

NORMATIVE INSTRUCTION Nº 5, MARCH 10, 2016

THE MINISTER OF STATE FOR AGRICULTURE, LIVESTOCK AND SUPPLY, pursuant to the authority granted under Article 87, sole paragraph, item II of the Constitution, expressed under Article 3 of the Annex of Decree No. 4.954, January 14, 2004, and the one contained in Process No. 21000.003626/2015-32, states:

Art. 1º: Establishes the rules on definitions, classification, specifications and guarantees, tolerances, registration, packaging, labeling and advertising of remineralizers and substrates for plants intended for agriculture.

CHAPTER I

DEFINITIONS, CLASSIFICATION, SPECIFICATIONS, REQUIREMENTS, GUARANTEES AND REGISTRATION

Section I

Definitions

Art. 2º This Normative Instruction considers:

I- water retention capacity (WRC): amount of water a material can retain, determined by the mass of retained water in relation to the dry mass of the product, expressed as a percentage (mass/mass);

II- cation exchange capacity (CEC): total amount of adsorbed cations per unit of mass, expressed in mmolc.kg-1 or mmolc.dm-3;

III - electrical conductivity (EC): capacity of a solution to conduct electrical current due to the presence of dissolved ions, the value being expressed in millisiemens per centimeter (mS.cm-1);

IV - density: measurement of mass to volume ratio, expressed in kilograms per cubic meter (kg.m-3), on dry basis;

V - Hydrogenionic potential (pH): logarithmic scale used to specify the acidity, neutrality or alkalinity of a product;

VI - sum of bases: guarantee of remineralizers as defined by the sum of the CaO+MgO+K₂ O levels or by the sum of the CaO+K₂ O levels or by the sum of the MgO+K₂ O levels; and

VII - maximum humidity: maximum amount of water that a finished solid product can contain, expressed as a percentage (weight/weight).

Section II

Classification

Art. 3º Plant substrates shall be classified according to origin and type of raw materials used to produce them:

I - Class "A": product of plant origin, animal origin or agro-industrial origin used as raw material for production, free of sanitary waste where toxic heavy metals and potentially toxic materials or compounds are not used in the process, the result being a product which is safe to use for agricultural purposes;

II - Class "B": product that uses raw materials from the processing of industrial activity or agribusiness in its production, free of sanitary waste where toxic heavy metals and potentially toxic materials or compounds are not used in the process, the result being a product which is safe to use for agricultural purposes;

III - Class "C": product that uses any amount of raw material from household wastewater in its production, free of sanitary waste and potentially toxic materials, the result being a product which is safe to use for agricultural purposes;

IV - Class "D": product that uses any amount of raw material from treated sanitary and industrial wastewater in its production, the result being a product which is safe to use for agricultural purposes;

V - Class "E": product that exclusively uses raw material of mineral or synthetic origin in its production, the result being a product which is safe to use for agricultural purposes; and

VI - Class "F": product that uses a mixture of raw materials, in any proportion, from Classes "A" and "E" in its production, respectively, described in items I and V of this article.

Section III

Product Specifications and Guarantees

Subsection I

Remineralizers

Art. 4º Remineralizers must present the following specifications and minimum guarantees:

I - the specification of physical nature pursuant to Annex I of this Normative Instruction;

II - the sum of bases (CaO, MgO, K₂ O) must be equal to or greater than 9% (nine percent) in weight/weight;

III - the potassium oxide (K_2O) level must be equal to or greater than 1% (one percent) in weight/weight; and

IV - the Hydrogenionic potential (pH) for level of abrasion declared by the registrant.

§ 1º For remineralizers that naturally contain the macronutrient phosphorus and micronutrients, their levels are only declared if they are equal to or greater than the values expressed in Annex II of this Normative Instruction.

§ 2º They are not registered with the Ministry of Agriculture, Livestock and Supply (MAPA), and prohibits the production, import and marketing of remineralizers that contain:

I- free SiO_2 levels greater than 25% (twenty-five percent) in volume/volume; and

II - levels of potentially toxic materials higher than:

a) Arsenic (As): 15 ppm;

b) Cadmium (Cd): 10 ppm;

c) Mercury (Hg): 0,1 ppm; and

d) Lead (Pb): 200 ppm.

