

**MATERIAL SAFETY DATA SHEET**

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**Informational and Analytical Center  
Safety of Substances and Materials  
of FGUP Standartinform  
(Federal Agency for Technical Regulating and Metrology)**

Director of Department  
for Standardisation  
of Materials and Technologies \_\_\_\_\_ /E.I. Vyboichenko/  
company seal

**NAME**

technical (acc. to TU)

**Technical Polyanionic Cellulose**

chemical (acc. to IUPAC)

None

commercial

Technical Polyanionic Cellulose, grades:  
*PAC-LV, PAC-HV*

Synonyms

High-Substituted Sodium Carboxymethyl Cellulose (Na-CMC)

**Russian National  
product classifica-  
tion code**

20.16.59.240

**CN (customs tariff) code**3 9 1 2 3 1 0 0 0 0

**Identification code and name of the regulatory, technical or informational document  
for the material (GOST, TU, OST, STO, (M)SDS)**

TU 20.16.59-011-50277563-2019 Technical Polyanionic Cellulose

**HAZARD CHARACTERISTICS****Signal word** Caution**In brief** (verbal):

Moderately dangerous for the effects on the body products – 3 hazard class according to GOST 12.1.007. Harmful if inhaled. In contact with skin and eyes causes irritation. Combustible substance. May cause long-term adverse effects on aquatic organisms.

**In detail:** in 16 sections of the attached Material Safety Data Sheet

MAIN HAZARDOUS COMPONENTS	Work area TLV, mg/m <sup>3</sup>	Class of hazard	CAS number	EC number
Sodium Carboxymethyl Cellulose	10	3	9004-32-4	618-378-6
Sodium Chloride	5	3	7647-14-5	231-598-3

**APPLICANT**

**JSC Karbokam**  
(company name)

Krasnokamsk, Perm Krai  
(city)

**Type of Applicant**

manufacturer, supplier, seller, exporter, importer  
(delete if not applicable)

**OKHO Code** 5 0 2 7 7 5 6 3**Emergency phone number**

(34273) 7-29-72

**Manager of the Applicant**

  
(signature)

M. V. Panfolov /  
(printed)



**The Material Safety Data Sheet is in compliance with UN Recommendations  
ST/SG/AC. 10/30 GHS**

- IUPAC** – International Union of Pure and Applied Chemistry
- GHS (СГС)** – UN Recommendations ST/SG/AC.10/30 Globally Harmonized System of Classification and Labelling of Chemicals
- ОКПД 2** – Russian National Classification of Products by Economic Activities
- ОКПО** – Russian National Classifier of Enterprises and Organizations
- ТН ВЭД** – Harmonized Commodity Description and Coding System
- CAS No.** – Substance number in the Chemical Abstracts Service Register
- EC No.** – Substance number in the European Chemicals Agency Register
- Workplace TVL (ПДК р.3.)** – workplace threshold limit value, mg/m<sup>3</sup>
- Signal word** – a word used for focusing on chemical substance danger level and used in accordance with GOST 31340-2013





Translation from Russian

## 1 Chemical Product Identification and Information on Manufacturer and/or Supplier

### 1.1. Chemical Product Identification

1.1.1. Technical name	Technical Polyanionic Cellulose /1/.
1.1.2. Recommendations on application, in brief (incl. application restrictions)	Intended for use in oil and gas extraction industries to control fluid loss and rheologic properties of drilling muds / 1 /.

### 1.2. Manufacturer and/or Supplier Information

1.2.1. Full official name	Joint-Stock Company Karbokam
1.2.2. Address (postal and legal)	Postal: 11 Shosseinaya Street, Krasnokamsk, Prem Krai, 617060, Russia Legal: 11 Shosseinaya Street (main building, separate entrance), Krasnokamsk, Prem Krai, 617060, Russia
1.2.3. Telephone, including for emergency guidance, and time limitations	+7 (34273) 7-29-72 (7.00 a.m. to 15.00 a.m. Moscow time, information on hazardous exposures and first aid).
1.2.4. Fax	+7 (34273) 4-64-92
1.2.5. E-mail	info@karbokam.ru

## 2 Hazard(s) Identification

2.1. Chemical product hazard level in general (data on hazard classification in compliance with RF regulations (GOST 12.1.007-76) and GHS (GOST 32419-2013, GOST 32423-2013, GOST 32424-2013, GOST 23425-2013))	Moderately hazardous goods as per GOST 12.1.007 /2/. Classification as per GHS: - chemical products having acute toxicity on human body by inhalation – class 4; - chemical products causing dermhelminthiasis (necrosis)/irritation – class 3; - chemical products causing severe eye damage/irritation – class 2B; - chemical products having chronic toxicity for aquatic environment – class 4 / 24-27/.
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### 2.2. Warning Instructions as per GOST 31340-2013

- 2.2.1 Signal word  
2.2.2 Hazard (signs) symbols

Caution / 3 /.



