

Pursuant to Article 17(3) of the Act on Fertilising Products (Official Gazette of the Republic of Croatia, No 39/23), the Minister of Agriculture, Forestry and Fisheries hereby adopts the following

ORDINANCE

ON HR FERTILISING PRODUCTS

I. INTRODUCTORY PROVISIONS

Article 1

(1) This Ordinance lays down the classification of HR fertilising products according to their functions, quality requirements for HR fertilising products, the method and content of marking HR fertilising product and deviations from the declared content.

(2) This Ordinance has been notified in accordance with Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services (OJ L 241, 17. 9. 2015).

Article 2

(1) The terms used in this Ordinance shall have the following meanings:

1) *substance* means a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition

2) *mixture* means a mixture composed of two or more substances

3) *micro-organism* means any microbiological entity, including lower fungi and viruses, cellular or non-cellular, capable of replication or of transferring genetic material

4) *fertiliser* means an HR fertilising product with organic and/or mineral composition containing nutrients necessary for the growth and development of plants or mushrooms

5) *liming material* means an HR fertilising product the primary function of which is to neutralise harmful acidity, and which also acts as a soil improver

6) *soil improver* means an HR fertilising product the function of which is to improve the physical and chemical properties of the soil and the biological activity of the soil

7) *growing medium* means an HR fertilising product other than soil in situ, the function of which is for plants or mushrooms to grow in

8) *inhibitor* means an HR fertilising product the function of which is to improve the nutrient release patterns of a product providing plants with nutrients by delaying or stopping the activity of specific groups of micro-organisms or enzymes

9) *plant biostimulant* means an HR fertilising product the function of which is to stimulate plant nutrition processes independently of the product's nutrient content with the sole aim of improving one or more of the following characteristics of the plant or the plant rhizosphere: nutrient use efficiency, tolerance to abiotic stress, quality traits, or availability of confined nutrients in the soil or rhizosphere

10) *fertilising product blend* means an HR fertilising product composed of two or more HR fertilising products of types 1 to 6, for which compliance with the requirements of this Ordinance has been demonstrated for each component HR fertilising product in the blend

11) *liquid form* means a suspension or a solution, where a suspension is a two-phase dispersion in which solid particles are maintained in suspension in the liquid phase, and a solution is a liquid that is free of solid particles, or a gel and includes pastes

12) *solid form* means form characterised by structural rigidity and resistance to changes of shape or volume and in which the atoms are tightly bound to each other, either in a regular geometric lattice (crystalline solids) or in an irregular manner (an amorphous solid);

13) *% by mass (mass percentage)* means a percentage of the mass of the entire HR fertilising product in the form in which it is made available on the market

14) *contaminants* means primarily heavy metals (Cd, Cr, Cr VI, Hg, Ni, Pb, As, inorganic As) and potentially toxic essential elements (Zn and Cu), persistent organic pollutants (pesticides, polycyclic aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCBs), industrial chemicals, by-products of combustion and industrial processes), radionuclides and pathogens

15) *manure* means any excrement and/or urine of farmed animals other than farmed fish, with or without litter

16) *dry matter* means the portion of the sample remaining after the original sample has dried at a temperature of 105 °C to constant weight

17) *sewage sludge* means residual sludge from sewage plants treating domestic or urban waste waters and from other sewage plants treating waste waters of a composition similar to domestic and urban waste waters, as well as residual sludge from septic tanks and other similar installations for the treatment of sewage

18) *industrial sludge* means residual sludge from industrial waste water treatment plants, including sludge from the agri-food industry

19) *dredging sludge* means sludge resulting from material deposition at the bottom of watercourses, and as such is mechanically excavated and deposited

(2) Other terms in this Ordinance shall have the same meaning as those set out in the Act on Fertilising Products (Official Gazette of the Republic of Croatia, No 39/23) (hereinafter: the Act).

(3) Terms used in this Ordinance that are gender specific shall refer to the male and female gender equally.

II. CLASSIFICATION OF HR FERTILISING PRODUCTS

Article 3

According to their function, HR fertilising products shall be classified as follows:

1. Type 1 Fertilisers
2. Type 2 Liming materials
3. Type 3 Soil improvers
4. Type 4 Growing media
5. Type 5 Inhibitors
6. Type 6 Plant biostimulants
7. Type 7 Fertilising product blends.