Subsection II

Plant Substrates

Art. 5º Substrates for plants must present the following guarantees for electrical conductivity (EC), hydrogen potential (pH), maximum humidity, density, and water retention capacity (WRC):

I - electrical conductivity (EC) maximum percentage of millisiemens ($mS.cm^{-1}$);

II – density in $kg. m^{-3}$ (in dry base);

III – absolute hydrogen potential (pH) in water;

IV- maximum humidity percentage, in weight/weight; and

V - water retention capacity (WRC) percentage, in weight/weight.

§ 1 A guarantee for cation exchange capacity (CEC) may optionally be expressed in $mmolc .dm^{-3}$ or $mmolc.kg^{-1}$.

§ 2 The values for hydrogenion potential (pH) and electrical conductivity (EC) must be expressed in absolute values.

CHAPTER II

TOLERANCES

Art. 6^o The analysis results will allow for tolerances in relation to the product guarantees within the following limits:

I - the tolerance limits for insufficiency cannot be higher than:

a) for remineralizers:

1. with respect to the sum of the oxides: 10% (ten percent) or less, without exceeding 1.5 (one and a half) units;
2. with respect to guaranteed or declared nutrients: 25% (twenty five percent) or less, without exceeding 1 (one) unit; and
3. with respect to the Hydrogenionic potential (pH) of abrasion: 1 (one) unit or less; and
4. with respect to the specification of physical nature, pursuant to Annex III of this Normative Instruction.

b) for plant substrates:

1. Hydrogenionic potential (pH): 1 (one) unit or less;
2. water retention capacity (WRC): 10% (ten percent) or less;
3. cation exchange capacity (CEC): 15% (fifteen percent) or less; and
4. density: 20% (twenty percent) or less.

II - for levels in excess, the tolerance limits cannot be higher than:

a) for remineralizers:

1. Free SiO₂ by volume/volume: up to 20% (twenty percent) or more;
2. Potentially Toxic Elements: up to 25% (twenty five percent) or more in relation to the values defined in this Normative Instruction for Arsenic (As), Cadmium (Cd), Mercury (Hg) and Lead (Pb).

b) for plant substrate:

1. Hydrogenionic potential (pH): 1 (one) unit or more;
2. electrical conductivity (EC): 50% (fifty percent) or more;
3. density: 20% (twenty percent) or more; and
4. maximum humidity: 10% (ten percent) or more.

CHAPTER III

REGISTRATION

Art. 7º Registration of products in this Normative Instruction are inspected by the Ministry of Agriculture, Livestock and Food Supply of (MAPA – SFA) for the state where the application was made.

Art 8º In order to guarantee the product the registration certificate must include:

I - for remineralizers: the levels for the sum of bases and potassium oxide, as well as the physical nature and mode of application; and

II - for plant substrates: the values for water retention capacity (WRC), electrical conductivity (EC) and density, as well as the class and physical nature of the product.

Art. 9º For the registration of remineralizers, the following rules will be observed:

I - for materials of mineral origin that have been subjected to agronomic testing and approved for agricultural use by official or accredited Brazilian research before the publication of this Normative Instruction, provided for under Article 4 of this Normative Instruction and, in the case of a product of the same material and from the same geographic region as the tested materials of mineral origin, the applicant must present the aforementioned scientific papers for registration purposes, which must verify their agronomic efficiency; and

II - for products that have not been tested by Brazilian research, registration can only occur after agronomic testing has been carried out by official or accredited research institutions, conducted with plants and obligatorily in the case of vegetation or in the field, and these tests may be complemented with incubation tests or column leaching, which demonstrate conclusively that the product is suitable for its intended purpose.

§ 1º Products that naturally contain the macronutrient phosphorus and micronutrients in minimum total levels equal to or greater than the values established in § 1 of Article 4 of this Normative Instruction must include said values on the label, on the fiscal note, or on the Electronic fiscal note Auxiliary Document (DANFE).

§ 2º The producer or importer must state the levels for each oxide that make up the sum of bases and the product's abrasion pH value on the label (for packaged products) or on the invoice or DANFE (for bulk products).

§ 3º Applications for remineralizer registration must include:

I - certificates for geochemical analysis and product quality, containing the levels of the guarantee items, the levels of toxic heavy metals, and the SiO₂ level; and

II - conclusive scientific works carried out by official Brazilian institutions of research, or accredited by MAPA, which clearly demonstrate the agronomic efficiency of the product being registered.

§ 4º Remineralizers obtained from the mixture of two or more rocks may be registered provided the final product meets the parameters and requirements established in this Normative Instruction.

