CHEMICAL PRODUCT SAFETY DATA SHEET

Registered in the Safety Data Sheets Registry
SDSR No.: 13857618.20.59050
Valid from October 17th, 2019 to October 17th, 2024
"Non-commercial partnership "Coordination and Information Center of the CIS Member States for the Approximation of Regulatory Practices""
Deputy director N.M. Muratova

NAME	
technical (RD)	Polymer material "Cometa-Meteor"
chemical (IUPAC)	Polymer(Z)-but-2-enedioic acid with prop-2-enoic and 2-methylprop-2-enoic acids.
trade	Polymer material "Cometa-Meteor" (trademarks: "Cometa-Meteor" - MC; "Cometa-Meteor" - SMC; "Cometa-Meteor" - 013; "Cometa-Meteor" - 013M; "Cometa-Meteor" - 017; "Cometa-Meteor" - PVR17; "Cometa-Meteor" - 019; "Cometa-Meteor" – LK17; "Cometa-Meteor" - 021; "Cometa-Meteor" - VN11; "Cometa-Meteor" - VN17; "Cometa-Meteor" – VND13; "Cometa-Meteor" - Acremon-Emulsol; "Cometa-Meteor" - DP17)
synonyms	none

OKPD 2 Code 20.16.53.000 FEACN CU Code 3906909007

Symbol and name of the regulatory, technical, or information document for the product (GOST, TS, OST, STO, (M)SDS)
Polymer material "Cometa-Meteor"
TS 20.16.53-004-13802623-2018

HAZARD CHARACTERISTICS

Signal word:	none
Brief (verbal):	A low-hazard substance in terms of the health impact according to GOST 12.1.007. Non-flammable. Capable of polluting environmental objects.
Detailed:	see the 16 sections of the Safety Data Sheet attached

Primary hazardous components	MPC w.z., mg/m^3	Hazard class	CAS No.	EC No.
Polymers and copolymers based on acrylate and methacrylate monomers	10	4	67785-62-0	none

APPLICANT "ORGPOLYMERSYNTHESE St.Pb." Limited (organization name) Saint Petersburg (city)

Applicant type manufacturer, supplier, seller, ~~exporter~~
(strike out the inapplicable ones)

OKPO Code 13857618 Emergency phone number (812) 740-17-54

Head of the applicant organization (signature) A.A. Spiridonov (full name)

stamp

The Safety Data Sheet (SDS) is compliant with the UN Guidelines ST/SG/AC.10/30 GHS

IUPAC	– International Union of Pure and Applied Chemistry
GHS	– UN Guidelines ST/SG/AC.10/30 "Globally Harmonized System of Classification and Labelling of Chemicals"
OKPD 2	– Russian Classification of Products by Economic Activities
OKPO	– All-Russian Classifier of Enterprises and Organizations
FEACN CU	– Foreign Economic Activity Commodity Nomenclature
CAS No.	– registry number of the substance in the Chemical Abstracts Service registry
EU No.	– registry number of the substance in the European Chemicals Agency registry
MPC w.z.	– maximum permissible concentration of a chemical substance in the air of the working zone, mg/m^3
Signal word	– a word used to draw attention to the hazard level of the chemical product chosen in accordance with GOST 31340-2013

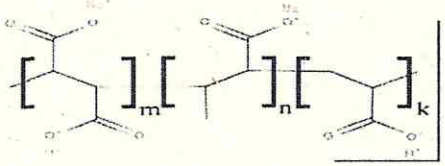
1. Chemical product identification and manufacturer / supplier information

