MATERIAL SAFETY DATA SHEET

Listed in the Safety data sheet registry

RPB No.0 0 1 4 8 8 8 9 . 2 0 . 4 8 1 5 2 dated September 14, 2017

Valid till September 14, 2022

Association «Non-profit partnership «Information and coordination center of the member states of the CIS for binding of the regulatory practices»

Deputy Director_____ / N.M. Muratova/
stamp

NAME

product name (as per RD)	**Artificial oil-extended styrene-butadiene rubber СКС-30АРКМ-27/ SBR-1723 (SBR-1712)**
chemical name (as per IUPAC)	Ethenylbenzene polymer with buta-1,3-diene
Trademark	**Artificial rubber СКС-30АРКМ-27/SBR-1723 (SBR-1712) of various brands**
Synonyms	Styrene copolymer with 1,3-butadiene

OKPD Code 2	**TN VED Code**
2 0 . 1 7 . 1 0 . 1 3 0	4 0 0 2 1 9 1 0 0 0

Reference designation and name of a regulatory, technical or information document for the product (GOST, TU, OST, STO, (M)SDS)

TU 38.303-03-070-2001 Artificial oil-extended styrene-butadiene rubber СКС-30АРКМ-27 and butadiene-methylstyrene rubber СКМС-30АРКМ-27

HAZARD STATEMENT

Signal word **N/A**

Brief (verbal):
Low hazard effect on human body in accordance with GOST 12.1.007- 76. Combustible matter. Combustion and thermal degradation products are hazardous for human and environment.

Detailed: in 16 enclosed sections of the Safety data sheet

MAIN HAZARDOUS COMPONENTS	Workplace exposure limit, mg/m^3	Hazard class	No. CAS	No. EC
Styrene copolymer with butadiene-1,3	not established	no	9003-55-8	no

APPLICANT JSC Voronezhsintezkauchyuk, (company name) Voronezh (city)

Applicant type manufacturer, supplier, ~~seller, exporter, importer~~
(delete inappropriate information)

OKPO Code 0 0 1 4 8 8 8 9 **Emergency telephone number** (473) 220-67-30

Applicant Company head _____ (signature) /M.N. Lenkov/ (print full name)

Safety data sheet (SDS) conforms to the Recommendations of UN ST/SG/AC.10/30 «SGS (GHS)»

IUPAC	–	International Union of Pure and Applied Chemistry
GHS (SGS)	–	Recommendations of UN ST/SG/AC.10/30 «Globally Harmonized System of Classification and Labelling of Chemicals»
OKPD 2	–	All-Russian Product Classifier by Types of Economic Activities
OKPO	–	All-Russian Classifier of Enterprises and Organizations
TN VED	–	Foreign Economic Activity Commodity Classification
No. CAS	–	Matter number in Chemical Abstracts Service registry
No. EC	–	Matter number in European Chemical Agency registry
Workplace exposure limit	–	Maximum allowable concentration of a chemical matter in working area air, mg/m^3
Signal word	–	A word used for focusing on the degree of a chemical product hazard and selected in accordance with GOST 31340-2013

1 Chemical product identification and manufacturer and/or supplier information

1.1 Chemical product identification

1.1.1 Product name:	Artificial oil-extended styrene-butadiene rubber СКС-30АРКМ-27/SBR-1723 (SBR-1712) [1].
1.1.2 Brief recommendations for application: (incl. application restrictions)	Rubber is used in tire and industrial-rubber branches of industry. Manufactured in various brands (A,B,N) differing by physical and mechanical performance. No information on application restrictions [1].

1.2 Information on manufacturer and/or supplier

1.2.1 Full legal name of the organization:	Joint-Stock Company «Voronezhsky sinteticheskiy kauchyuk (Voronezh artificial rubber)» (JSC «Voronezhsintezkauchyuk»)
1.2.2. Address: (mailing and legal)	Leninsky pr. 2, 394014 Voronezh, Russia.
1.2.3 Telephone, incl.for urgent consulting services and time limits:	Telephone for urgent consulting services (twenty-four-hour): +7 (473) 220-67-30. Contact telephone number: from 8 a.m. to 5 p.m. (MSK): domestic market: +7 (473) 220-68-84, external market: +7 (473) 220-65-26.
1.2.4 Fax:	+7 (473) 220-68-69, +7 (473) 220-68-19
1.2.5 E-mail:	VSK-office@vsk.sibur.ru

