
1. Identification of the substance/mixture and of the manufacturer/supplier

1. Identification of the chemical product

1.1.1 Product name

Polyester powder materials AMIKA:

- Powder coatings AMIKA P-EP-PL-2323

1.1.2 Product description

Homogeneous mixture of hard carboxylated polyester resins and hardener with pigments (contain a metal and (or) mica (micaceous) effect pigments), fillers and targeted additives.

1.1.3 Purpose/Recommended use:

For protective and decorative coatings on metal products operated both indoors and outdoors.

1.2 Details of the supplier of the material safety data sheet

1.2.1 Official name

Private Unitary Production Enterprise «MAV»

1.2.2 Legal registered and postal address

Republic of Belarus, Minsk region, Dzerzhinsk, 6
Stroiteley st, postal code 222720

1.2.3 Phone number (including emergency situations)

+375 (0) 1716 613 20, + 375 (0) 1716 613 27

1.2.4 E-mail

info@mav.by, info@amika.by

2. Hazard (hazards) identification

2.1 General data on the hazard level of chemical products

Low-risk chemical mixture/ composition according to the degree of impact on the body (GOST (Official State Standard) 12.1.007), 4 hazard level.

3. Composition (information on ingredients)

3.1 General data on the product

- 3.1.1 Chemical name (according to IUPAC) No data available
- 3.1.2 Chemical formula (molecular and empirical) No data available
- 3.1.3 General characteristics of the chemical composition
Homogeneous mixture of hard carboxylated polyester resins and hardener with pigments, fillers and targeted additives.

3.2 Components

Product/ingredient Identifiers name	CAS-number	Mass fraction, %	Max.permissible concentration, mg/m ³	Hazard level (class)
Polyester carboxylation resin	No data available	Up to 94.0	10.0	4
The epoxy resin for the monomer (epichlorohydrin)	25068-38-6 106-89-8	Up to 70.0	No data available 2/1	No data available 2
Diphenylimidazole salt pyromellitic acid	54533-91-2	Up to 70.0	No data available	No data available
Tioxide	13463-67-7	Up to 35.0	-/10	4
Barium sulphate	7727-43-7	Up to 30.0	10.0	4
Calcium carbonate	1317-65-3	Up to 30.0	-/6	4
Metallic pigment on copper	7440-50-8	Up to 5.0 -	1/0.5	2
Mica pigment	No data available	Up to 5.0	6/2	3
Mica pigment	No data available	Up to 5.0	6/2	3

Aluminium oxide	1344-28-1	Up to 1.0	-/6	4
Other components in concentrations <1%	No data available	Up to 15	No data available	No data available
* The presence or absence of these components in a particular product depends on the composition of the formulation and concentration.				

4. First aid measures

4.1 Symptoms

4.1.1 Inhalation poisoning

Cough, sore throat, irritation of mucous membranes airway, nausea.

4.1.2 Skin contact

Skin contact may produce mild irritant effects without signs of resorption.

4.1.3 Eye contact

Redness, burning, watery eyes.

4.1.4 Ingestion

Possible diseases of the gastrointestinal tract in case of chronic exposure

4.2 Description of first aid measures

4.2.1 Inhalation

Keep a suffered person in a fresh air. If respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.

4.2.2 Skin contact

Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. In case of skin irritation consult a dermatologist.

4.2.3 Eye contact

Immediately wash eyes and eyelids with plenty of water. Continue at least 15 minutes. Get medical attention if symptoms occur.

4.2.4 Ingestion

Drink water as a precaution. Show this safety data sheet or label to the doctor and consult the therapist. Do not induce vomiting without doctor's orders. Do not give anything orally to a person without consciousness.

5. Firefighting measures

5.1 General characteristics of fire and explosion hazard

The product belongs to the group of combustible flame retardant materials. Air suspension is explosive.
[1,5,6,27,32]

5.2 Indicators of fire and explosion hazard

Epoxy-polyester powder coatings
– flash point 305°C
– self- flash point 415°C

5.3 Combustion and/or thermal degradation products and their hazards

In case of fire and thermal destruction, volatile hydrocarbons, carbon oxides, harmful to human health, are formed.

5.4 Suitable extinguishing media

Powder extinguishing agents. Foam. Sand. Water spray/mist

5.5 Unsuitable extinguishing media

Water in the form of a compact jet, inert gas under high pressure.

