



MATERIAL SAFETY DATA SHEET

ISOPRENE RUBBER (IR)

MATERIAL AND COMPANY INFORMATION

Trade name	CIS- isoprene synthetic rubber
Chemical name (IUPAC)	Poly 2-methyl -1,3-butadiene

PRODUCT COMPOSITION

Product chemical property	Poly 2- methyl -1,3-butadiene
Empiric formula	(C ₅ H ₈) _n
Physical shape	Hard nonvolatile product
Color	Grey
Odor	None
Impurities	None
Identification No. CAS	26702-92-1

HAZARDOUS EFFECTS

Health effect	No toxic or irritant action on respiratory organs under normal industrial usage
Eye contact	Mechanical irritation of retina (when rubber is fragmented)
Skin contact	Not dangerous under normal industrial usage. Contact with hot product could result in thermal burns.
Hygienic requirements	MAC for rubber in bales is not established



FIRST AID MEASURES

Inhalation	Not hazardous under normal industrial use. In case of fire asphyxia due to burning products – take the victim to the open air. In respiratory standstill 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 (when rubber is fragmented)	This is a hard inert product. Remove particles by a handy clean object.
Medical aid (in carbon monoxide poisoning)	If breathing is normal, start oxygen inhalation, alternate it every 10 – 15 minutes with carbogene inhalation (mix of oxygen with 5-7 % CO ₂)

MEASURES AND MEANS FOR FIRE SAFETY

Proper fire fighting means	Water, CO ₂ , foam, dry powder, steam, inert gas – nitrogen
Inhibitory means	Not established
Hazardous products of decomposition in product burning	Isoprene

MEASURES TO COLLECT ACCIDENTALLY SCATTERED PRODUCT

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

STORAGE AND HANDLING REGULATIONS

No particular precautions to handle.

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.
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REGULATIONS AND MEASURES FOR PERSONNEL SAFETY

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.

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

MAC_{max decomp. working space} - 10 mg/m³

MAC (CO₂)_{working space} - 20 mg/m³

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

PHYSICAL AND CHEMICAL PROPERTIES

Product property	
Aggregative state	Hard polymer in bales
Color	Yellow to grey
Odor	None
Fire risk and other properties	Destruction and cross-linking under O ₂ and O ₃ , accelerating under light and heat.
Fire risk and other properties	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%)

MEASURES AND MEANS FOR FIRE SAFETY

Stability	Extraordinary stable
Thermal decomposition products	Carbon monoxides, hydrocarbons

**TOXICITY**

Toxicity	DL ₅₀ = more than 10000 mg/kg, intragastric, rats CL ₅₀ = 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	Data not available
Human being	Not established
Animals	Data not available

ENVIRONMENTAL EFFECT

Biological dissimilation	Data not available
MAC for basins	The content of suspended matters should not increase by more than 0,25mg/dm ³ (for central or not central utility and potable water supply to catering facilities; 0,75 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 mm/sek for flowing basins and more than 0,2mm/sek for reservoirs are forbidden for discharge.
In the environment	Not transformed
Product transformation	None



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DISPOSAL OF WASTES

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

TRANSPORTATION REGULATIONS

Tranportation 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.