2 Hazard (hazards) identification

2.1 Total chemical product exposure value: (information on hazard classification in accordance with the legislation of the Russian Federation (GOST 12.1.007-76) and SGS (GOST 32419-2013, GOST 32423-2013, GOST 32424-2013 and GOST 32425-2013)	Low-hazard effect on human body in accordance with GOST 12.1.007-76 [6,34]. Not classified as per SGS [6,34, 41-44].
2.2 Information on warning marking as per GOST 31340-2013:	Not covered by GOST 31340-2013 [5] by its criteria.
2.2.1 Signal word:	N/A [5].
2.2.2 Hazard symbol:	N/A [5].
2.2.3 Hazard statement (H-phrases)	N/A [5].

3 Composition (information on components)

3.1 Product information in whole

3.1.1 Chemical name: (as per IUPAC)	Ethenylbenzene polymer with buta-1,3-diene [6].
3.1.2 Chemical formula:	$\{(-C_4H_{6-})_m(-C_9H_{10-})_n\}_x$ [6].
3.1.3 General composition characteristics: (considering brand assortment; production method)	Rubber is the product of copolymerization of butadiene and styrene in emulsion under low temperature. Rubber СКС-30АРКМ-27 contains extender oil type TDAE or HI-AR. Rubber can be added with another extender oil of the type agreed with the consumer upon ordering [1,2].

3.2 Components:
(name, CAS and EC numbers, mass content (totally 100 %), Workplace exposure limit or SRLI of working area, hazard classes, references to data sources)

Table 1 [1,4,6,8,11,30,38,45]

Components	Mass content, %	Exposure standards in working area air		No. of CAS	No. of EC
		Workplace exposure limit, mg/m^3	Hazard class		
Styrene copolymer with 1,3 – butadiene	64,6– 69,2	not established	no	9003-55-8	no
Antioxidant BC-1 *[2]* ((Alkylphenolamine resin (30 - 50 % solution in mineral oil)) or	0,3–0,7	not established	no	no	no
Antioxidant C-789 *[2]* (N-2ethylhexyl-N-phenyl-n- phenylene diamine)	0,35-0,55	not established	no	82209-88-9	no
Organic acids (mixture of resin and fatty acids)	4,3–5,9	4	3	8050-09-07 (by resina)	232-475-7 (by resina)
Extender oil: type TDAE	25–30	5	3	64741-88-4	265-090-8
type HI-AR	25–30	not established	no	64742-10-5	265-110-5
Note: application of antioxidant analogs is allowed [2].					

4 First aid measures

4.1 Symptoms:

4.1.1 Inhalation: In emergency situations (toxic exposure to rubber combustion products) – mucous membrane irritation of upper respiratory airways, headache; in case of acute toxic exposure – nausea, vomit, nasal hemorrhage [6,14,24,25].

4.1.2 Skin contact: Des not irritate skin cover. Burn is possible upon skin contact with molten product [2,6].

4.1.3 Eye contact: Eye irritation, smarting eyes, lacrimation [6].

4.1.4 Ingestion: Atonia, nausea, vomit [6].

4.2 First aid measures to the injured

4.2.1 Inhalation: Inhalation is unlikely under normal conditions.

To remove the injured in the open air, keep at rest and warm in case of intoxication with decomposition and thermal degradation products. Warm milk with sodium bicarbonate upon reactive airway disease. Putting of a cotton plug wetted in 3% solution of hydrogen peroxide in nasal passage in case of nasal hemorrhage. Seek medical attention [2,6,24].

4.2.2 Skin contact: Rubber is not hazardous in case of skin contact. Do not tear it away from skin in case of hot product contact, cool the product with water and wash skin with plenty of cold water for heat removal. Apply aseptic dressing in case of burns and seek medical advice [2,6,22,24].

4.2.3 Eye contact: Remove the product as debride, carefully wash the eyes with plenty of water with palpebral fissure widely open for not less than 15 minutes. Seek medical

attention [2,6,22,24].

4.2.4 Ingestion:

Place the injured into a ventilated room in case of accidental ingestion; increased water intake, clean ventricle with warm water and sodium bicarbonate (one tablespoon per glass of water), take activated carbon and saline purgative. Seek medical attention [2,6,22,24].

