

# SAFETY DATA SHEET

**Registered**

**Safety Data Sheet registration No.** \_\_\_\_\_

date: \_\_\_\_\_ 20\_\_

Expiry date \_\_\_\_\_ 20\_\_

Rosstandart  
(Federal Agency on Technical Regulating and Metrology)

**Information Analysis Center**

**“Substances and Materials Safety”**

Federal State Unitary Enterprise «All-Russian Research Institute for Standardization of Materials and Technologies»

Head \_\_\_\_\_ /A.A. Toporkov/

**NAME**

technical (acc.to ND (regulatory documents))

**GUMI-20M**

chemical (acc.to IUPAC)

Does not have

brand

**GUMI -20M**

synonyms

Does not have

**OKP code:**

(National Product Classification Code)

2 4 3 1 5 3

**TN VED code:**

(Foreign Economic Activity Commodity Nomenclature)

3 1 0 1 0 0 0 0 0 0

**Identification code and name of main regulatory, technical or information document for product (GOST (All-Union state standard), TU (Technical specifications), OST (All-Union standard), STO (Industry standard), (M)SDS etc.)**

TU 2431-005-20672718-2013 «GUMI»

**HAZARD STATEMENT**

**Signal word:** **Does not have**

**Brief (word):** This product is marginally hazardous according to its health effect. Fire-flame-proof substance. It may be dangerous for environment, especially for water bodies.

**Detailed:** in 16 applied paragraphs of safety data sheet.

BASIC HAZARDOUS COMPONENTS	Work area TLV (threshold limit value), mg/m <sup>3</sup>	Class of hazard	CAS No.	EC No.
Sodium humate	Not stated	no	68131-04-4	268-608-0
Boric acid	10	3	10043-35-3	233-139-2

**APPLICANT:** «Scientific and Innovation Enterprise «BashIncom» LLC, Ufa  
(company name) (city)

**Applicant type:** manufacturer, provider, seller, exporter, importer  
(delete if inappropriate)

**OKPO code:** 2 0 6 7 2 7 1 8 **Emergency Telephone Number:** (347) 291-10-20

(Russian National Classifier of Businesses and Organizations)

**Head of applying company:** \_\_\_\_\_  
(signature)  
L.S.

\_\_\_\_\_  
/V.I. Kuznetsov/  
printed name

**Safety Data Sheet complies with the UN recommendations ST/SG/AC.10/30 «SGS (GHS)»**

- IUPAC** – International Union of Pure and Applied Chemistry
- GHS (SGS)** – UN recommendations ST/SG/AC.10/30 «Globally Harmonized System of Classification and Labelling of Chemicals (SGS)»
- OKP** – National Product Classification
- OKPO** – Russian National Classifier of Businesses and Organizations
- TNVED** – Foreign Economic Activity Commodity Nomenclature
- No. CAS** – number of substance in the register of Chemical Abstracts Service
- No. EC** – number of substance in the register of European Chemicals Agency
- Work area TLV** – Maximum permissible concentration of chemical substance in workplace air, mg/m<sup>3</sup> (short-term exposure limit/shift-average)
- Safety Data Sheet** – Russian translation – паспорт безопасности химической продукции (вещество, смесь, материал, отходы промышленного производства)
- Signal word** – a word, used for focusing at hazard rate of chemical products and determined according to GOST 31340-2013

## 1 Identification of chemical products and information about manufacturer and/or supplier

### 1.1 Identification of chemical products

1.1.1 Technical name

GUMI-20M

1.1.2 Brief recommendations for use  
(incl. application restriction)

Applied as fertilizer on the bases of humic acids for presowing (preplanting) seeds (planting material) treatment, for bulk application, when dropping, planting and for fertilization of different agricultural crops and decorative plantations, grown in the open and protected grounds on all soil types.

Treatment of seeds, planting material, plants is made with the working solution of the agent by soaking, watering and spraying.

It is not recommended to make foliar fertilizing in dry sunny weather.