High pressure water or gas flow can create a potentially explosive mixture of dust in the air.

5.6 Personal protective equipment for fire fighting

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus with a full face-piece operated in positive pressure mode. [1,6,27,28]

5.7 Special protection measures

Extinguish fire flames from as far distance as possible.

6. Measures for prevention and liquidation of emergency and accidental situations and their consequences

6.1 Measures for preventing harmful effects on people, environment, buildings, structures

6.1.1 Measures to prevent accidents and emergencies

Avoid inhalation of the product, contact with skin, eyes and gastrointestinal tract. Smoking, eating and drinking should be prohibited in the application area of the product.

All production, warehouse and auxiliary facilities must be equipped with fire extinguishing and fire alarm systems. Exclude the presence of open fire, as well as sources of sparks and static electricity. Make mandatory cleaning in the working room. To ensure the health, integrity of the equipment, communications, use protection function-laziness. Prevention of heating of equipment to the temperature of self-ignition of explosive environment

6.1.2 Accidental release measures

Report to the territorial service for liquidation of emergency situations. Remove personnel from danger area, not involved in emergency response. Isolate danger area in within a radius of 200 m. in the area of the accident to enter the means of individual protections. Provide victims with first aid or send to medical institution. [18,19]

6.1.3 Personal protective equipment

For emergency responders – insulating protective suit FIR 5 in complex with insulating gas mask IP-4M and respiratory apparatus ASV-2, or protective military suit L

- 1 or L-2 in complex with industrial gas mask with cartridge A. oil and gas resistant gloves or from dispersion of butyl rubber, special protective clothing and shoes, glasses. [1,28]

6.2 Procedure required in case of liquidation of emergency situations

6.2.1 Actions in case of leakage, spill, placers

In case of an accident occurs indoors:

To turn on alarm system. Localize leaked material, prevent the probability of spraying the material in the air and getting the powder into the sewers.

In case of an accident occurs outdoors:

Take the vehicles to a safe place. Inform the territorial institution. The awakened material to protect earthen shaft, do not allow entering sewers and watercourses.

Collect the crumbled product with the help of electrical protection vacuum installation or clean the surface with a wet brush. Not create a dust cloud using compressed air or a brush. Do not use sparking tools, water flow.

6.2.2. Actions in case of fire

Extinguish with sprayed water, air-mechanical foam, powders, use personal protective equipment for respiratory organs, eyes, skin.

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

7.1 Safety measures for handling chemical products

7.1.1 Appropriate engineering controls

Supply and exhaust ventilation in industrial premises and local exhaust devices. The air flow rate must be sufficient to prevent accumulation and deposition of the product in the ducts. Protective equipment, tanks and connecting nodes should be sealed and have fire and explosion protection. [1,12,14]

7.1.2 Environmental measures

- Purification of air of industrial premises prior to discharge to the atmosphere;
- Analysis of industrial effluents for the content of harmful substances in them acceptable concentration limits;
- Collection and organized disposal of waste

7.1.3 Recommendations for safe movement and transportation

Product integrity is achieved by grouping consumer packaging with stretch film.

Protect containers from mechanical damage and moisture.

7.2 Rules of storage of the chemical products

7.2.1 Conditions and terms of safe storage

Materials shall be stored in the original tightly closed container, covered ventilated warehouses at a temperature not exceeding 27°C, relative humidity not more than 75 % at a distance of not less than 1 m from heating device. Protect from direct exposure sunlight, moisture and heat.

The warranty period in compliance with the rules of transportation and storage – 18 months from the manufacture date. [1,13]

Do not store together with oxidizers, substances capable of forming explosive mixtures.

Smoking, eating and drinking are prohibited in the storage area.

7.2.2 Packing and containers

Boxes shall be made of corrugated cardboard with polyethylene liner bag. [1]

7.2.3 Safety measures for household usage
For industrial use only

8. Hazardous exposure controls and personal protection

8.1 The parameters of the working area which shall be monitored and followed

The content of harmful substances in the air of the working area within the permissible concentration are shown in paragraph 3. [1,15]

8.2 Measures to ensure the content of harmful substances in acceptable concentrations

Supply and exhaust ventilation system, sealing equipment.