4.2.5 Counterindications:

Information N/A [6].

5 Measures and means of explosion and fire safety ensuring

5.1 General characteristics of explosion and fire hazard (as per GOST 12.1.044-89):

Rubber is not explosion hazardous under operation temperature. Combustible product. Burns only in case if placed into the fire source. Thermal degradation of rubber at the temperature exceeding 300 °C [1,2,6,17].

5.2 Indicators of explosion and fire hazard:
(nomenclature of indices as per GOST 12.1.044-89 and GOST 30852.0-2002)

Flammability group: combustible material of average flammability.

Rubber burning point: (310–340) °C, rubber self-ignition temperature: (345–375) °C.

Smoke-developed index: high smoke generation ability.

Toxicity equivalent of combustion products: highly hazardous material [7,17].

5.3 Combustion products and/or thermal degradation and hazard caused:

Carbon monoxide of irritant and toxicological action forms during products combustion [26,27,32].

Carbon monoxide (carbon monoxide gas) disturbs transportation and transfer of oxygen to tissues, thus oxygen deprivation evolves mostly affecting the nervous and cardiovascular system. Intoxication symptoms: headache, skin angiectasia, amblyopia, faintness, nausea, vomit, loss of consciousness [32].

Carbon dioxide (CO2) in case of fire causes breath acceleration and enhancement of lung ventilation thus promoting greater penetration of toxic substances into the body contained in combustion products; vasorelaxant action. Intoxication symptoms: cardiac acceleration, increase in arterial blood pressure, migraneous headache, headache, faintness, atony, loss of consciousness, fatal result in case of long-term exposure to high concentrations [32].

For CO: WEL (workplace exposure limit) = 20 mg/m^3, $MAC_{ATM.C..C}$=3 mg/m^3 [8,32].

For CO_2: WEL= 27000/9000 mg/m^3 [8].

5.4 Recommended fire extinguishing equipment:

In case of insignificant inflammations: sand, fire blanket, powder or carbon dioxide fire extinguishers. In case of large-scale fire: air and mechanical foam and chemical foam from fixed or mobile foam fire extinguishers, water spray [2,18,24]

5.5 Prohibited fire extinguishing equipment:

Data N/A [2,24].

5.6 Personal protective equipment for fire extinguishing
(PPE of the fire-fighting personnel):

Fire-fighting suit with self-rescue breathing apparatus СПИ-20 [24].

5.7 Specificity of fire extinguishing:	To attach fire at a safe distance. To keep cold the rubber pellets that have not ignited yet by watering them. To enter the fire zone using personal protective equipment [18,24]. Burns and injuries are possible during fire and explosions [24].

6 Measures for prevention and response to accidents and emergencies and their consequences

6.1 Measures for prevention of harmful effect of accidents and emergencies on people, environment, buildings, constructions and etc.

6.1.1 Required general activities in case of accidents and emergencies:	To act in accordance with accident response plan. To stop all works not connected with accident response [2,24]. To isolate the hazardous zone within not less than 50 m radius. To adjust the indicated distance as per the results of chemical reconnaissance. To remove the unauthorized persons. To wear protective equipment when entering the hazardous zone. To keep to upwind position. To avoid depressions. To observe fire protection measures. Not to smoke. To remove the fire and sparks sources. To render first-aid treatment to the injured. To remove people from affected area for medical examination [24].
6.1.2 Personal protective equipment in case of accidents: (PPE of emergency response teams)	For emergency response teams – field-protective suit Л-1 or Л-2 with industrial gas mask with cartridges A, B. Workwear. Oil-and-gasoline resistant gloves, special shoes [2,6,21,24].

6.2 Procedures for accidents and emergencies response

6.2.1 Actions in case of leakage, spillage and scattering: (incl. measures for their liquidation and precaution measures ensuring environmental protection)	To collect the scattered product and place into containers or piles. To fasten the cargo, if necessary, and remove to be used for intended purpose or for disposal [2].
6.2.2 Actions in case of fire:	To call emergency response units (gas rescue, fire, medical), remove the unauthorized persons and isolate the hazardous zone. To remove the non-igniting rubber from the fire zone. To start fire extinguishing using emergency firefighting equipment before arrival of fire-fighting unit (foam, powder and carbon dioxide fire extinguishers and etc.). To measure MAC by thermal degradation products after fire liquidation [24]. To use atomized water for dispersion (isolation) of fumes and dust. To clean the territory from the burnt product residue. To cut the contaminated surface layer of soil, if necessary, to collect and remove it for disposal observing the fire protection measures. Cut places should be covered with a new soil layer. To remove the burnt rubber unsuitable for processing to a landfill for disposal [24].