This agrochemical is possible to apply both separately and in tank mixtures with pesticides and also with unicomponent and complex mineral macro and micro fertilizers. When joint application with other pesticides and agrochemicals it is recommended to make compatibility tests. [1,29,32].

### 1.2 Information about manufacturer and/or supplier

1.2.1 Full legal organization name

Limited Liability Company «Scientific and Innovation Enterprise «BashIncom» («NVP BashInkom» Ltd.)

1.2.2 Address  
(postal and legal)

Russia, the Republic of Bashkortostan, 450015, Ufa, 37 Karl Marx str.

1.2.3 Telephone, incl. urgent advising and time restrictions

(347) 291-10-17, 291-10-20 (from 11<sup>00</sup> till 20<sup>00</sup> MSK)

1.2.4 Fax

(347) 291-10-17, 291-10-20

1.2.5 E-mail

bashinkom@mail.ru, techotdel\_bnk@mail.ru

## 2 Hazard (hazards) Identification

### 2.1 Hazard level of chemical products as a whole

(information about hazard classification according to the RF Law (GOST 12.1.007-76) and GHS (GOST 32419-2013, GOST 32423-2013, GOST 32424-2013, GOST 32425-2013)

The 4 class of hazard (marginally hazardous substance) according to health effects. [29,30].

### 2.2 Information about safety marking according to GOST 31340-2013

2.2.1 Signal word

Not present

2.2.2 Danger symbols

Not present

2.2.3 Hazard statement (N-phrases)

No

## 3 Composition (information about components)

### 3.1 Information about products as a whole

3.1.1 Chemical name  
(acc.to IUPAC)

No, mixture of specific formulation [1].

3.1.2 Chemical formula

No, mixture of specific formulation [1].

3.1.3 General characteristics of composition

Agrochemical «Gumi» (brands «Gumi-20M») is made by

page 4 of 13	Safety Data Sheet registration number 20672718.24.41205 Expiry date 02.03.2021	GUMI-20 (GUMI-20M) TU 2431-005-20672718-2013
-----------------	--	---

tion  
(taking into account brand assortment; production  
process)

way of exhaustive neutralization of humic acids of lignite  
coal by aqueous solution of sodium hydroxide and consti-  
tutes soluble powder of sodium humate. Brand «Gumi-  
20M» is distinguished by the presence of boron in its com-  
position [1].

### 3.2 Components

(name, CAS and EC numbers, weight percent (in summation it should be 100%), Work areas TLV or SRLI, classes of hazard, citations)

Table 1 [9,35]

Components (name)	Weight percent, %	Occupational exposure standard		CAS No.	EC No.
		Work area TLV, mg/m <sup>3</sup>	Class of haz- ard		
Sodium salts of humic acids (sodium humate)	2,3	Not stated	4	68131-04-4	268-608-0
Boric acid	0,15	10	3	10043-35-3	233-139-2
Water	the rest is water (up to 100 %)	Not required	no	7732-18-5	231-791-2

## 4 First aid measures

### 4.1 Symptoms

- |                                  |                                      |
|----------------------------------|--------------------------------------|
| 4.1.1 Inhalation (by inhalation) | inhalation is impossible [29].       |
| 4.1.2 Skin contact               | has no irritant effect [29].         |
| 4.1.3 Eye contact                | has no irritant effect [29].         |
| 4.1.4 Ingestion (if swallowed)   | causes no acute toxic exposure [29]. |

### 4.2 First aid measures for persons aggrieved

- |                         |   |
|-------------------------|---|
| 4.2.1 Inhalation        | Inhalation is impossible [1,29].  |
| 4.2.2 Skin contact      | Rinse the place of contact with plenty of water [29].   |
| 4.2.3 Eye contact       | Rinse eyes with plenty of water. In case of necessity visit Ophthalmological department [29].               |
| 4.2.4 Ingestion         | Increased fluid intake, take activated carbon, saline purge. In case of necessity seek medical advice [29]. |
| 4.2.5 Contraindications | No information.   |