Article 4

(1) Types of fertilisers from Article 3(1) of this Ordinance are classified into following subtypes:

- 1.A Organic fertilisers
 - 1.A.I Solid organic fertilisers
 - 1.A.II Liquid organic fertilisers
- 1.B Organo-mineral fertilisers
 - 1.B.I Solid organo-mineral fertilisers
 - 1.B.II Liquid organo-mineral fertilisers
- 1.C Mineral fertilisers
 - 1.C.I Mineral macronutrient fertilisers
 - 1.C.I.a Solid mineral macronutrient fertilisers
 - 1.C.I.a.1 Straight solid mineral macronutrient fertilisers

- 1.C.I.a.1.A Straight solid mineral macronutrient ammonium nitrate fertilisers of high nitrogen content
 - 1.C.I.a.2 Compound solid mineral macronutrient fertilisers
 - 1.C.I.a.2.A Compound solid mineral macronutrient ammonium nitrate fertilisers of high nitrogen content
 - 1.C.I.b Liquid mineral macronutrient fertilisers
 - 1.C.I.b.1 Straight liquid mineral macronutrient fertilisers
 - 1.C.I.b.2 Compound liquid mineral macronutrient fertilisers
 - 1.C.II Mineral micronutrient fertilisers
 - 1.C.II.a Straight mineral micronutrient fertilisers
 - 1.C.II.b Compound mineral micronutrient fertilisers.
- (2) Detailed classification of fertilisers referred to in paragraph 1 of this Article, as well as quality requirements, are laid down in Appendix I.A to this Ordinance.

Article 5

Detailed quality requirements for liming materials referred to in Article 3(2) of this Ordinance are laid down in Appendix I.B to this Ordinance.

Article 6

- (1) Soil improvers referred to in Article 3(3) of this Ordinance are classified into following subtypes:
- 3.A Organic soil improvers
 - 3.A.I. Solid organic soil improvers
 - 3.A.II. Liquid organic soil improvers
 - 3.B Inorganic (mineral) soil improvers.
- (2) Detailed classification of soil improvers referred to in paragraph 1 of this Article, as well as quality requirements, are laid down in Appendix I.C to this Ordinance.

Article 7

- (1) Growing media referred to in Article 3(4) of this Ordinance are classified into following subtypes:
- 4.A. Growing media for agricultural purposes
 - 4.B. Other growing media.
- (2) Detailed quality requirements for growing media referred to in paragraph 1 of this Article are laid down in Appendix I.D to this Ordinance.

Article 8

- (1) Inhibitors referred to in Article 3(5) of this Ordinance are classified into following subtypes:
- 5.A Nitrification inhibitors
 - 5.B Denitrification inhibitors
 - 5.C Urease inhibitors.
- (2) Detailed classification of inhibitors referred to in paragraph 1 of this Article, as well as quality requirements, are laid down in Appendix I.E to this Ordinance.

Article 9

- (1) Plant biostimulants referred to in Article 3(6) of this Ordinance are classified into following

subtypes:

6.A. Microbial plant biostimulants

6.B. Non-microbial plant biostimulants.

(2) Detailed classification of plant stimulants referred to in paragraph 1 of this Article, as well as quality requirements, are laid down in Appendix I.F to this Ordinance.

Article 10

Detailed quality requirements for fertilising product blends referred to in Article 3(7) of this Ordinance are laid down in Appendix I.G to this Ordinance.

III. COMPONENT MATERIALS

Article 11

(1) An HR fertilising product shall consist solely of following component material categories (CMC):

- CMC 1 - Virgin material substances and mixtures
- CMC 2 - Plants, plant parts or plant extracts
- CMC 3 - Compost
- CMC 4 - Fresh crop digestate
- CMC 5 - Digestate other than fresh crop digestate
- CMC 6 - Food industry by-products
- CMC 7 - Micro-organisms
- CMC 8 - Nutrient polymers
- CMC 9 - Polymers other than nutrient polymers
- CMC 10 - Derived products within the meaning of Regulation (EC) No 1069/2009
- CMC 11 - By-products within the meaning of Directive 2008/98/EC
- CMC 12 - Precipitated phosphate salts and derivatives
- CMC 13 - Thermal oxidation materials and derivatives
- CMC 14 - Pyrolysis and gasification materials
- CMC 15 - Recovered high purity materials.