Art. 10º. Registration of plant substrates will be granted based on the guarantees informed by the requesting establishment, observing the provisions of Article 5 of this Normative Instruction. Other properties of the product may be declared provided that: they can be measured quantitatively; the determination methods are indicated; and the declared quantities are guaranteed. Single paragraph. In order for other product properties to be declared on the label, invoice, or DANFE, the applicant must obtain approval by MAPA to validate the application of the indicated analytical methodology.

Art. 11º. The raw materials of plant substrates registered in MAPA can be replaced without the need to re-register the product provided that no change has occurred to the class and registered warranties of the product.

Art. 12º. Registration, production, import and marketing of new products in the country, including the remineralizers referred to in item II of Article 9 in this Normative Instruction, are provided under Article 15 of the Annex to Decree No. 4.954, January 14, 2004, and also in Articles 37 to 42 of Normative Instruction No. 53, October 23, 2013.

CHAPTER IV

PACKAGING, LABELING AND ADVERTISING OF PRODUCTS

Art. 13º. Plant substrates and remineralizers to be sold or displayed for sale in the country, stored or packaged, are required to display labels in appropriate packaging, written in Portuguese, and must contain the following information:

I - concerning the producing or importing company:

- a) company name;
- b) address;
- c) National Registry of Legal Entities; and
- d) company registration number in MAPA.

II – concerning the product:

- a) denomination: PLANT SUBSTRATES or REMINERALIZERS;
- b) plant substrates of the raw materials in the product classified as Class "A", "B", "C", "D", "E" or "F" in accordance with Article 3 of this Normative Instruction;
- c) raw materials used;

- d) weight or volume: remineralizers measured in kilograms or their multiples or sub-multiples; and plant substrates in kilograms, litres, cubic meters or their multiples or sub-multiples;
- e) the expression: "Brazilian industry", "Imported Product" or "Product imported from (name of country) and packaged in Brazil", as applicable;
- f) company name of the manufacturer and name of the country of origin for imported products;
- g) product registration number;
- h) lot number;
- i) manufacture date and sell-by date, or manufacture date and expiry date;
- j) information on storage, recommendations, and limitations and restrictions on use and transport;
- k) the expression: "Produced by (the registration number of the producer company)" for products manufactured by third parties;
- l) the chemical, physical (specification of physical nature) and physicochemical guarantees of the product; and
- m) the physical nature.

Single paragraph. In accordance with Law 6.894, December 16, 1980, and complementary legislation, any declaration or indication of parameters that were not measured using MAPA-approved methodology are prohibited to appear on the label or in product advertising.

Art. 14º. In accordance with Article 37 of the Annex of Decree No. 4.954, 2004, the invoice and DANFE that accompany the product must include:

I – company registration number in MAPA;

II – the name “remineralizer” or the name “plant substrates”, including its classification;

III- product registration number in MAPA;

IV - the chemical, physical (specification of physical nature) and physicochemical guarantees of the product;

V- the product’s lot number;

§ 1º The invoice and DANFE may contain other non-mandatory data, provided said data does not obstruct the visibility and understanding of the mandatory data, and does not mislead the consumer as to the nature, composition, safety, effectiveness and suitability of the product.

§ 2º the information required on the packaged product label for products sold in bulk must be included with the product’s invoice and DANFE.

§ 3º If the product or material presents a notable risk to human and animal health and to the environment, the company must inform (on the packaging, label, invoice, DANFE, or on a separate leaflet) of the safeguards, restrictions and safety precautions, the contraindications, inconsistencies and risks to human and animal health and to the environment.

CHAPTER V

FINAL PROVISIONS

Art. 15º. The products inspected for the purpose of proving their compliance, identity and safety may have all their components guaranteed and declared analyzed or only part of them, including any other components not guaranteed or declared to be of investigative interest.

Art. 16º. The compatibility of the component raw materials used to manufacture plant substrates must be observed, and:

I - the raw materials must not contain properties that could compromise the product, whether physical, chemical or biological, and inhibit its quality to the point of compromising the purposes for which they are intended; and

II - the raw materials must not contain amounts of phytotoxic agents, pathogens to humans, animals and plants, toxic heavy metals, or pests and weeds in excess of those permitted by law, regulations or administrative acts.