1.1. Chemical product identification	
1.1.1. Technical name	Polymer material "Cometa-Meteor" [1].
1.1.2. Brief usage guidelines (including usage restrictions)	"Cometa-Meteor" is used as a structure modifier, stabilizer, fluid loss reducer; as a component for manufacturing of drilling wash fluids, cement mixtures, fluids for waterflooding of oil reservoirs, solutions for mineral enrichment [1].
1.2. Manufacturer / supplier information	
1.2.1. Full official name of the organization	"ORGPOLYMERSYNTHESE St.Pb." Limited
1.2.2. Address (postal and legal)	196084, Saint Petersburg, Koli Tomchaka street, building 28 letter 3, room 5H
1.2.3. Phone number, including for emergency consultations and time limits	(812) 740-17-54 (09:00-16:00 MSK on working days)
1.2.4. Fax	(812) 740-17-54
1.2.5. E-mail	orgpol@robell.group

2. Hazard identification

2.1. Hazard level of the chemical product as a whole (hazard classification information in accordance with Russian law (GOST 12.1.007-76) and GHS (GOST 32419-2013, GOST 32423-2013, GOST 32424-2013, GOST 32425-2013)	A substance with low hazard of health impact in accordance with GOST 12.1.007, hazard class 4 [2]. Is not classified by GHS [23-26].
2.2. Information on the warning label in accordance with GOST 31340-2013	
2.2.1 Signal word	none [4].
2.2.2. Hazard symbols	none [4].
2.2.3. Brief hazard description (H-phrases)	none [4].

3. Composition (information on components)

3.1. Information on the product as a whole	
3.1.1. Chemical name (IUPAC)	Polymer(Z)-but-2-enedioic acid with prop-2-enoic and 2-methylprop-2-enoic acids [5].
3.1.2. Chemical formula	
3.1.3. General characteristics of the composition	"Cometa-Meteor" is a polymer material based on copolymers of acrylate carboxylic acids and their salts. The following brands of "Cometa-Meteor" are manufactured: "Cometa-Meteor" - MC, "Cometa-Meteor" -

SMC, "Cometa-Meteor" - 013, "Cometa-Meteor" - 013M, "Cometa-Meteor" - 017, "Cometa-Meteor" - PVR17, "Cometa-Meteor" - 019, "Cometa-Meteor" - LK17, "Cometa-Meteor" - 021, "Cometa-Meteor" - VN11, "Cometa-Meteor" - VN17, "Cometa-Meteor" - VND13, "Cometa-Meteor" - Acremon-Emulsol, "Cometa-Meteor" - DP17. Brands differ in their comonomer composition [1].

(including brand assortment and methods of preparation)

3.2. Components
(name, CAS and FEACN CU No., mass fraction (should amount to 100%), MPC w.z. or SRLI w.z., hazard classes, data source references)

Table 1 [1, 5, 6]

Components (name)	Mass fraction, %	Hygienic regulations in the air of the working zone MPC w.z., mg/m^3	Hazard class	CAS No.	EC No.
Polymers and copolymers based on acrylate and methacrylate monomers	10-47	10	4	67785-62-0	none
Water	90-53	not established	none	7732-18-5	231-791-2

4. First aid measures

4.1. Observed symptoms
4.1.1. In case of inhalation poisoning (if inhaled) — Inhalation impact is unlikely [7].
4.1.2. In case of skin contact — Can cause weak irritation in case of one-time contact [7].
4.1.3. In case of eye contact — Can cause weak irritation in case of one-time contact [7].
4.1.4. In case of oral poisoning (if swallowed) — Mildly toxic [7].

4.2. First aid measures for victims
4.2.1. In case of inhalation poisoning — Fresh air, rest, warm environment.
4.2.2. In case of skin contact — Running water and soap rinsing [5].
4.2.3. In case of eye contact — Running water rinsing [5].
4.2.4. In case of peroral poisoning — Running water rinsing, activated charcoal, salt laxative [5].
4.2.5. Contraindications — None.

5. Measures and means of ensuring fire and explosion safety

5.1. General characteristic of fire and explosion hazard — Non-flammable liquid, thermostable at temperatures up to 160°C. At the flame epicenter, a water boil-off can happen, followed by thermal decomposition of the product [1, 8, 9, 10].

(in accordance with GOST 12.1.044-2018)
5.2. Fire and explosion hazard indicators (characteristics nomenclature according to GOST 12.1.044-2018 and GOST 30852.0-2002) — Temperature of autoignition = 540 ± 20°C [5].
Flash point temperature: not available.
Flammability limit: not available.