(2) Component material categories (CMC) referred to in paragraph 1 of this Article are further specified in Appendix II to this Ordinance.

(3) Component material categories (CMC) referred to in paragraph 1 of this Article may be used simultaneously in an HR fertilising product, provided that all the required quality and safety requirements set out in Appendix II to this Ordinance are met.

IV. TOLERANCES

Article 12

(1) Tolerances regarding the declared nutrient content or physico-chemical characteristics of an HR fertilising product are set out in Part III of Appendix III, which is attached to this Ordinance and forms an integral part thereof.

(2) Manufacturers may not systematically use tolerances from paragraph 1 of this Article.

V. METHOD AND CONTENT OF LABELLING

Labelling of nutrients

Article 13

Nutrients shall be indicated both in words and by the appropriate chemical symbols, as follows: nitrogen (N), phosphorus (P), phosphorus pentoxide (P₂O₅), potassium (K), potassium oxide (K₂O), calcium (Ca), calcium oxide (CaO), magnesium (Mg), magnesium oxide (MgO), sodium (Na), sodium oxide (Na₂O), sulphur (S), sulphur trioxide (SO₃), boron (B), copper (Cu), cobalt (Co), iron (Fe), manganese (Mn), molybdenum (Mo), zinc (Zn).

Article 14

- (1) Primary macronutrients in HR fertilising products, i.e., nitrogen, phosphorus and potassium, shall be indicated in the following order: nitrogen, phosphorus, potassium, as follows:
- nitrogen in the elemental form (N)
 - phosphorus and potassium solely in the elemental form (P, K), or
 - phosphorus and potassium in solely the oxide form (P_2O_5 , K_2O).
- (2) For the conversion of phosphorus and potassium from the oxide into the elemental form, following factors apply:
- phosphorus (P) = phosphorus pentoxide (P_2O_5) \times 0.436
 - potassium (K) = potassium oxide (K_2O) \times 0.830.
- (3) Secondary macronutrients in HR fertilising products shall be indicated in the following order: calcium, magnesium, sodium, sulphur, as follows:
- in elemental form (Ca, Mg, Na, S)
 - in the oxide form (CaO , MgO , Na_2O , SO_3).
- (4) For the conversion of calcium, magnesium, sodium and sulphur from the oxide into the elemental form, following factors apply:
- calcium (Ca) = calcium oxide (CaO) \times 0.715
 - magnesium (Mg) = magnesium oxide (MgO) \times 0.603
 - sodium (Na) = sodium oxide (Na_2O) \times 0.742
 - sulphur (S) = sulphur trioxide (SO_3) \times 0.400.
- (5) In case of the conversion from paragraphs 2 and 4 of this Article, the number resulting from the conversion shall be rounded to one decimal place.
- (6) When making an HR fertilising product available on the market, primary and secondary macronutrients may be indicated with a combination of the shapes referred to in paragraphs 1 and 3 of this Article.
- (7) The content of micronutrients in an HR fertilising product shall be indicated in alphabetical order of their chemical symbols, as follows: boron (B), cobalt (Co), copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo), zinc (Zn).
- (8) For the conversion of organic matter into organic carbon (C_{org}), the following conversion factor applies:
- $$\text{organic carbon } (C_{org}) = \text{organic matter} \times 0.56.$$

Content of the declaration

Article 15

- (1) An economic operator requesting the entry of an HR fertilising product in the Register of HR Fertilising Products shall ensure that the declaration contains the following information:
- name and registered seat of the manufacturer of the HR fertilising product and of the authorised representative or the importer or distributor of the HR fertilising product
 - trade name of the HR fertilising product
 - number of decision (class) on entry in of the HR fertilising product into the Register
 - function and type of the HR fertilising product, according to the classification provided in Articles 3 and 4 of this Ordinance
 - name and nutrient content, whereby:
 - the name of the nutrient is indicated in the order of the declared primary macronutrients, secondary macronutrients and micronutrients, pursuant to the order laid down in Appendix I to this Ordinance, in words and by the appropriate chemical symbol of each nutrient, in accordance with Article 14 of this Ordinance
 - the nutrient content is indicated as a percentage by mass, depending on its form and solubility, as laid down in Appendix I to this Ordinance

6. words 'packaged' or 'repackaged', if the importer or distributor packages or repackages the HR fertilising product, and is not considered to be the manufacturer pursuant to Article 3(1)

(6) of the Act.

