

# Nizhnekamskneftekhim USA

## Material Safety data Sheet

In accordance with EEC 91/115 Act

Trade name

Synthetic rubber, Ethylene Propylene Diene Monomer

### **1. Material and company information**

1.1 Trade name:	Ethylene Propylene Diene Monomer <b>EPDM</b>
Chemical name: (IUPAC)	Copolymer of Ethene with Propylene –1 and 5-ethylidene-2 – norbornene
1.2 Producer	Niznekaskneftekhim Inc, 423554, Nizhnekamsk, Republic of Tatarstan, Russia
1.3 Contact:	Nizh USA, 92 Front Street, Hempstead, NY 11550 USA 516-542-0500

### **2. Product composition**

Chemical characterization:	Copolymer of Ethene with Propylene –1 and 5-ethylidene-2 – norbornene
Empiric formula	$[(C_2H_4)_x(C_3H_6)_y(C_{10}H_{12})_z]_n$
Physical state	Solid, non- volatile material
Color	yellow to grey
Odor	None
Impurities	None
Identification number	
CAS #	-

### **3. Hazardous effects**

Impact on human	Notoxic or irritant action on respiratory organs under normal industrial usage.
Eye contact	Mechanical irritation of retina (when rubber is fragmented)
Skin contact	Not hazardous under normal industrial usage. Contact with hot product could result in thermal burns.
Hygienic requirements	MAC for rubber in bales is not established

### **4. First aid**

Inhalation	Not hazardous under normal industrial usage. In case of asphyxia due to burning products take the victim to fresh air. In respiratory arrest artificial ventilation is to be performed.
Skin contact	No first aid is usually required. In contact with hot product- immediately wash with big amount of cold water. Apply dressing with (2-3%) sodium bicarbonate solution for 1-2 days.
Eye contact	This is a hard inert product. Remove particles by a handy clean object.
Medical aid ( in carbon monoxide poisoning)	<u>If breathing is normal</u> , start oxygen inhalation, alternate it every 10-15 minutes with carbogene inhalation ( <u>mix of oxygen with 5-7 % CO<sub>2</sub></u> )

### **5. Measures and means for fire safety**

Proper fire fighting means	Water, CO <sub>2</sub> , foam, dry powder, steam, inert gas raz – nitrogen
Inhibitory means	Not established
Hazardous products of decomposition in	Ethylene, propylene, carbon oxides

product burning

## **6. Measures to collect accidentally scattered product**

Collect and forward for further processing to the adjacent branches of production.

## **7. Storage and handling regulations**

7.1 No particular precautions to handle.

### 7.2 Storage

The product is stored at the ambient temperature indoors far from heat sources unreachable by the fire sources, direct sunshine and atmospheric precipitations. The indoor temperature should not exceed 30 °C. A warehouse should be equipped with lighting, explosion-proof ventilation systems.

## **8. Regulations and measures for personnel safety**

8.1 In working with the product there should be observed the requirements to the equipment, regulations to transport and store, provision of combined plenum- exhaust ventilation.

8.2 MAC for thermal decomposition products : polypropylene, polyethylene, carbon oxide.

MAC<sub>max decomp. working space</sub> - 10 mg/m<sup>3</sup>

MAC (CO<sub>2</sub>)<sub>working space</sub> - 20 mg/m<sup>3</sup>

### 8.3 Measures and means of personal protection

Hand protection Antitherm gloves, if the product is hot

Eye protection Goggles for open systems ( when fragmenting).

Protection of respiratory organs Not required in standard environment. In emergency with product burning – filtering gas – mask, type A, BKF.

Special precautions Not required

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

### 9.1 Product property

Aggregative state Hard polymer in bales

Color Yellow to grey

Odor None

### 9.2 Fire risk and other properties

Chemical reactivity Destruction and cross-linking under O<sub>2</sub> and O<sub>3</sub> , accelerating under light and heat.

Solubility Soluble in hydrocarbons and their chloroderivatives. Not soluble in water and fats.

Content of the main element Propylene molar part ( 33- 40) %

Ethylene molar part ( 50- 56%)

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

Stability Extraordinary stable

Thermal decomposition products Carbon monoxides, hydrocarbons

## **11. Toxicity**

Toxicity DL<sub>50</sub> = more than 10000 mg/kg, intragastric, rats

CL<sub>50</sub> = not reachable

### Acute toxicity

Concentrations of minimal toxic effect Taking inside of oily and water extracts during 15 months by the rats have not caused any pathological changes of inner organs.

Cumulative Weak

Clinical presentation of acute poisoning Not evident

Skin absorption effect Not established

Sensibilizing action Data not available

Embryotropic action Data not available

Gonadotropic action Data not available

Teratogenic action Data not available

Mutagenic action Data not available

Cancerogenic action  
Human being  
Animals

Data not available

Not established

Data not available

## **12. Environmental effect**

Biological dissimilation

Data not available

MAC for basins

The content of suspended matters should not increase by more than  $0,25\text{mg/dm}^3$  (for central or not central utility and potable water supply to catering facilities;  $0,75\text{mg/dm}^3$  – in basins for swimming, sports and recreation of people, as well as for basins within inhabited localities. Suspensions with precipitation rate more than  $0,4\text{mm/sek}$  for flowing basins and more than  $0,2\text{mm/sek}$  for reservoirs are forbidden for discharge.

In the environment

Not transformed

Product transformation

None

## **D13. Disposal of wastes**

Rubber wastes, rejected unrecoverable rubber are utilized in adjacent branches of production (roofing, road surface, mastics and etc..)

## **14. Transportation regulations**

Transportation of the product shall be accomplished by any kind of transport inside the covered transport facility in conformity with the Rules in force for transportation of cargo. Rubber bales are not classified as the hazardous cargo (references of United 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 law**

National law:

The Russian Federation has no special restrictions relating to utilization as well as special restrictions as to fire risk, risk for aquatic environment or health hazard in respect to rubber.

Head of Technical Department

V. Shamansky