8.3 Personal protective equipment

8.3.1 Common recommendation

Observe the rules of personal hygiene-do not eat at work place, wash hands before eating. After finishing working with the product it is necessary to clean the room, clean clothing, protective equipment and equipment used. Persons not younger than 18 years are admitted to work. Working with products should pass pre-employment and periodic medical examination.

8.3.2 Respiratory protection

RTM-1 lightweight anti-aerosol respirators or similar type shall be used.

8.3.3 Protection measures and equipment (material, type)

Safety glasses, protective rubber or nitrile gloves, overalls made of cotton fabric, closed leather shoes.
[1,28]

9. Physical and chemical properties

9.1 Physical condition

Physical state	Powder coatings AMIKA P-PL-1321
Physical form	Fine powder
Colour	Various
Smell	Typical for this type of product

9.2 Basic properties of products

Particle size distribution: sieve residue with grid 0100, %, not more than 5,0.	95% to 100 µm
Determination of mass loss on stoving	not more than 1%
Density	1,2-1,6 g/cm ³
Solubility coefficient	
- in water	
- in organic solvent	Insoluble Soluble in acetone

10 Stability and reactivity

10.1 Chemical stability

The product is stable under normal conditions of use, storage, transportations. Dangerous reactions unknown (not observed).

10.2 Reactivity

Not reactive

10.3 Conditions to avoid

Avoid all possible sources of ignition and explosive substances

10.4 Invalid storage conditions

Do not store near ignition source, open flame and excessive heat, static discharge, dust cloud formation. Avoid direct sunlight and moisture.

11. Toxicological information

11.1 General characteristics of exposure (hazard assessment (toxicity) effects on the body and the most characteristic manifestations of danger)

Low-hazard chemical composition according to the degree of impact on the body (hazard class 4 according to GOST 12.1.007).

11.2 Exposure routes (inhalation, oral, in contact with skin and eyes)

If inhaled, in contact with the skin, mucous membranes of the eyes, inside the body.

11.3 Human organs, tissues and systems affected

Respiratory tract, bronchopulmonary system,
gastrointestinal tract, mucous membranes of the eyes,
skin.

11.4 Information about health hazards in direct contact with the product, as well as the consequences of these effects (irritant to the upper respiratory tract, eyes, skin; skin-resorptive and sensitizing effects)

The materials have an irritating effect on the mucous membranes of the respiratory tract, eyes and skin.

Prolonged contact with skin may cause sensitizing effects.

Aluminum oxide is part of the product has a fibrogenic effect.

11.5 Information about dangerous long-term effects of products on the body
- effect on reproduction function: has not been studied. Mutagenic effect not established.

- carcinogenicity : has not been studied.

- cumulativeness : has not been studied.

11.6 Acute toxicity

LD50 (test on rats) more than 5000 mg/kg (according to GOST 12.1.007)

12. Data on environmental safety

12.1 General characteristic of influence on the environment (atmospheric air, water bodies, soil, including observed effects)

The environmental impact of the product has not been studied.

Pollution of water bodies leading to changes in the organoleptic properties of water and the sanitary regime of water bodies is possible.

Soil pollution may occur with spillage, depressurization of the packaging and not organized waste disposal.

12.2 Ways of impact on the environment

In case of violation of the rules of handling, storage and transportation, unorganized waste disposal, as a result of emergencies.

12.3 The most important characteristics of the environmental impact

Indicators of Ecotoxicity
(LC, EC, NOEC)

The product has not been studied.

Product/ingredient name	Indicator	Value
Polyester carboxylation resin	This component is not classified as hazardous to the environment.	
Epichlorohydrin	MPC in water, mg/l	0.05
	ASL in atm, mg / m ³	7.0
	MPC fishes'.hoz. mg/l	0.01
Diphenylimidazole salt pyromellitic acid	LC50 (fish, 96 h), mg / l	10-100
	EU 50 (Daphnia, 48 h), mg / l	10-100
Tioxide	LC50 (fish, 96 h), mg / l	>1000
	EU 50 (Daphnia, 48 h), mg / l	>1000
	MPC in water, mg/l	0.1 (Ls .)
	MPC fishes'.hoz. mg/l.	1,0
	ALS in atm., mg / m ³	500 µg / m ³
Barium sulphate	ASL in atm, mg / m ³	0,1
	MPC	200
	LC50 (rainbow.trout, 96 h), mg / l	>7500
Calcium carbonate	ASL in atm, mg / m ³	0,3
	MPC fishes'.hoz. mg/l	180 (acc. Ca ₂)
Aluminium powder	LC50 (rat, 4 h), mg / l	>888
	MPC in water, mg/l	0.2(0.5)
	MPC fish. hoz., mg / l	0.04 (Al ³⁺)
Metallic pigment on copper	LC50 (fish, 96 h), mg / l	0.15
	EU 50 (Daphnia, 48 h), mg / l	0.04-0.05
Aluminium oxide	MPC in atm., mg / m ³	0,04
	MPC in water, mg/l	0,02(0,5)
	MPC fishes'.hoz. mg/l	0,07 in terms of Al ³⁺