7 Rules of chemical products storage and handling during loading/unloading operations

7.1 Safety measures for chemical products handling

7.1.1 Engineering safety measures systems	Availability of supply and exhaust ventilation and local ventilation in the production premises, use of workwear during product handling, observation of safety measures and industrial sanitary by the personnel [2,6,18]. Equipment and utilities should be grounded to protect from static electricity [2,35]. The premises should be equipped with emergency firefighting equipment and automatic firefighting systems for premise fire protection [2,18].
7.1.2 Environmental protection measures:	Manufacturing equipment and utilities pressurization. Nonadmission of product discharge into water bodies, sewerage and soil; sewage sanitation; air monitoring (see section 12 PB).
7.1.3 Recommendations for safe transportation and transit:	Rubber can be transported by all means of transport in covered vehicles in accordance with cargo transportation regulations applicable for a certain mean of transport (see section 14 PB) under the ambient temperature not exceeding plus 50 °C [1]. Rubber is placed and fixed in railway cars in accordance with the technical conditions of cargo loading and fixing and GOST 22235-2010. Joint transportation with other chemical substances is not allowed [1,2].
7.2 Rules of chemical products storage:	
7.2.1 Terms and conditions of safe storage: (incl. guaranteed storage life and shelf life; substances and materials incompatible for storage)	Rubber should be stored under the temperature not exceeding plus 40 °C in storage rooms. Rubber should be protected from contamination, direct sunrays and atmospheric precipitations during storage [1]. Rubber should be packed into polyethylene film and put into a container. Rubber packed in polyethylene film and a container is stored in piles consisting of not more than three pallets heightwise. Rubber packed in a metal container is stored in piles consisting of not more than four pallets heightwise. [1]. Rubber guaranteed storage life is 1 years from manufacturing date [1].
7.2.2 Packaging and package: (incl. materials they are made of)	Polyethylene film, general-purpose containers, corrugated containers, plastic and metal containers [1].
7.3 Safety measures and rules of household storage:	Not applied for household purposes [1].

8 Means of control of hazardous exposure and personal protective equipment

8.1 Parameters of working area to be controlled obligatorily (WEL or SRLI of working area):	There is no official WEL for rubber [1,6,8)]. According to residual monomer [1,19]: Styrene - WEL=30/10 mg/m^3
8.2 Measures for ensuring of allowable concentration of harmful substances:	Periodical monitoring of air condition in working premises. Manufacturing equipment and utilities pressurization and grounding, ventilation system arrangement. Laboratory works are performed in enclosures [2].
8.3 Personal protective equipment for the personnel:	

8.3.1 General recommendations:	Work permit for trained personnel with prebriefing. Workers provision with personal protective equipment in accordance with the standard industry sector codes (workwear, special shoes, safety spectacles and goggles, gloves, respiratory protection equipment). To avoid contact with product. To observe personal hygiene rules. Not to eat, drink or smoke during works performance, wash hands before eating with water and soap with due diligence [2]. Water and first-aid kit for first-aid treatment rendering should be available in a production space. The personnel engaged product manufacturing and application should pass preliminary (upon employment) and periodical medical examinations in accordance with applicable legislation [2].
8.3.2 Respiratory protection (types of RPE (respiratory protective equipment)):	RPE is not required under standard conditions. Filtering protective mask brand $A_2B_2E_2K_2П_3$ is used in case of accidents [2,21].
8.3.3 Protective equipment (material and type): (workwear, special shoes, hands and eyes protection)	Workwear and special shoes in accordance with industry sector codes (cotton suit, protective gloves, leather shoes and safety goggles and spectacles) [2,21].
8.3.4 Personal protective equipment for household use:	Not used for household purposes [1].