Art. 17º. In accordance with Articles 34 and 35 of the Annex of Decree No. 4.954, of 2004, any form of marketing and advertising for purposes other than those determined in the product's certificate of registration is prohibited, including any information that may be deemed misleading to the consumer regarding the origin, nature, composition, quality, application and use of said product.

Art. 18º. Class "C" and "D" plant substrates are to be sold to end consumers only after a technical recommendation has been signed by a qualified professional in the field.

§ 1º The recommendation referred to in this article may be printed on the packaging, label, leaflet or other document that accompanies it provided that the technician's identification and registration with the class council are included.

§ 2º Companies that produce the products included in this article must make them available to inspection for a minimum period of five years.

Art. 19º. Companies that produce plant substrates for Classes "A" and "B" are prohibited from using raw materials destined for producing plant substrates for Classes "C" and "D" if the following information is not included in the company registration application or any renewal or update:

I - installation for the storage of raw materials in separate areas which do not allow mixing or contamination of raw materials used for Class "A" products, each area appropriately identified as material storage;

II - separate production and packaging lines, or provisions for the disinfection of machines and equipment that produce plant substrates for Classes "C" and "D"; and

III - equipment for handling raw materials and products used exclusively for plant substrates for Classes "A" and "B".

Art. 20º. sawdust or wood shavings contaminated by wood treatment chemical residues and used as raw material for the production of substrates included in this Normative Instruction is prohibited.

Art. 21º. Sanctions laid out in Decree No. 4.954 of 2004 will be imposed on those who violate the rules set forth in this Normative Instruction.

Art. 22º. Companies registered with MAPA that carry out the activities provided for under Law No. 6,984, of 1980, have a time period of one hundred and eighty days to conform to the provisions laid out in this Normative Instruction.

Single paragraph. Products sold before the publication of this Normative Instruction are exempt from having to adapt the labeling information to the new requirements.

Art. 23º. Any situations not covered in this Normative Instruction, including any concerns or questions, will be handled by the MAPA supervisory board.

Art. 24º. This Normative Instruction enters into force on the date of its publication.

Art. 25º. Normative Instruction No. 14, of December 15, 2004, is revoked.

KÁTIA ABREU

ANNEX I

PHYSICAL NATURE SPECIFICATIONS OF REMINERALIZERS

PHYSICAL SPECIFICATION	PARTICLE SIZE GUARANTEE	
	Sieve	Passing Particles (weight/weight)
Filler	0.3 mm (ABNT nº 50)	100%
	2.0 mm (ABNT nº 10)	100%
Powder	0.84 mm (ABNT Nº 20)	70 % minimun
	0.3 mm (ABNT nº 50)	50 % minimun
	4.8 mm (ABNT Nº 4)	100%
Granulated	2.8 mm (ABNT nº 7)	80%
	0.84 mm (ABNT nº 20)	25 % maximun

ABNT - Brazilian Association of Technical Norms

ANNEX II

MINIMUM LEVEL OF PHOSPHORUS MACRONUTRIENT AND MICRONUTRIENTS ALLOWED IN
REMINERALIZERS

NUTRIENT	MINIMUM TOTAL CONTENT (% weight/weight)
Phosphorus (P ₂ O ₅)	1
Boron (B)	0,03
Chlorine (Cl)	0,1
Cobalt (Co)	0,005
Copper (Cu)	0,05
Iron (Fe)	0,1
Manganese (Mn)	0,1
Molybdenum (Mo)	0,005
Nickel (Ni)	0,005
Selenium (Se)	0,03
Silicon (Si)	0,05
Zinc (Zn)	0,1

ANNEX III

TOLERANCES FOR PHYSICAL NATURE SPECIFICATION OF REMINERALIZERS

PHYSICAL SPECIFICATION	PARTICLE SIZE GUARANTEE	
	Sieve	Tolerance (weight/weight)
Filler	0.3 mm (ABNT nº 50)	Until 5 units less in the minimum pass
Powder	2.0 mm (ABNT nº 10)	Until 5 units less in the minimum pass
	0.84 mm (ABNT Nº 20)	Until 5 units less in the minimum pass
	0.3 mm (ABNT nº 50)	Until 5 units less in the minimum pass
Granulated	4.8 mm (ABNT Nº 4)	Until 2 units less in the minimum pass
	2.8 mm (ABNT nº 7)	Until 5 units less in the minimum pass
	0.84 mm (ABNT nº 20)	Until 5 units more at maximum pass

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