5.3. Combustion / thermal decomposition products and the hazard they cause

At the flame epicenter, the product can undergo thermal decomposition forming carbon oxides [8].

5.4. Recommended fire extinguishing media

At the flame epicenter, it is recommended to use any fire extinguishing media directed at the main source of ignition. It is preferred to use water spray with surfactants [11].

5.5. Prohibited fire extinguishing media

None [11].

5.6. Personal protective equipment for fire extinguishing (firefighter PPE)

Firefighter gear (jacket and trousers with removable thermally insulated pads) including firefighter lifebelt, mittens and gloves, firefighter helmet, protective footwear [12].

5.7. Extinguishing specifics

At the flame epicenter, the packaging can initially be involved in the combustion process [12].

6. Measures for preventing and eliminating accidents and emergency situations and their consequences

6.1. Measures for preventing harmful impact on people, environment, buildings, structures, etc. during accidents and emergency situations

6.1.1. Required general actions during accidents and emergency situations

Halt all work in affected areas. Isolate the hazardous area within a radius of at least 50m. Adjust the distance based on the results of a chemical reconnaissance. Remove all unauthorized personnel from the site. Do not smoke. Only enter the hazardous area wearing protective gear. Provide first aid to the victims.

6.1.2. Personal protective equipment during accidents (emergency crew PPE)

Fire resistant suit with a self-rescue device SPI-20.

6.2. Procedure for eliminating accidents and emergency situations

6.2.1. Actions during leaks, spills, dispersal (including measures for their elimination and safety measures providing environmental protection)

Fix the leak. If possible, dike or contain it with an inert material. Take measures for collecting the spilled product. Prevent it from getting into bodies of water [13].

6.2.2. Actions in case of fire

Extinguish with sand, fire blankets, mechanical foam, foam or carbon dioxide fire extinguishers OU-2, OU-5, OP-10, OVP-100, OVPU-250, foam makers, etc.

7. Rules of storage of the chemical product and its handling during loading and unloading operations

7.1. Safety measures during handling of the chemical product

7.1.1. Systems of engineering safety measures

Supply and exhaust or natural ventilation of working zones, packaging impermeability.
Manufacturing areas should be equipped with technical means of monitoring hazardous substance concentration in the air of the working zone.

7.1.2. Measures for environmental protection	Prevent spillage during packaging and transportation, terrain, body of water, or sewer dumping [13].
7.1.3. Guidelines for safe shipping and transportation	Transportation can be done by covered railway wagons, auto transport, air transport, water transport following the rules of cargo transportation of the transport type. Packaging is done using flat trays and means of fastening [1].
7.2. Storage rules of the chemical product	
7.2.1. Conditions and terms of safe storage (including warranty storage duration, shelf life; incompatible substances and materials during storage)	The product is stored in the manufacturer or the customer closed warehouses in containers at a temperature not exceeding 50°C. Shelf life of "Cometa-Meteor" — 12 months from the date of manufacturing. Warranty storage duration after the package is opened — one week. Incompatible with oxidizers, acids, alkali [1, 5].
7.2.2. Containers and packaging (including materials they are made of)	Plastic barrels, canisters, plastic containers [1].
7.3. Safety measures and rules of everyday life storage	Not used in everyday life [1].

8. Measures of hazardous impact control and personal protection equipment

8.1. Parameters of the working zone subject to mandatory control (MPC w.z. or SRLI w.z.)	During manufacturing and application, the air of the working zone should be monitored for methacrylic acid: MPC w.z. = 10 mg/m^3 [5,6].
8.2. Measures for keeping the concentration of hazardous substances within permissible concentrations	Supply and exhaust and local ventilation, as well as providing the possibility for natural ventilation of rooms. Equipment and packaging impermeability. Periodic monitoring of concentration of hazardous substances in the air of the working zone. Timely cleaning of rooms. Laboratory works should only be done only in a fume hood with working ventilation.
8.3. Personnel personal protection equipment	
8.3.1. General guidelines	Avoid direct contact with the product. Follow the rules of personal hygiene. Individuals allowed to work with "Cometa-Meteor" must be at least 18 years old, pass a medical examination in accordance with current orders of the Ministry of Health of Russian Federation, and have clearance for work issued in due course [1].
8.3.2. Respiratory protection (types of PPE)	No special protection is required [1].
8.3.3. Protection equipment (material, type) (overalls, footwear, hand protection, eye protection)	Protective cotton suit, apron, gloves [1].