## 5 Fire-fighting measures

- |   |  |
|---|--|
| 5.1 General characteristics of fire and explosion hazard<br>(acc.to GOST 12.1.044-89)                       | Fire resistant substance. [1].   |
| 5.2 Fire/explosion hazards<br>(nomenclature of indexes according to GOST 12.1.044-89 and GOST 30852.0-2002) | No.  |
| 5.3 Combustion products and/or thermal destruction and hazard caused by them                                | In emergencies if external ignition occurs, carbonous oxide may be evolved.<br><br>Under CO intoxication, the following symptoms may occur: headache, temples throbbing, faintness, short cough, chest pain, nausea, vomiting, excitement with visual and auditory hallucinations, skin redness, heartbeats. |

- |  |   |
|--|---|
| 5.4 Suitable extinguishing media   | Using extinguishing media fir the main ignition source (see paragraph 5). |
| 5.5 Unsuitable extinguishing media   | No.   |
| 5.6 Personal protective equipment when fire extinguishing<br>(Personal protective equipment for fire-fighters) | Fire-protection suit completed with self-rescue device SPI-20 [2].        |
| 5.7 Special fire fighting procedures.  | No.   |

## 6 Accidental release measures

### 6.1 Precautions against adverse effect on people, environment, buildings, constructions etc., under accidental and emergency situations

- |   |  |
|---|--|
| 6.1.1 Necessary actions of general character under accidental and emergency situations                                | Evacuate bystanders. Prevent releasing of the agent to the water bodies and canalization [1].  |
| 6.1.2 Personal protection devices in emergency situations<br>(Personal protection devices of emergency service crews) | Water-resistant aprons, coveralls with special imbibition or coatings, rubber or leather footwear, respirators, rubber industrial gloves, protective glasses. [1]. |

### 6.2 Procedures under the liquidation of accidental and emergency situations

- |   |  |
|---|--|
| 6.2.1 Procedures under leakage, spillage, scatter<br>(including release and safety measures for environment protection) | Scattered agent must be gathered into separate containers and used according to its intended purpose, or utilize by underground disposal in areas specially designed for the purpose, or place at domestic and industrial waste dumping ground. Place of agrochemical's scattering is washed by water. [34]. |
| 6.2.2 Fire-fighting procedures  | Does not impose additional conditions on fire fighting. [1].   |

## 7 Rules of handling and storage of chemical products

### 7.1 Safety precautions to be taken during the performance of chemical products

- |                                       |   |
|---------------------------------------|---|
| 7.1.1 Systems of engineering measures | <p>Providing of workplaces with extract – input and local ventilation. Equipment and communications pressurization. Controlled wastes collection and disposal. Using of personal protection devices. [1,22].</p> <p>Compliance with the requirements of occupational health and safety. Compliance with the general requirements of fire safety. Providing of workplaces with primary firefighting means.</p> <p>Handling should be performed by mechanical means using handling equipment and labor-saving devices excluding workplace air pollution [12,22,25].</p> |
|---------------------------------------|---|

page 6 of 13	Safety Data Sheet registration number 20672718.24.41205 Expiry date 02.03.2021	GUMI-20 (GUMI-20M) TU 2431-005-20672718-2013
-----------------	--	---

### 7.1.2 Environmental protection

Prevent unregulated discharge of the agent into the soil, water reservoirs, basements, canalization.

It is not permitted to locate agrichemical storages, to make grounds for seed dressing, to fulfill processing of equipment and packing for agrichemicals in the sanitary zone of fishery water bodies (no less than 2 km from shores) and at the distance less than 300 m from the water-courses not used for fishery.

It is not permitted to discharge in waters not treated sewerage, appear under washing of packing materials, machinery, equipment, transportation means and overalls used when working with the agent [22].

### 7.1.3 Recommendations for safety moving and transportation

Transportation should be made in the original containers by specially equipped transport means according to the regulations in force concerning the carriage of goods by the given type of transport.

Joint transportation of the agent together with feeding stuff, compound animal feedstuff and food products is not allowed. [22].