9 Physical and chemical properties

9.1 State of matter: (physical form, color, odor)	Solid homogeneous flexible mass, color from brown to dark brown. Rubber commodity form – pellet, weight (30 ± 1) kg. Faint odor of organic compounds is possible during rubber processing and heating [2].
9.2 Parameters characterizing the main product properties: (temperature indices, pH, solubility, coefficient n-octanol/water and other parameters specific for such product type)	Density at 20 °C: (0,93 ± 0,02) g/cm^3 [2,6]. Melting point > 200 °C [6,33]. Coefficient n-octanol/water – data N/A pH – not used [1]. Rubber is insoluble in water. Dissolves in aromatic and aliphatic solvents: benzene, toluene, hexane, heptane and gasoline [6].

10 Stability and reactivity data

10.1 Chemical stability: (to indicate decomposition products for unstable products)	The product is stable in case of presence of antioxidant and observation of storage conditions [1,2,6].
10.2 Reactivity:	Oxidizes and hydrogenizes [6].
10.3 Conditions to avoid: (incl. hazardous demonstrations at contact with incompatible substances and materials)	Open flame, long-term exposure to direct sunrays, heating, contact with incompatible substances. Hazardous products of thermal degradation include carbon monoxides. Incompatible with oxidants, acids and alkali [2,6].

11 Toxicity data

11.1 Information concerning particular hazards: (assessment of hazard degree (toxicity) of effect on human body and specific manifestations of hazard)	Low-hazard product by human body exposure severity in terms of acute toxicity indicator [2]. The possibility of acute intoxication with the products in case of inhalation is improbable under normal operation modes in rubber manufacturing and storage conditions [2,6,15].
11.2 Exposure routes: (inhalation, peroral, skin and eyes contact)	By inhalation, upon skin and eyes contact; peroral penetration into the body (accidental swallowing) [2,6].
11.3 Affected organs, tissues and systems of a human:	Rubber combustion products (carbon monoxide) affect the central nervous system, liver and kidneys, irritate ocular mucosa [6,24].
11.4 Information about health hazardous exposure upon immediate contact with the products as well as exposure consequences: (irritant action on upper respiratory airways, eyes and skin; absorption through skin and sensibilizing action)	No sensibilizing action, slightly irritating effect on skin and ocular mucosa [6,7].
11.5 Information on remote hazardous exposure consequences for human body: (influence on reproduction function, carcinogenicity, mutagenicity, cumulativity and other chronic effects)	No teratogenicity, embryotrophic effect, gonadotrophic effect, mutagenic effect and carcinogenicity were studied for rubber [6]. Slight cumulativity of the product [6]. No remote consequences were studied for the product in whole [6].
11.6 Acute toxicity indices: (DL_{50} ($ЛД_{50}$), route of entry (intragastrically, epidermally), animal species; CL_{50} ($ЛК_{50}$), exposure period (h), animal species)	DL_{50} > 5000 mg/kg, intragastrically, rats [6]. CL_{50} (mg/m^3) not reached [6].

12 Information about environmental impact

12.1 General characteristic of environmental impact: (on atmospheric air, water bodies, soils, included observed impact signs)	Rubber is stable under normal conditions. No information on rubber impact on the environment [6]. Soil mechanical pollution with polymer flake is possible upon rubber use. The formed suspended solids caused by polymer flake penetration into water bodies deposit polluting the water bodies. The products of processing, combustion and thermal degradation can pollute atmospheric air [6]. Thick black smoke evolves upon burning of rubber, items on its basis and wastes. Hazardous combustion products include carbon monoxide able to affect the biological objects [6].
12.2 Environmental exposure routes:	Violation of storage, transportation and application rules; land disposal and discharge into the water bodies; uncontrolled waste dumping and disposal; consequences of accidents and emergencies.

12.3 The most important characteristics of environmental impact:

12.3.1 Hygiene standards:
(allowable concentrations in atmospheric air and water incl. fishery water bodies and soils)

Таблица 2 [1,6,9,11-13,30,38]

Components	MAC atm.air or SRLI atm.air, mg/m^3 (LHI[1], hazard class)	MAC water [2] or APL (approximate permissible level) water, mg/l, (LHI, hazard class)	MAC fishery water bodies[3] or SRLI fishery water bodies, mg/l (LHI, hazard class)	MAC or APC (approximate permissible concentration), mg/kg (LHI)
Mineral oil	0,05 (SRLI)	0,3 (org. fl., 4th class)	0,05, fish. (oil and petroleum products, dissolved and emulsified); petroleum products (for seawater bodies) 0,05, tox., 3d class	not established
Antioxidant BC-1		not established	not established	not established
Antioxidant C-789	0,06/0,02 (refl. - res., 3d class) as per N-(1-methylethyl)- N'- phenyl-1,4-phenylenediamine)	not established	not established	not established
Copolymer butadiene-1,3 with styrene	not established			

12.3.2 Environmental toxicity indices:
(CL, EC, NOEC for fish, Magna daphnia, algae and etc.)

Data N/A for rubber [6].