(2) Appendix III to this Ordinance lays down specific labelling requirements for HR fertilising products for certain functions of HR fertilising products in accordance with Appendix I.

Article 16

- (1) The manufacturer's mark is optional information on the label.
- (2) The optional information referred to in this Article shall be clearly separated from the mandatory information referred to in Article 15 of this Ordinance.

Article 17

- (1) The information referred to in Articles 15 and 16 of this Ordinance shall be visibly separated from any other information appearing on the packaging and on the label, or on a label affixed to the packaging, if the HR fertilising product is supplied in the packaging or, where it is supplied without packaging, in a document (leaflet) accompanying the HR fertilising product.
- (2) Labels or markings containing the information referred to in Articles 13 and 14 of this Ordinance shall be displayed on the packaging in a visible place.
- (3) The size of the label and font size on the label shall be in accordance with the Croatian standard HRN ISO 7409 governing marking – presentation and declarations. The label shall be affixed to the packaging or to the place where the packaging is closed.
- (4) If the packaging is sealed, the seal shall bear the name and/or mark of the operator who sealed the packaging.

VI. SUBMISSION OF AN APPLICATION FOR ENTRY OF AN HR FERTILISING PRODUCT IN THE REGISTER OF HR FERTILISING PRODUCTS AND AUTHORISATION OF A LABORATORY FOR QUALITY CONTROL OF FERTILISING PRODUCTS

Article 18

- (1) Prior to submitting an application for entry of an HR fertilising product in the Register of HR Fertilising Products, the applicant shall carry out the conformity assessment procedure, i.e., the procedure to establish that the HR fertilising product for which the application is submitted complies with all the requirements of this Ordinance.
- (2) When submitting an application for entry of an HR fertilising product in the Register of HR Fertilising Products, in addition to the evidence and documents referred to in Article 7(2) of the Act, i.e., the analytical report issued by an authorised laboratory, the applicant shall also provide:
 - a completed application form for entry of the HR fertilising product into the Register of HR Fertilising Products, available in Appendix V to this Ordinance;
 - a declaration on the conformity of the component materials constituting the HR fertilising product with the requirements laid down for the relevant component material categories (CMC) in Appendix II to this Ordinance, in accordance with the template available in Appendix V to this Ordinance; and
 - technical documentation on the HR fertilising product from Appendix IV to this Ordinance.
- (3) When submitting an application for entry of a Type 7 fertilising product, a fertilising products blend, in the Register of HR Fertilising Products, in addition to the evidence and documents referred to in Article 7(2) of the Act, the applicant shall provide:
 - a completed application form for entry of the HR fertilising product into the Register of HR Fertilising Products, available in Appendix V to this Ordinance;
 - the decision on the entry into the Register of HR Fertilising Products for each component HR fertilising product forming a part of the relevant blend, or, if the blend comprises a CE-marked EU fertilising product placed on the market pursuant to Regulation (EU) 2019/1009,

an EU declaration of conformity

- technical documentation on the HR fertilising product from Appendix IV to this Ordinance.

(4) When requesting the entry of an HR fertilising product containing or consisting of derived products within the meaning of Regulation (EC) No 1069/2009 into the Register of HR Fertilising Products, in addition to the evidence and documents from Article 7(2) of the Act and paragraph 2 of this Article,

the applicant shall submit a Declaration on reaching the end point of the production chain within the meaning of Regulation (EC) No 1069/2009, in accordance with the template provided in Appendix V to this Ordinance, as well as a statement certifying that the derived products within the meaning of Regulation (EC) No 1069/2009 have been subjected to the appropriate processing method in accordance with Article 15 of Regulation (EU) 1069/2009 and Regulation (EU) No 142/2011.

(5) When submitting an application for the authorisation of a laboratory for quality control of fertilising products, in addition to the evidence and documents from Articles 8 and 9 of the Act, the applicant shall submit a completed application form for authorisation of a laboratory for quality control of fertilising products, provided in Appendix V to this Ordinance.