## 7.2 Chemical products storage precautions

### 7.2.1 Conditions and terms of safe storage (incl. guaranteed storage life, shelf life expiry date; incompatible materials)

The agent must be stored in hermetically sealed containers at sheltered storage facilities providing protection from direct sunlight.

Joint storage of the agent together with feeding stuff, compound animal feedstuff and food products is not allowed.

Storage should be performed at pallet stacks or storage stands. Number of tiers in pallet stacks not more than three.

Provided the storage conditions are observed, storage life is unlimited. Guaranteed storage life is 4 years. [1].

### 7.2.2 Transport and consumer packaging (incl. materials they are made of)

Consumer packaging – canister and polymer containers of 5,0 and 10 l.

Products in consumer packaging should be placed on wooden pallets and be additionally packed into stretch wrap [1].

### 7.3 Safety and storage precautions in household use

The agent should be kept away from children and domestic animals, in dark place separately from food product and medicines, at a distance of not less than 1m from heating units.

For preparing of working solutions it is prohibited to use cookware (containers) and vessels for drinking water. After the end of work, used equipment and vessels must be washed with soap-soda solution. [22].

## 8 Exposure controls and personal protection

### 8.1 Workplace parameters which subject

Work area TLV of boric acid – 10,0 mg/m<sup>3</sup>

GUMI-20 (GUMI-20M) TU 2431-005-20672718-2013	Safety Data Sheet registration number 20672718.24.41205 Expiry date 02.03.2021	page 7 of 13
---	--	-----------------

to obligatory verification  
(work area TLV or SRLI)

## 8.2 Exposure controls

## 8.3 Personal Protection Means for Personnel

### 8.3.1 General recommendations

Work area TLV of lignite coal dust– 10,0 mg/m<sup>3</sup> [9].

Providing of industrial and also warehouse premises with extract – input and local ventilation. Equipment and communications pressurization. Obligatory air control in industrial premises. [22,25].

Avoid direct contact with the agent. Do not smoke and eat while working. Personal protection means should be applied. After work you should wash your hands and face with soap, rinse your mouth with water [29].

Personnel working with the agent shall pass preliminary and periodic medical examinations. [1].

### 8.3.2 Respiratory protection (abrasive-blasting respirators types)

Respirators («Lepestok», Y-2K), bulky dressing. [1].

### 8.3.3 Means of protection (material, type) (special work clothes, safety footwear, hands protection, eyes protection)

While applying and packing of the agent in agriculture, rubber gloves, respirator, protective glasses, special work clothes (coverall or cotton cover-slut), special footwear shall be used [1,29].

### 8.3.4 Personal protection means for household use

While applying, special work clothes (coverall or cotton cover-slut) and protective gloves shall be used, for eye protection – protective glasses [1,29].

## 9 Physical and chemical properties

### 9.1 Physical form (aggregative state, color, odour)

Homogeneous fluid from brown to black color with no odour [1].

### 9.2 Characteristics of basic product properties (temperature factors, pH, solvability, n-octanol/water ratio and other characteristics typical for the given product type)

pH of water solution with sodium humate weight ratio of 1% is equal to 7-11;

Water soluble [1].

## 10 Stability and reactivity data

### 10.1 Chemical stability (for unstable products degradation products shall be indicated)

The agent is stable during pH 7-12, does not coagulate, is not breaking, does not change its color.

### 10.2 Reaction capacity

It hydrolyzes.

### 10.3 Conditions to avoid (incl. dangerous signs upon contact with incompatible materials)

No information.

## 11 Toxicological information

### 11.1 Information concerning particular hazards (hazard (toxicity) evaluation of the effect on health and the most definite signs of danger)

According to the effect on the human body - it is marginally hazardous substance, the 4 class of hazard [29,31].

### 11.2 Routes of exposure (inhalative, peroral, skin and eyes contact)

In case of contact with skin and conjunctiva if swallowed.

page 8 of 13	Safety Data Sheet registration number 20672718.24.41205 Expiry date 02.03.2021	GUMI-20 (GUMI-20M) TU 2431-005-20672718-2013
-----------------	--	---

11.3 Target human organs, tissues and systems

Central nervous system, digestive tract, liver [32].