12.3.3 Migration and transformation in the environment at the expense of biodegradation and other processes (oxidation, hydrolysis and etc.):

Rubber transforms in the environment. Biological catabolism: not studied [6].

13 Recommendations for waste removal (residue)

13.1 Safety measures for handling of waste formed during use, storage and transportation:

Combustible substance: to observe fire protection requirements, prevent heating and use PPE (for details see the sections 7 and 8 PB).

13.2 Information about places and methods of product waste neutralization, disposal or removal, including packaging (package):

Waste not used for further processing is subject to collection into containers with further disposal in accordance with established procedure. Wastewater containing admixture of harmful substances is subject to mechanical and physical and biological treatment [28].

Package waste should be collected, transferred for processing or used as secondary raw materials. Polyethylene package waste can be disposed at SHW (solid household waste) landfill [28].

13.3 Recommendations for disposal of waste formed during products household use:

Not used for household purposes [1].

14 Information about transportation

14.1 UN number:
(in accordance with UN recommendations for hazardous cargo transportation)

No [1,16].

14.2 Proper shipping name:

Artificial rubber СКС-30АРКМ-27 / SBR-1723 TDAE (SBR-1712/HI-AR) [1].

14.3 Used means of transport:

Rubber is transported in covered vehicles by any mean of transport in accordance with cargo transportation rules applicable for such mean of transport [1].

[1] LHI – limiting harmful index (tox. - toxicological; s-t (san.tox.) – sanitary toxicological; org. – organoleptic with determination of behavior of organoleptic water properties (odor – changes water odor, susp. – increases water suspended load, tone – gives tone to water, foam – causes foam formation, fl. – forms film on water surface, off-fl. – adds off-flavor to water, opal. – causes opalescence); refl. - reflexive; res. - resorptive; refl.-res. – reflexive resorptive, fish. – fishery (change of commodity properties of fishery aquatic organisms); gen. – general sanitary).
[2] Water of water bodies of drinking and cultural and social water use
[3] Water of fishery-purpose water bodies (including seawater)

14.4 Cargo hazard classification as per GOST 19433-88: - class - subclass - classification code (as per GOST 19433-88 and for rail transportation) - number(s) of drawing(s) of danger symbol(s)	Not classified as per GOST 19433-88, danger symbol is not applied to packaging [1,23,25].
14.5 Cargo hazard classification as per UN Recommendations for hazardous cargo transportation: - class and subclass - additional hazard - UN packing group	Rubber is not classified as hazardous cargo in accordance with the UN Recommendations for hazardous cargo transportation [1,16].
14.6 Transport marking: (handling marks as per GOST 14192-96)	Transport marking is applied to each collo with indication of handling marks “Keep away from heat”, “Protect from moisture”, “Limit of tiers in pile” [1,31].
14.7 Emergency cards: (in case of rail, sea and other transportation)	Not applied [24].

15 Information about domestic and international legislation

15.1 Domestic legislation

15.1.1 Russian Federation laws:	Federal Law of the Russian Federation dated 10.01.2002 No.7-FZ “On Environmental Protection”, Federal Law of the Russian Federation dated 30.03.1999 No.52-FZ “On Sanitary and Epidemiological Welfare of the Population”, Federal Law of the Russian Federation dated 27.12.2002 No.184-FZ “On Technical Regulation”.
15.1.2 Information about documentation regulating human and environmental protection requirements:	Not subject to state registration in accordance with the requirements of the Agreement on sanitary measures of the Customs Union Dated 11.12.2009. [40].
15.2 International conventions and agreements (whether the products are regulated by the Montreal protocol, Stockholm Convention and etc.)	Not covered by international conventions and agreements, not regulated by the Montreal protocol and Stockholm Convention [36,37].