(6) The report on the analysis of an HR fertilising product prepared by an authorised laboratory shall contain

information on the values of all quality parameters from Appendix I to this Ordinance.

(7) Type 1.C.I.a.1.A and Type 1.C.I.a.2.A fertilising products, Straight and compound solid mineral macronutrient ammonium nitrate fertilisers of high nitrogen content, and Type 7 fertilising product, Fertilising product blends containing at least 28 % by mass of nitrogen (N) under Type 1.C.I.a.1.A. and/or Type 1.C.I.a.2.A shall be entered in the Register of HR Fertilising Products, provided that the economic operator submitting the application has, in addition to the documentation from paragraph 2 of this Article, submitted evidence that it has previously carried out the relevant marketing procedures in relation to the position of the manufacturer or importer or distributor or authorised representative required by Articles 6 to 9 of Regulation (EU) 2019/1009.

(8) During the process of submitting an application and marketing of an HR fertilising product, the economic operator shall, as applicant, possess the technical documentation stipulated in Article 15(4) of the Act.

(9) The content of the technical documentation for each type of HR fertilising product, which the economic operator shall possess and keep pursuant to Article 15(4) of the Act, is laid down in Appendix IV to this Ordinance.

VI. TRANSITIONAL AND FINAL PROVISIONS

Article 19

This Ordinance shall enter into force eight days after its publication in the Official Gazette of the Republic of Croatia.

**DEPUTY PRIME MINISTER
AND MINISTER**

David Vlačić

APPENDIX I

REQUIREMENTS RELATED TO TYPES OF HR FERTILISING PRODUCTS

1. This Part sets out the requirements related to the type of HR fertilising products based on its claimed functions.
2. The requirements laid down in this Appendix for a given type apply to HR fertilising products in all subcategories of that type.
3. The claim that an HR fertilising product complies with the function set out in this Appendix for the relevant type shall be supported by the product's mode of action, the relative content of its various components, or any other relevant parameter.
4. Where compliance with a given requirement (such as absence of a given contaminant) follows certainly and uncontestedly from the nature or manufacturing process of an HR fertilising product, that compliance is the responsibility of the manufacturer.
5. Residues of a pharmacologically active substance within the meaning of Regulation (EC) No 470/2009 of the European Parliament and of the may be present in an HR fertilising product only if that substance is either:
 - included in Table 1 of the Annex to Commission Regulation (EU) No 37/2010, or
 - has had a reference point for action established in accordance with Commission Regulation (EU) 2019/1871, and the substance or its residues are present in the HR fertilising product at a level below that reference point.
5. An HR fertilising product may contain an active substance within the meaning of Article 2(2) of Regulation (EC) No 1107/2009 only if that HR fertilising product does not have a plant protection function within the meaning of Article 2(1) of that Regulation.
6. Phosphonates shall not be intentionally added to any HR fertilising product. Unintentional presence of phosphonates shall not exceed 0.5 % by mass of the original sample.
7. The requirements in this Appendix are expressed in oxidised form for certain nutrients. Where compliance is assessed based on the presence of the nutrient in question in its elemental form, the following conversion factors shall be used:
 - phosphorus (P) = phosphorus pentoxide (P₂O₅) x 0.436;
 - potassium (K) = potassium oxide (K₂O) x 0.830;
 - calcium (Ca) = calcium oxide (CaO) x 0.715;
 - magnesium (Mg) = magnesium oxide (MgO) x 0.603;
 - sodium (Na) = sodium oxide (Na₂O) x 0.742;
 - sulphur (S) = sulphur trioxide (SO₃) x 0.400.
8. The requirements in this Appendix are expressed by reference to organic carbon (C_{org}). Where compliance is assessed based on organic matter the following conversion factor applies: organic carbon (C_{org}) = organic matter x 0.56.

APPENDIX 1.A FERTILISERS

TYPE 1: FERTILISERS

TYPE 1.A: ORGANIC FERTILISERS

1. An organic fertiliser shall contain organic carbon (C_{org}) and nutrients of solely biological origin.

An organic fertiliser may contain peat, leonardite and lignite, but no other material which is fossilized or embedded in geological formations.