13. Disposal considerations

13.1 Do not allow product residues to enter the environment. Collection and disposal of waste is carried out in accordance with SanPiN from 30.12.2016 № 143

13.2 Safety measures for handling waste generated during application, storage, transportation

Similar to those used in the treatment of basic products and set out in paragraphs 7 and 8 MSDS's.

13.3 Information on places and methods of disposal of waste products, including packaging

Product waste, used containers shall be collected and sent for disposal to industrial waste landfills or places agreed with local sanitary authorities.

13.4 Recommendations for the disposal of waste generated during household use

For industrial use only.

14. Transport information

14.1 UN number (UN) (as recommended UN transport of dangerous goods)

The product is not classified as hazardous.

[1,7,18,19,24,31]

14.2 Shipping and transport names

Powder coatings

14.3 Means of transport

Subject to transportation by all means of transport in covered vehicles in accordance with the rules of carriage of goods in force on this mode of transport.

14.4 Transport hazard class according to GOST 19433-88

The product is not classified as hazardous.

14.5 Transport marking (manipulation signs according to GOST 14192-96)

«Top»

«Protect from moisture»

«Protect from sunlight»

«Temperature limit» with a maximum temperature of 27°C.

15. Information on national and international legislation

15.1 National legislation

15.1.1 The laws of the Republic of Belarus

"On environmental protection", " On sanitary-epidemiological welfare of the population", "On technical regulation", "Law on protection consumer rights", "Law on waste management»

15.1.2 Information on the documentation regulating the requirements for the protection of man and the environment

Test report number 0115/7095/08-02 October 11, 2013. Powder coatings "Amika" P-PL-1321, Powder coatings "Amika" P-EP-PL-2323, powder lacquer "Amika" P-PL-1322. MOH REPUBLIC OF BELARUS RUE "SPC".

Test report No. 0115/7095/08-02 of 15 August 2018 Powder coatings "Amika" P-PL-1321, Powder coatings "Amika" P-EP-PL-2323, powder varnish "Amika" P-PL-1322. MOH REPUBLIC OF BELARUS RUE "SPC".

15.2 International conventions and agreements (regulated by the Montreal Protocol, the Stockholm Convention, etc.)

Does not fall under international conventions and agreements.

16. Other information

16.1 Data on revision (re-release) MSDS (stated: "first developed by MSDS" or "MSDS re-registered upon expiration. Previous MSDS no. ... " or " amended items ..., date ...»)

Changes to paragraphs 2.1, 4.1.2, 5.1, 5.2, 11.1, 13.1 from September 27, 2018 are implemented

16.2 List of data sources used in the preparation MSDS

1. TC BY 600112981.032-2009 paints and varnishes powder.
2. GOST 30333-2007 safety data Sheet of chemical products. General requirements.
3. GOST 31340-2013 Preventive marking of chemical products (01-08-2016)
4. GOST 12.1.007-76 SSBT. Harmful substance. Classification and General safety requirements.
5. GOST 12.1.044-89 fire and Explosion hazard of substances and materials. Nomenclature of indicators and methods of their determination.
6. GOST 12.1.004-91 SSBT Fire safety General requirements.
7. GOST 19433-88 dangerous Goods. Classification and marking.
8. GOST 32419-2013 the hazard classification of the chemical products
9. GOST 32423-2013 the hazard Classification of mixtures of chemical products on the effects on the body;
10. GOST 32424-2013 the hazard classification of the chemical products impact on the environment;
11. GOST 32425-2013 the hazard Classification of mixtures of chemical products impact on the environment;
12. Technical Code of Common Practice 45-3.02-90-2008 Industrial buildings. Building design standards;
13. Technical Code of Common Practice 45-3.02-95-2008 Warehouse buildings. Building design standards;
14. Sanitary Regulations SanPiN as of 13.07.2010 № 93 Sanitary norms, rules and hygienic norms " Hygienic requirements to the organization of technological processes and production equipment»;

15. Sanitary norms, rules and hygienic standards "List of regulated in the air working area of harmful substances", approved by the Ministry of health of the Republic of Belarus № 240 as of 31.12.2008, EXT. "in edition the Resolution of Ministry of health as of 19.11.2009 No. 124, as of 21.12.2010 No. 172".