11.4 Information about dangerous to health effects upon direct contact with the products, and also consequences impact (respiratory, eyes, skin irritation; skin-resorptive and sensitizing effect)

Does not have irritation effect on upper air passages, eyes, skin; has no skin-resorptive and sensitizing action [31].

11.5 Information about dangerous long-term effects of the products on the organism

Cumulative effects of the agent are not marked.

(effect on reproductive function, carcinogenicity, mutagenity, cumulativity and other chronic effects)

Has no cancerogenic hazard because it does not contain ingredients (incl. benzpyrene) able to make specific cancerogenic effect on the organism [31,32].

11.6 Acute toxicological characteristics

**Sodium humate**

(DL<sub>50</sub>, exposure route (intra-gastrically, epidermally), animal species; CL<sub>50</sub>, time of exposure (h), animal species)

LD<sub>50</sub> into the stomach for mice and rats – more than 10 g/kg (animals' death was not observed);  
LC<sub>50</sub> – does not reach [29].

**Boric acid**

DL<sub>50</sub> - 2660 mg/kg (intra-gastrically, rats)  
In humans - lethal dose under peroral intoxicating for grown-up - 15-20 g, for children - 4-5 g [32].

## 12 Ecological information

12.1 General characteristics of the impact on the environmental compartments (open air, water bodies, soils, including observable impact signs)

Using of the agent according to the approved regulations for its applying does not lead to the exceedence of hygienic normatives for toxic and dangerous compounds in cultivated agricultural products (SanPiN (Sanitary Rules and Regulations) 2.3.2.1078-01), in waters for drinking and household and cultural and social use (HN (Hygienic Normatives) 2.1.5.1315-03, HN 2.1.5.1316-03), in the soils for agricultural use (HN 2.1.7.2041-06, HN 2.1.7.2042-06).

When applying of this agent, dangerous for the environment metabolites are not formed and not accumulated. This fertilizer does not form toxic compounds in the air environment and waste waters in the presence of other agents.

This fertilizer does not have negative effect on the quality of crop production. The content of regulated toxic contents is within MAC (APL) limits for standard pure soil.

But in case of violation of handling, storage and transporting requirements, in emergencies, water bodies' pollution is possible [34].

12.2 Ways of environmental impact

Entry of the agrochemical into the air environment is possible when spraying of plants. When spraying, particles of agrochemical may be adsorbed in the air by solid particles and carried by air currents. Entry of the agrochemical into the open water bodies is possible when improper handling and storage, violation of transportation terms and conditions. Entry of the agrochemical into the soil takes place when treating plants. [34].

## 12.3 Critical characteristics of the impact on the environment



## 12.3.1 Hygienic standards

(allowable concentration in open air, water, incl. fishery waters, soils)

Table 2 [3-10]

Components	MAC (maximum allowable concentration) in air or SRLI in air, mg/m <sup>3</sup> (LHI <sup>1</sup> , class of hazard)	MAC water <sup>2</sup> or approximate permissible level water, mg/l, (LHI, class of hazard)	MAC fishery <sup>3</sup> or SRLI fishery, mg/l (LHI, class of hazard)	MAC soils or approximate permissible level, soils, mg/kg (LHI)
Sodium salts of humic acids (sodium humate)	0,05 (SRLI)	not stated	3,7 (humic acids) (s.t., 4)	not stated
Boric acid	-/0,02, res., 3	0,5 (boron), s.-t., 2	2,86 (by substance), 0,5 (expressed as boron)	not stated

## 12.3.2 Environmental toxicity indexes

(CL, EC, NOEC for fish, daphnids Magna, weeds etc.)

Fish toxicity:

**Boric acid**LC<sub>50</sub> = 50-100 mg/l (Rainbow trout, 96 h.)**Sodium humate**LC<sub>50</sub> > 128 mg/l (Bellyfish, 96 h.)

Daphnids toxicity:

**Boric acid**EC<sub>50</sub> = 133 mg/l (Daphnia magna, 48 h.)**Sodium humate**EC<sub>50</sub> > 113 mg/l (Daphnia magna, 48 h.)