8.3.4. Personal protection equipment during everyday life usage — Not used in everyday life [1].

9. Physiochemical properties

9.1. Physical characteristic (state of matter, color, smell) — Viscous transparent or slightly opalescent mildly colored liquid [1].

9.2. Parameters characterizing the primary properties of the product (temperature indicators, pH, solubility, n-octanol/water coefficient and other parameters, characteristic for the product type) — Percent by weight of the primary component, %, in the 12-55% range; pH 1.0% solution, in the range of 5-11; viscosity, cP, up to 3000 [1].

10. Stability and reactivity

10.1. Chemical stability (indicate products of decomposition for unstable substances) — Stable with proper storage conditions and usage [1].

10.2. Reactivity — Can get oxidized; react with acids and alkali [1, 5].

10.3. Conditions that should be avoided (including hazardous manifestations when in contact with incompatible substances and materials) — At the flame epicenter, the material can undergo thermal degradation forming toxic carbon oxides [5].

11. Information on toxicity

11.1. General characteristics of impact (hazard (toxicity) level assessment of health impact and the most common manifestations of the hazard) — Non-toxic substance; low hazard substance by its health impact, classified as hazard class 4 based on its acute toxicity parameters upon intragastric administration [7].

11.2. Ways of impact (inhalation, peroral, eye and skin contact) — Peroral, skin and eye contact [7].

11.3. Affected human organs, tissues, and systems — CNS, liver, kidneys, morphological composition of peripheral blood [5, 7].

11.4. Information on health impacts during direct contact with the product, as well as consequences of those impacts (upper respiratory airways, eye, skin irritation; skin-resorptive and sensitizing impact) — The product has a weak sensitizing impact on skin and conjunctiva, does not have skin-resorptive and sensitizing impact and does not cause irritation of upper respiratory airways [5, 7].

11.5. Information on long-term consequences of exposure to the product (reproductive function impact, carcinogenic potency, mutagenicity, cumulativeness and other chronic impacts) — During animal trials, a weak ability of the "Cometa-Meteor" product to accumulate has been discovered. No data exists on long-term hazardous consequences [14].

11.6. Acute toxicity indicators (DL_{50}, way of administration (intragastric, epidermic), animal species; CL_{50}, time of exposure (h), animal species) — $DL_{50} > 5000$ (mg/kg) — peroral, white mice [14].

12. Information on environmental impact

12.1. General characteristic of impact on environmental objects

Can pollute atmospheric air and bodies of water due to storage and transportation rules violations, disorganized waste disposal, dumping into water bodies, during accidents and emergency situations.
Products of thermal degradation can pollute the atmospheric air.

(atmospheric air, bodies of water, soil, including observable signs of impact)

12.2. Ways of environmental impact — Atmospheric air and water bodies.

12.3. The most important characteristics of environmental impact

12.3.1. Hygienic regulations

(permissible concentrations in atmospheric air, water, including fishery ponds, soil)

Are not established for the product as a whole.

For polymers and copolymers based on acrylic and methacrylic acids and their derivatives:

SRLI atm.a.=0.1 mg/m^3 [6].

For methacrylic acid:

SRLI atm.a.=0.1 mg/m^3, res., hazard class 3 [15].

MPC water=1 mg/l, san.-tox., hazard class 3 [16].