16 Additional information

16.1 Information about SDS revision (reedition): (to indicate: “SDS is first developed” or “SDS is reregistered upon expiration. Previous Safety data sheet registration number (SDSRN) No. ...” or “amendments introduced into the paragraphs..., entry date...”)	Safety data sheet (SDS) was reregistered upon expiration. Previous SDSRN No.00148889.22.29103 dated 28.09.2012.

16.2 List of data sources used for Safety data sheet execution[4]

1. TU 38.303-03-070-2001 as amended No.1-6. Artificial oil-extended styrene-butadiene rubber СКС-30АРКМ-27 and butadiene-methylstyrene rubber СКМС-30АРКМ-27.
2. SK 903. Permanent process regulations for manufacturing of artificial styrene-butadiene (butadiene-methylstyrene) rubber.
3. GOST 30333-2007. Material safety data sheet. General requirements.
4. European database ECHA (website of European Chemicals Agency: http://echa.europa.eu/).
5. GOST 31340-2013. Chemical products warning marking. General requirements.
6. Information card of potentially hazardous chemical and biological material. Ethenylbenzene polymer with buta-1,3-diene. Certificate of registration series No. BT 001343 dated 31.03.1998.
7. Report on the subject: analytical studies of fire hazard of various types of rubber depending on composition and commercial form dated November 15, 2013, issued by LLC “EkoResurs”, Moscow.
8. MAC/SRLI of harmful substances in working area air: Hygienic standards. GN 2.2.5.1313-03/ GN

[4] Order numbers of data sources are given in each SDS paragraph as references

2.2.5.2308-07. – M.: Russian Register of Hazardous Chemical and Biological substances of the Ministry of Health of the Russian Federation, 2003, 2008.

9. MAC/SRLI of contaminants in atmospheric air of conglomerations: Hygienic standards. GN 2.1.6.1338-03/ GN 2.1.6.2309-07. – M.: Russian Register of Hazardous Chemical and Biological substances of the Ministry of Health of the Russian Federation, 2003, 2008.
10. MAC/APL of chemical substances in water of water bodies of drinking and cultural and household water use: Hygienic standards. GN 2.1.5.1315-03/ GN 2.1.5.2307-07. - M: Russian Register of Hazardous Chemical and Biological substances of the Ministry of Health of the Russian Federation, 2003, 2008.
11. TU 0258-047-58604719-2004 as amended 1-9. Extender oil for artificial rubber NORMAN standardized in content of polycyclic aromatic hydrocarbons.
12. GN 2.1.7.2041-06. «Maximum allowable concentrations (MAC) of chemical substances in soil", approved by the Chief State Health Inspector of the Russian Federation on January 19, 2006.
13. Water quality standards of fishery water bodies including the standards of maximum allowable concentrations (MAC) of harmful substances in fishery water bodies' waters. Approved by the Ministry of Agriculture of the Russian Federation (Order dated 13.12.2016 No.552).
14. Harmful substances in industry. Reference book for chemists, engineers and doctors. Three volumes. Volume I. Organic matters. Ed.by the Honored worker of science prof. N. V. Lazarev and Holder of post-doctoral degree in medicine E. N. Levina. L., "Khimiya", 1976.
15. Sobolev V.M., Borodina I.V. Industrial artificial rubber. M., Khimiya, 1977.
16. Recommendations on hazardous cargo transportation. Standard rules. 19th revised edition, UN, New York and Geneva, 2015.
17. Korolchenko A.Ya. Explosion and fire hazard of substances and materials and extinguishing equipment. Reference book in two parts. - M.: Ass. "Pozhnauka", 2004.
18. Fire prevention rules in the Russian Federation (appr. by the Decree of the Government of the Russian Federation dated 25.04.2012 No.390).
19. Information card of potentially hazardous chemical and biological material (PHC&BM) "Phenylethylene". Certificate of registration series BT No.000036 dated 13.04. 1994.
20. Harmful substances in industry. Organic matters. New data from 1974 to 1984: Reference book/Under the general editorship of E. N. Levina and I.D. Gadaskina. - L.: Khimiya, 1985.
21. Personal protective equipment. Handbook . Ed. S.L. Kaminsky. - L.: Khimiya, 1989.
22. Rules of cargo transportation by motor transport. Ed. by the Decree of the government of the Russian Federation dated 30.12.2011 No.1208). – Approved by the Decree of the Government of the Russian Federation on April 15, 2011 No.272.
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