Seaweeds toxicity:

**Sodium humate**EbC<sub>50</sub> > 65,7 mg/l (*Desmodesmus subspicatus*, 72 h.)ErC<sub>50</sub> > 89,2 mg/l (*Desmodesmus subspicatus*, 72 h.) [34].

12.3.3 Migration and environmental fate because of biodeterioration and other processes (oxydation, hydrolysis etc.)

In the process of agrochemical destruction, metabolites dangerous for the environment do not appear. Agrochemical components will slowly move across soil body and pollution of ground waters is almost impossible. [34].

## 13 Recommendations on disposal considerations

13.1 Safety precautions to be taken during the performance of wastes appearing when applying, storing, transportation

Providing of industrial premises with extract – input and local ventilation.

All actions shall be fulfilled using of personal protection devices.

Wastes should be collected in special closed containers.

13.2 Information about places and methods of processing, utilization or liquidation of wastes, including packaging

Special utilization methods are not required. Spilled fertilizer should be gathered by waste cloth (duster) or covered with sand or soil, and then it may be put into the soil or disposed at specially designed places together with consumer wastes. Place of spillage of agrochemical shall be washed with water.

<sup>1</sup> LHI – limiting harmful index (toxic. – toxicological; s.-t. (san.-tox.) – sanitary- toxicological; org. – organoleptic with detailed description of the behavior of organoleptic properties of water (od. – it changes the water odour, turb. – it increases turbidity of water, col. – it colors the water, foam – it causes foam formation, film. – it forms film on the water surface, tang. – it gives the water a flavor, op. – it causes opalescence); refl. – reflectory; res. – resorptive; refl.-res. – reflectory - resorptive; fish. – fishery (change in commercial properties of fishing aquatic organisms); gen.san. – general sanitary).

<sup>2</sup> Water of water bodies for household, cultural and general water use

<sup>3</sup> Water of water bodies that has commercial fishing importance (including sea water bodies)

page 10 of 13	Safety Data Sheet registration number 20672718.24.41205 Expiry date 02.03.2021	GUMI-20 (GUMI-20M) TU 2431-005-20672718-2013
---------------------	--	---

13.3 Recommendations on disposal considerations connected with domestic use of products

[34].

Spilled fertilizer should be gathered by waste cloth (duster) or covered with sand or soil, and then it may be put into the soil or disposed at specially designed places together with consumer wastes. Place of spillage of agrochemical should be washed with water.

Used containers should be put into garbage cans [1,34].

## 14 Transport information (transportation)

14.1 UN number

No.

(according to UN recommendations concerning transportation of dangerous goods)

14.2 Proper shipping and transport names

No proper shipping name.

Transport name: GUMI-20M.

14.3 Means of transport to use

Transportation by all means of transport according to the regulations concerning the carriage of goods for the given means of transport.

14.4 Hazard classification of goods according to GOST 19433-88:

Not classified as hazardous goods [17].

- class

-

- subclass

-

- classification code

-

(GOST 19433-88 and railway transportation)

- number(s) of drawing(s) of hazard symbol(s)

Hazard symbol is not drawn

14.5 Hazard classification of goods according to the UN recommendations concerning transportation of dangerous goods:

Not classified as hazardous goods

- class or subclass

-

- additional danger

-

- packing group UN

-

14.6 Transport label

Marking «Keep away from heat» may be made [1].

(handling stamps according to GOST 14192-96)

14.7 Emergency cards

Not required.

(railway transportation, sea shipping and others)

## 15 Information about national and international laws (regulatory information)

### 15.1 National laws

#### 15.1.1 RF Laws

- Russian Federation Law dated February 07, 1992 No.2300-1 «About the protection of consumers' rights».
- Federal Law dated July 19, 1997 No.109-Φ3 «About safe handling of pesticides and agrochemicals».
- Federal Law dated January 10, 2002 No.7-Φ3 «About environment protection».
- Federal Law dated March 30, 1999 No.52-Φ3 «About the sanitary and epidemiological welfare of the population».