12.3.2. Ecotoxicity indicators

Acute toxicity for fish:
guppy fry trials:
ED16 = 720 mg/l, ED50 = 803 mg/l,
ED84 = 895 mg/l (in terms of dry matter) [17].
Acute toxicity for daphnia magna:
CL50 = 1000 mg/l (in terms of dry matter) [17].
Toxicity parameters with prolonged exposure of seaweed (20 days):
ED16 = 743 mg/l, ED50 = 1883 mg/l,
ED84 = 4773 mg/l (in terms of dry matter) [17].

(CL, EC, NOEC, etc. for fish (96 h.), daphnia (48 h.), seaweed (72 or 96 h.), etc.)

12.3.3. Migration and transformation in the environment due to biodegradation and other processes (oxidation, hydrolysis, etc.)

Dissolves in water, penetrates soil. Transformation data for the product as a whole is not available.
Methacrylic acid is capable of transformation in the environment [5].

13. Guidelines on waste (leftovers) disposal

13.1. Safety measures when handling waste generated during application, storage, transportation

Waste is generated during emergency spillage of the product, container, and equipment cleaning. Prevent waste from getting on unprotected skin areas, into water and soil. Safety measures when working with waste are analogous to those recommended for the primary product (see section 7 and 8 of the SDS)

13.2. Information on places and methods of neutralization, disposal or elimination of the product waste including containers (packaging)

Product waste is collected and flushed in a sewer in a highly dissolved state (at least 50x). After cleaning the accident site and container processing, the wash water is flushed in a sewer as a 5x aqueous solution. Containers unsuitable for use are washed with water and sent for disposal as industrial

	waste. Serviceable containers are reused. All actions must be performed in accordance with Sanitary and Epidemiological Rules 2.1.7.1322 [1, 28]. Product with expired shelf life that partially lost its properties can be used as intended in increased concentrations after trials are conducted. Deteriorated chemical product should be eliminated as waste [1, 28].
13.3. Recommendations on disposal of waste generated by everyday life use	Not used in everyday life.

14. Information on shipping (transportation)

14.1. UN Number (UN)	None [18]. "Cometa-Meteor" is an aqueous solution of polymer and is not classified as dangerous goods.
(in accordance with UN Guidelines on the Transport of Dangerous Goods)	
14.2. Proper shipping and transport name	Polymer material "Cometa-Meteor" (followed by brand) [1].
14.3. Used means of transport	Auto transport, railroad transport, air transport, water transport [1].
14.4. Cargo hazard classification in accordance with GOST 19433-88:	
- class	"Cometa-Meteor" is not classified as dangerous goods by GOST 19433 [1, 19].
- subclass	None
- classification code	None
(in accordance with GOST 19433-88 and for rail transportation)	
- hazard sign(s) drawings(s) number(s)	None
14.5. Cargo hazard classification in accordance with UN Guidelines on the Transport of Dangerous Goods:	Is not classified as dangerous goods [19].
- class or subclass	
- additional danger	
- UN packaging group	
14.6. Marking symbols	The symbol is not applied. Transportation markings, manipulation signs ("sealed packaging", "keep away from direct sunlight"), and informational inscriptions can be applied [1, 27].
(manipulation signs in accordance with GOST 14192-96)	
14.7. Emergency cards (for rail, sea, and other transportation)	Not issued [20, 21, 22].

15. Information on national and international legislations

15.1. National legislation	
15.1.1. Russian Federation laws	Federal Law "On Technical Regulation".

Federal Law "On the basics of labor protection in the Russian Federation".
Federal Law "On the sanitary and epidemiological welfare of the population".
Federal Law "On Environmental Protection".
Federal Law "On Production and Consumption Waste".

15.1.2. Information on documentation governing the requirements for man and environment protection

15.2 International conventions and agreements (whether the product is regulated by the Montreal protocol, Stockholm convention, etc.) Not regulated [29, 30].

16. Additional information

16.1. Information on revising (reprinting) of the SDS

The SDS is revised due to the TS re-issue.
(Previous SDS No. 13857618.24.27196).

