Nizhnekamskneftekhim **Material Safety Data Sheet**

In accordance with EEC 91/ 115 Act

Trade name

Synthetic butyl rubber

1.Material and company information

1.1. Trade name	Butyl rubber БК-1675Н
Chemical name:	
(IUPAC)	2-Methylpropene -1 polymer with 2-мethylbutadiene -1,3
1.2 Producer	Nizhnekamskneftekhim Inc., 423554 Nizhnekamsk, 423554, Republic of Tatarstan, Russia

2. Product composition

Chemical characterization:	2-Methylpropene-1 polymer with 2-мethylbutadiene1,3 (copolymer of isobutylene with isoprene)
Empiric formula:	$(C_4H_9)_n$ $(C_5H_8)_m$
Physical state:	Solid non - volatile matter
Color	From white to amber yellow
Odor	None
Impurities data	None
Identification number:	
CAS №	9010-85-9

3. Harmful effects

Impact on human health:	No toxic or irritant action on respiratory organs under normal industrial usage
Eye contact:	When being crushed small rubber particles may scratch eye surface and cause mechanical irritation.
Skin contact:	Not dangerous under normal industrial usage.Contact with hot product could result in thermal burns.
Hygienic requirements	MAC for rubber bales is not defined.

4. First aid measures

General recommendations	Call a physician if in doubt.
Inhalation	(In case of contact with inflamed product or products of thermal destruction). Use respiratory protection means and remove victim from the area of adverse action to fresh air. In case of respiratory arrest artificial respiration should be performed. Call a physician.
Skin contact	If hot product got onto the skin it should be immediately washed with plenty of cold water. Apply a clean gauze bandage or a cotton sheet bandage. Call a physician .
Eye contact	This is the solid product of inert nature. If it gets to the eye (during the process of rubber crushing) it should be removed by some clean object.The particles may scratch the eye surface and cause mechanical irritation. The product is non- hazardous under normal usage.
Ingestion	Ingestion is unlikely.

5. Fire and explosion safety measures

Fire extinguishing means:	Water, foam, sand, CO_2
Prohibited fire extinguishing means	None
Special hazard:	Combustion materials - CO, CO_2 if incompletely burnt, thermal destruction – alcohols, aldehydes, ketones, carbon oxides.
Protective outfit for firemen:	Respiratory apparatus, eye protection, fireproof clothes.

Miscellaneous:	Use water spray for cooling down closed containers and surface exposed to fire and for personnel protection.
Harmful decomposition products during product burning	Isobutylene

6. Measures for removal of accidentally scattered product

The product is solid and has no flow properties. Collect the scattered product and put it in the appropriate containers for disposal or usage. Any residue shall be removed in accordance with local regulations (laws).

7. Storage and handling procedure

7.1. Product handling:

When handling the product any contact of hot product with skin or eye should be minimized.

7.2.Storage

The product is stored indoors at ambient temperature at a distance from the heat sources beyond reach of fire sources, direct sunshine and the elements. The indoor temperature should not exceed 40 ^{0}C. The storage rooms should be equipped with lighting and explosion-proof ventilation. The product is non-hazardous material and no special precautions shall be envisaged for its handling and storage. Warranty storage period shall be 1 year from the manufacture date.

8. Safety precautions

8.1 When working with product equipment requirements should be observed as well as regulations of transportation and storage, plenum and exhaust ventilation should be provided.

8.2 Personal safety measures and means

Hand protection	Thermal proof gloves if the product is hot
Eye protection	Safety goggles for open systems (during crushing process)
Protection of respiratory organs	Under normal operating conditions protection means shall not be required.In emergencies when the product is burning gas- mask, type A, БКF is used.
Special precautions	No special precautions required.

9.Physical and chemical properties

9.1 Product property

Aggregative state	Solid polymer in bale form
Color	From white to amber yellow
Odor	None

9.2 Fire hazard and other characteristics

Chemical reactivity	Destruction and structurization (crosslinking) under O_2 , accelerating under the action of light and heating.
Solubility	Soluble in hydrocarbons and chlorine derivatives. Non-soluble in water and fats.

9.2. Fire hazard and other characteristics

Flash point	187 ^{o}C
Self-ignition temperature	402 ^{o}C
Combustion heat	47040 кj/кg

10. Stability and chemical activity

Stability	Thermal stability up to 250 ^{o}C
Thermal decomposition products	Alcohols, aldehydes, ketones, carbon oxides
Avoid contact with such materials as:	Strong oxidizers

11. Toxicity

Toxicity	DL_{50}- more than 10000 мg/кg, intraventricular, rats
Acute toxicity	CL_{50} – non-attainable
Doses (concentration) of minimum toxic action)	Aqueous extracts from polyisobutylene, intraventricular, 12 months, rats donot have an effect of generic toxic, pyrogenic

	or cytotoxic nature
Cumulative	Low level
Clinical presentation of acute toxic exposure	No evidence
Dermal resorption effect	Not defined
Sensibilizing action	Data not available
Embriotropic action	Data not available
Gonadotropic action	Data not available
Teratogenic action	Data not available
Mutagenic action	Data not available
Carcinogenic action:	
human-being	Data not available
animals	Data not available

12. Environmental effect

Biological dissimilation:	Data not available
MAC for water reservoirs	The content of suspended solids should not increase by more than 0,25 mg//dm^3 (for centralized and non- centralized supply of household and potable water as well as for water supply to food enterprises); 0,75 мg/$м^3$ –in the water pools intended for bathing, sports and recreation of people as well as for water reservoirs within the populated areas. For all suspended matters at a rate of more than 0,4 mm/sek for circulating water reservoirs and at a rate of 0,2 mm/sec for water storage shall be prohibited for discharge
In the environment	No transformation
Products of transformation	None

13. Utilization and disposal of wastes

Product residues that are not useable shall be incinerated in conformance with local regulations (laws).

14. Transportation rules

Transportation of the product shall be accomplished by any kind of transport inside the covered transport facilities in conformity with the Rules in force for transportation of cargo.Rubber bales are not classified as the hazardous cargo (References of Unites nations organization and the International Marine Code for transportation of hazardous cargo do not classify the rubber bales as the hazardous cargo.

15. International and national legislation

National legislation: There are no special limitations in the Russian federation and republic of Tatarstan relating to the use or restrictions on fire hazard or hazard aquatic environment or health hazard for personnel which shall be applied to butyl rubber. Based on recommendations for transportation of hazardous goods, 11-th revised edition, New York, United Nations Organization.Geneva butyl rubber produced in bales shall not be referred to as hazardous freight.

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