GUMI-20 (GUMI-20M) TU 2431-005-20672718-2013	Safety Data Sheet registration number 20672718.24.41205 Expiry date 02.03.2021	page 11 of 13
---	--	------------------

15.1.2 Information about documents, which provide requirements on personal and environmental protection

Scientific-research report on complex toxicological-hygienic assessment of «GUMI», brands GUMI-20, GUMI-20M, GUMI-30, GUMI-30M, GUMI-90, GUMI-90M (Federal State Research Institution Research and Development Centre of Toxicology and Sanitary Standardization of Federal Medical and Biological Agency of Russia, 2014).

Expert report on environmental impact assessment of agrochemical «GUMI» (brands GUMI-20, GUMI-20M, GUMI-30, GUMI-30M, GUMI-90, GUMI-90M), issued by the Faculty of Soil Science of Moscow State University named after M.V. Lomonosov.

State ecological inspection report, approved by the resolution of the directorate of the Federal Service for Supervision of Nature Resources for the Republic of Bashkortostan No. 1246-II dated 21.10.2015.

Certificate of state registration of agrochemical «GUMI» (brands GUMI-20, GUMI-20M, GUMI-30, GUMI-30M, GUMI-90, GUMI-90M) No. 016-18-928-1 dated 25.12.2016.

15.2 International conventions and agreements

(whether the product is regulated by the Monreal Protocol, Stockholm Convention and others or not)

It falls outside the scope of international conventions and agreements.

## 16 Additional information

16.1 Information about revision (reissue) of Safety Data Sheet was reregistered upon the expiry date. Pre-Safety Data Sheet (there must be stated the previous Safety Data Sheet No. 20672718.21.22789. Expiry date: following: «Safety Data Sheet was drafted 07.05.2015.

for the first time» or « Safety Data Sheet was reregistered upon expiry. The previous Safety Data Sheet

Registration No. ...» or «Amendments were put into the paragraphs ..., amendments date ...»)

### 16.2 List of data sources, used under drafting of Safety Data Sheet<sup>4</sup>

1.	TU 2431-005-20672718-2013 «GUMI».
2.	A.Ya. Korolchenko, D.A. Korolchenko. Fire and explosion hazard of substances and materials and fire-extinguishing means. Guidebook, M., «Pozhnauka», 2004.
3.	HN 2.1.5.1315-03 «Maximum allowable concentrations (MAC) of chemical substances in the water of water objects of household and cultural and social water use».
4.	HN 2.1.5.2307-07. «Approximate permissible levels (APL) of chemical substances in the water of water objects of household and cultural and social water use».
5.	HN 2.1.6.1338-03. «Maximum allowable concentrations (MAC) of harmful substances in the atmospheric air of inhabited areas».
6.	HN 2.1.6.2309-07. «Safe Reference Level of Impact (SRLI) of harmful substances in the atmospheric air of inhabited areas».

page 12 of 13	Safety Data Sheet registration number 20672718.24.41205 Expiry date 02.03.2021	GUMI-20 (GUMI-20M) TU 2431-005-20672718-2013
---------------------	--	---