16. Sanitary Regulations SanPiN from 30.12.2016 No. 141 Sanitary norms and rules " Requirements to atmospheric air of settlements and places of mass rest of the population»;

17. Sanitary Regulations SanPiN from 30.12.2016 № 143 Sanitary norms and rules " Requirements for the treatment of waste production and consumption»

18. Emergency cards for dangerous goods transported by Railways of the CIS, the Republic of Latvia, the Republic of Lithuania, the Republic of Estonia, approved by the Protocol No. 48th meeting of the railway transport Council of the CIS member States, subject to changes and additions.

19. Rules to ensure the safe transport of dangerous goods by road in the Republic of Belarus, approved by the Ministry of emergency situations of the Republic of Belarus of December 8, 2010 № 61.

20. Resolution of the Ministry of Health of the Republic of Belarus on November 8, 2016 № 113 "on approval and introduction of standards of maximum permissible concentrations of pollutants in the air and approximately safe levels of exposure to pollutants in the air of settlements and places of mass-population and the recognition of the invalidated some decisions of the Ministry of health of the Republic of Belarus".

21. Resolution of the Ministry of natural resources and environmental protection of the Republic of Belarus "on some issues of water quality regulation of fishery water bodies" dated 08.05.2007 № 43/42.

22. Regulations GN 2.1.5.10-21-2003 " Maximum permissible concentrations (MPC) of chemicals in water? water objects of economic-drinking and cultural-household water use".

23. Regulations GN 2.1.7.12-1-2004 List of maximum permissible concentrations (MPC) and approximate permissible concentrations (UEC) of chemicals in the soil.

24. Rules for the transport of dangerous goods by rail, approved at the 15th meeting of the Council on rail transport of the Commonwealth of Independent States, taking into account changes and additions.

25. Harmful substances in industry. Handbook for chemists, engineers and physicians. Ed.7th, TRANS. and EXT. In three volumes. Edited by N. In. Lazareva and E. N. Levine. L., "Chemistry", 1976-1977

26. Harmful chemicals. Ed. reference and encyclopedic type. Volume 1-7 / ed. V. A. Filov, Yu. I. Musiyshuk, B. A. Ivin. St. Petersburg: Publishing house SPHFA, NGO "World and Family-95", 1998. - 504 p.

27. The works done by A. J. fire and explosion hazard of substances and materials and means of their suppression. On the right.ed. a 2 parts.-M.: ACC. "Pozhnauka", 2000, 2004.

28. Krutikov V. N. Collective and individual means of protection. Control of protective properties: encyclopedia of a series of reference books on environmental and medical measures. – Moscow: FID "Business Express", 2002-408 S.;

29. Regulation (EC) no 1272/2008 of the European Parliament and of the Council of 16 December 2008 on the classification, labelling and packaging of substances and mixtures amending and repealing Directives 67/548/EC and 1999/49/EC and amending Regulation (EC) no 1907/2006 (as amended).

30. Data of the information system ECHA (European Chemicals Agency). [Electronic re-source]: access Mode – <http://echa.europa.eu/>.

31. ADR. European agreement concerning the international carriage of dangerous goods by road. Revised edition. New York and Geneva, on, 2011

32. Test reports of its "Institute of safety and emergency situations of the emergencies Ministry of Belarus" No. 04-52/958Π from 17.8.2018, No. 04-52/960Π from 17.8.2018, No. 04-52/961Π from 17.8.2018, No. 04-52/962Π from 17.8.2018, No. 04-52/968Π from 17.8.2018, No. 04-52/974Π from 17.8.2018, No. 04-52/975Π from 17.8.2018, No. 04-52/976Π from 17.8.2018.

33. Test report of RUE "NPTSG" №0115/7095/08-02 from 15.08.2018.