Exclamation mark /3/.

2.2.3 Hazard statement in brief  
(H-statements)

H-332: hazardous by inhalation;  
H316: causes mild irritation in case of contact with skin;  
H320: causes irritation in case of contact with eyes;  
H413: can cause long-term backlash on aquatic organisms /3,51/.

### 3 Composition (Data on Components)

#### 3.1. General data on the product

3.1.1. Chemical name  
(as per IUPAC)

None for the product as a whole / 1 /.

3.1.2. Chemical formula

None for the product as a whole / 1 /.

3.1.3. General composition characteristic  
(with consideration for brand assortment and production process)

Technical Polyanionic Cellulose with brand names *PAC-LV* and *PAC-HV* is a product based on high-substituted sodium carboxymethyl cellulose, containing chemical impurities. Production process comprises reacting alkali cellulose with monochloroacetic acid or its sodium salt in the system of the organic solvent – ethanol / 1 /.

#### 3.2 Components

(name, CAS and EC numbers, weight content (100% in the whole, workplace TLV, or SRLI, hazard classes, references to the sources)

Table 1 (2, 4, 5, 11)

Components (name)	Weight content, %	Occupational exposure standards		CAS No.	EC No.
		Workplace TLV, mg/m <sup>3</sup>	Class of hazard		
Sodium carboxymethyl cellulose	not less than 60	10 a	3	9004-32-4	618-378-6
Sodium chloride	not more than 27	5 a	3	7647-14-5	231-598-3
Sodium glycolate	not more than 8	not applicable	not classified	2836-32-0	220-624-9
Sodium carbonate +	not more than 0,5	2 a	3	497-19-8	207-838-8
Caustic soda +	not more than 0,5	0,5 a	2	1310-73-2	215-185-5
Water	not more than 10	not applicable	not classified	7732-18-5	231-791-2

Note:

The substances are present in the end product in concentrations specified in the table.

a – principal state of aggregation of the matter in the production working area is aerosol;

+ – safety protection of eyes and skin is necessary.

### 4 First Aid Measures



#### 4.1. Symptoms observed

- 4.1.1. Inhalation (when drawn through breathing) Itchy throat, huskiness / 1, 5, 11, 13 /.
- 4.1.2. Contact with skin Redness, itching / 1, 5, 6, 11, 13 /.
- 4.1.3. Contact with eyes Redness, lacrimation / 1, 5, 6, 7, 11, 13 /.
- 4.1.4. Ingestion (when drawn through swallowing) Abdominal pains, nausea / 1, 5, 6, 7, 11, 13 /.

#### 4.2. First aid measures

- 4.2.1. Inhaled poisoning Flush nasal and oral cavity with water, take to fresh air, keep at rest. If condition is deteriorating, get medical aid / 1, 5, 11, 29-31 /.
- 4.2.2. Contact with skin Wash with soap and water / 1, 5, 11, 29-31 /.
- 4.2.3. Contact with eyes Rinse with plenty of flowing water. If irritation remains, get medical aid / 1, 5, 11, 29-31 /.
- 4.2.4. Oral poisoning Drink plenty of warm water or milk, take to fresh air, keep at rest, get medical aid / 1, 5, 11, 29-31 /.
- 4.2.5. Counter indications No data / 1, 5, 11, 29-31 /.

### 5 Fire-Fighting Measures

- 5.1. General information on fire and explosion hazards (as per GOST 12.1.044-2018) Flammable (combustible) substance. Explosive dust / 1, 9 /.
- 5.2. Fire and explosion hazards (tested parameters as per GOST 12.1.044-2018 and GOST 30852.0-2002)
- Selfignition temperature:  
aerogel 260 °C  
airborn dust 350 °C / 1 /.
- Lower concentration flame spread 60 g/m<sup>3</sup> / 8 /.  
Maximum explosion pressure 880 kPa / 1 /.  
Maximum speed of pressure rise 30 MPa/s / 1 /.  
Minimal energy of ignition 140 mJ / 1 /.  
Maximum explosive oxygen concentration 16 w/w% / 1 /.
- 5.3. Products of combustion and/or thermal decomposition and hazards brought about by them
- Carbon monoxide* (sweet damp)  
causes failure of oxygen delivery to the body tissues. Slow combustion and lack of oxygen facilitate its release. Concentration of 0.2 to 1 % vol. results in death of a man within 3 to 60 minutes / 8 /.
- Carbon dioxide* (choke damp)  
causes accelerated breathing and rise of pulmonary