(state: "The SDS is developed for the first time" or "The SDS is re-registered upon expiration. Previous SDS No. …" or "The paragraphs … have been revised, revision date …")

16.2. List of data sources used during the compilation of the Safety Data Sheet[1]

1. Polymer material "Cometa-Meteor". Technical specification. TS 20.16.53-004-13802623-2018 (superseding TS 2492-001-46270704-2001)
2. Toxicity and hazard report on "Cometa-Meteor" (MANEB) dated March 26th, 2003.
3. GOST 12.1.007-76. "Occupational safety standards system. Noxious substances. Classification and general safety requirements".
4. GOST 31340-2013 "Labelling of chemicals. General requirements".
5. Information card of a potentially hazardous chemical and biological substance. Polymer(Z)-but-2-enedioic acid with prop-2-enoic and 2-methylprop-2-enoic acids (BT № 003072 dated November 27th, 2008).
6. MPC / SRLI of hazardous substances in the air of the working zone. GN 2.2.5.3532-18/2.2.5.2308-07. Hygiene regulations.
7. Toxicity and hazard report on "Cometa-Meteor" (FGUP GPI) dated March, 3rd 2003.
8. Fire and explosion hazard indicator assessment report on the water solution (18%) of a methacrylic acid sodium salt (M=20000) (RRC Applied Chemistry dated January 31st, 1994)
9. GOST 12.1.044-2018 "Occupational safety standards system. Fire and explosion hazard of substances and materials. Nomenclature of indicators and methods of their determination".
10. GOST 30852.0-2002 "Explosion-proof electrical equipment. Part 0. General requirements".
11. A.Ya. Korolchenko, D.A. Korolchenko, Fire and explosion hazard of substances and materials and means of their extinguishing. Handbook, Moscow: Ace. "Pozhnauka", 2004.

[1] Ordinal numbers of data sources are provided in each paragraph of the SDS as in-text citations

12. Government decree of the Russian Federation dated March 10, 2009 No. 304-r (rev. June 11, 2015) "On approval of the list of national standards containing the rules and methods of research (tests) and measurements, including sampling rules necessary for the application and implementation of the Federal Law "Technical Regulations on the requirements of the fire safety" and conformity assessment".
13. Excerpt from the technological regulations on the manufacturing of "Cometa-Meteor". TR 20.16.53-004-13802623-2018.
14. Toxicological studies report dated March 26th, 2003 (RSRI of TO n.a. R.R. Vreden).
15. MPC / SRLI of pollutant substances in atmospheric air of populated areas. GN 2.1.6.3492-17/2.1.6.2309-07. Hygiene regulations.
16. MPC / SRLI of chemical substances in the water of water bodies of household, drinking, and cultural and domestic water use. GN 2.1.5.1315-03/2.1.5.2307-07.
17. European Chemical Agency portal: https://echa.europa.eu.
18. UN guidelines for the transport of dangerous goods. "The Orange Book".
19. GOST 19433-88 "Dangerous Goods. Classification and Marking".
20. Rules for the transport of dangerous goods by road. St. Petersburg: Ministry of Transport of the Russian Federation, 2002.
21. Rules for the transport of dangerous goods. Appendices 1 and 2 to the SMGS. M.: MCR RF, 1998.
22. Safety rules and procedures for dealing with emergency situations with dangerous goods in transit by rail. Ministry of Emergency Situations of the Russian Federation, Russia, M., 1997.
23. GOST 32419-2013. "Classification of chemicals. General requirements".
24. GOST 32423-2013. "Mixtures classification of hazard for health".
25. GOST 32424-2013 "Classification of chemicals for environmental hazards. General principles".
26. GOST 32425-2013 "Chemical mixtures classification of hazard for environment".
27. GOST 14192-96 "Marking of cargoes".
28. SanPiN 2.1.7.1322-03 "Hygienic requirements for the disposal and neutralization of production and consumption wastes".
29. Montreal Protocol on Substances that Deplete the Ozone Layer.
30. Stockholm Convention on Persistent Organic Pollutants.