7.	HN 2.1.7.2041-06. «Maximum allowable concentrations (MAC) of chemical substances in soil».
8.	HN 2.1.7.2511-09. «Approximate permissible levels (APL) of chemical substances in the soil».
9.	HN 2.2.5.1313-03 «Maximum allowable concentrations (MAC) of harmful substances in the workplace air».
10.	Water quality standards of the water of water objects of commercial fishing importance, including norms of maximum acceptable concentrations of hazardous substances in the waters of water objects of commercial fishing importance, approved by the Resolution of the Federal Agency for Fishery on 18.01.2010 under No.20.
11.	Hygienic normatives of concentrations of chemical substances in the environments. Edition 3. St. Petersburg, NPO «Professional», 2007.
12.	GOST 12.1.004-91 with changes 1. «Occupational safety standards system. Fire protection. General requirements».
13.	GOST 12.1.007-76 «Occupational safety standards system. Hazardous substances. Classification and general safety requirements».
14.	GOST 14192-96 «Cargo marking».
15.	GOST 8253-90 «Chemically-deposited chalk».
16.	GOST 19433-88 «Hazardous cargo. Classification and marking».
17.	GOST 31340-2013 «Safety marking of chemical products. General requirements».
18.	GOST 32419-2013 «Chemical products' hazard classification».
19.	Regulations on the transport of dangerous goods. Application 1 and 2 to the «Agreement on International Goods Transport by Rail». Ministry of Transportation of RF, M., 2009
20.	Regulations on the transport of dangerous goods by road. Ministry of Transportation of RF, Department of motor vehicles, M., 1996
21.	Transport emergency cards for goods transported by CIS railways, the Republic of Latvia, the Republic of Lithuania, the Republic of Estonia, approved by the Council of Commonwealth's participating states for railway transport (Protocol dated 30.05.08)
22.	SanPiN (Sanitary Rules and Regulations) 1.2.2584-10. «Hygienic requirements to the safety of test processes, storage, transportation, sales, using, disposal and treatment of detoxication and utilization of pesticides and agrichemicals».
23.	SP (Sanitary Rules) 1.2.1170-02 «Hygienic requirements to agrichemicals safety».
24.	SanPiN (Sanitary Rules and Regulations) 2.1.7.1322-03 «Hygienic requirements to production and consumer waste placement and processing». Ministry of Health of RF, 2003
25.	SP (Sanitary Rules) 2.2.2.1327-03 «Hygienic requirements to organization of technological processes, production equipment and operating tools».
26.	Collective and individual protective equipment. Protective qualities control: Encyclopedia «Eko-metriya» from the seria of reference works on ecological and medical measurements. 2002.
27.	Certificate of state registration of agrochemical «GUMI» (brands GUMI-20, GUMI-20M, GUMI-30, GUMI-30M, GUMI-90, GUMI-90M) No. 016-18-928-1 dated 25.12.2016 г.
28.	Scientific-research report on complex toxicological-hygienic assessment of «GUMI», brands GUMI-20, GUMI-20M, GUMI-30, GUMI-30M, GUMI-90, GUMI-90M (Federal State Research Institution Research and Development Centre of Toxicology and Sanitary Standardization of Federal Medical and Biological Agency of Russia, 2014).
29.	Test protocol for fertilizer «GUMI». Specification of fire hazard/flammable characteristics. Test Center of Fire Research Laboratory State Fire Service of RB Ministry of Interior, 2001
30.	Toxicological-hygienic passport of natural growth regulators and development of plants «Gumi». Ufa Research Institute of Occupational Health and Human Ecology, Ufa, 1998
31.	Information card of potentially dangerous chemical and biological substance. Sodium humates. Russian Register of Hazardous Chemical and Biological Substances: VT 002365 dated 14.10.1902.

GUMI-20 (GUMI-20M) TU 2431-005-20672718-2013	Safety Data Sheet registration number 20672718.24.41205 Expiry date 02.03.2021	page 13 of 13
---	--	------------------

32.	Information card of potentially dangerous chemical and biological substance. Orthoboric acid. Russian Register of Hazardous Chemical and Biological Substances: AT 000365 dated 14.03.1995.
33.	Expert report on environmental impact assessment of agrochemical «GUMI» (brands GUMI-20, GUMI-20M, GUMI-30, GUMI-30M, GUMI-90, GUMI-90M), issued by the Faculty of Soil Science of Moscow State University named after M.V. Lomonosov
34.	Harmful chemical substances. Ref.work – encyclopedic type. Edited by V.A. Filov - Hydrocarbons. Halogenated hydrocarbons. L.: Chemistry, 1990 - Natural organic compounds. S.Petersburg: Saint-Petersburg State Chemical Pharmaceutical Academy, NPO «Mir i semya-95» (Scientific Production Association «World and Family»), 1998.

<sup>4</sup> sequential numbers of data sources are stated in each item of Safety Data Sheet as references.