >5000 mg/kg, rats
Acute toxicity	CL <sub>50</sub> – none
Cumulative	Weak
Clinical picture of acute intoxication	Acute intoxication cases are not described
Dermal – resorption action	None
Sensibilizing effect	Not examined
Embryotropic action	Not examined
Gonadotropic action	Not examined
Teratogenic action	Not examined
Mutagenic action	Not examined
Cancerogenic action	Not examined

### **12. Environmental effect**

Biologic dissimilation	Data are not available
MAC in water	0,25 mg/l
Environmental Transformation products	Transformed Data are not available

### **13. Disposal of wastes**

Unused product wastes shall be incinerated in special areas in accordance with local codes..

### **14. Transportation regulations**

Transportation of the Brominated Butyl Rubber shall be accomplished by any kind of transport inside the covered transport facility. Hazard class 9.

### **15. International and national law**

National law: The Russian Federation has no special restrictions relating to the use, hazard for aquatic environment or health hazard in respect to brominated butyl rubber

Special marking:

S-designation:

S 15

Keep out of reach of heat sources

Head of Technical Department

V. Shamansky