2. Contaminants in an organic fertiliser must not exceed the following limit values:

Contaminant	Maximum content (mg/kg dry matter)
cadmium (Cd)	1,5
hexavalent chromium (Cr VI)	2
mercury (Hg)	1
nickel (Ni)	50
lead (Pb)	120
inorganic arsenic (As)	40
PAH	6
PCB	1

Biuret ($C_2H_5N_3O_2$) must not be present in an organic fertiliser.

3. The copper (Cu) content in an organic fertiliser must not exceed 300 mg/kg dry matter, and the zinc (Zn) content in an organic fertiliser must not exceed 800 mg/kg dry matter.

4. Maximum amount of pathogens in an organic fertiliser:

- (a) absence of *Salmonella* spp. in 25 g or 25 ml;
- (b) a maximum of 1 000 viable bacteria (CFU) of *Escherichia coli* or Enterococcaceae in a sample of 1 g or ml.

The analysis shall be carried out on 5 samples, making 1 average sample for the determination of the presence of pathogens in an organic fertiliser.

TYPE 1.A.I: SOLID ORGANIC FERTILISERS

1. A solid organic fertiliser shall be in solid form.

2. A solid organic fertiliser shall contain at least one of the following declared primary nutrients: nitrogen (N), phosphorus pentoxide (P_2O_5) or potassium oxide (K_2O).

Where a solid organic fertiliser contains only one declared primary nutrient, that nutrient content shall be at least the following:

- (a) 2.5 % of total nitrogen (N),
- (b) 2 % of total phosphorus pentoxide (P_2O_5), or
- (c) 2 % of total potassium oxide (K_2O).

Where a solid organic fertiliser contains more than one declared primary nutrient, those nutrient contents shall be at least the following:

- (a) 1 % of total nitrogen (N),
- (b) 1 % of total phosphorus pentoxide (P_2O_5), or
- (c) 1 % of total potassium oxide (K_2O).

The sum of those nutrient contents shall be at least 4 % by mass of an HR fertilising product.

3. Organic carbon (C_{org}) content in a solid organic fertiliser shall be at least 15 % by mass.

TYPE 1.A.II: LIQUID ORGANIC FERTILISERS

1. A liquid organic fertiliser shall be in liquid form.

2. A liquid organic fertiliser shall contain at least one of the following declared primary nutrients: nitrogen (N), phosphorus pentoxide (P_2O_5) or potassium oxide (K_2O).

Where a liquid organic fertiliser contains only one declared primary nutrient, that nutrient content shall be at least the following:

- (a) 2 % of total nitrogen (N), or
- (b) 1 % of total phosphorus pentoxide (P_2O_5), or
- (c) 2 % of total potassium oxide (K_2O).

Where a liquid organic fertiliser contains more than one declared primary nutrient, those nutrient contents shall be at least the following:

- (a) 1 % of total nitrogen (N)
- (b) 1 % of total phosphorus pentoxide (P_2O_5), or
- (c) 1 % of total potassium oxide (K_2O).

The sum of those nutrient contents shall be at least 3 % by mass of an HR fertilising product.

3. Organic carbon (C_{org}) content in a liquid organic fertiliser shall be at least 5 % by mass.

TYPE 1.B: ORGANO-MINERAL FERTILISERS

1. An organo-mineral fertiliser shall be a co-formulation of:

- (a) one or more Type 1.C mineral fertilisers, and
- (b) one or more materials containing organic carbon (C_{org}) and nutrients of solely biological origin.

An organo-mineral fertiliser may contain peat, leonardite and lignite, but no other material which is fossilized or embedded in geological formations.

2. Where one or more of the inorganic fertilisers in the co-formulation is a Type 1.C.I.a.1.A and 1.C.I.a.2.A straight or compound solid mineral macronutrient ammonium nitrate fertiliser of high nitrogen content, an organo-mineral fertiliser shall not contain 16 % or more by mass of nitrogen (N) as a result of ammonium nitrate (NH_4NO_3).

3. Contaminants in an organo-mineral fertiliser must not exceed the following limit values:

Contaminant	Maximum content (mg/kg dry matter)
cadmium (Cd)	3 mg Cd/kg P_2O_5 where an organo-mineral fertiliser has a total phosphorus (P) content of less than 5 % phosphorus pentoxide (P_2O_5)-equivalent by mass or 20 mg Cd/kg P_2O_5 where an organo-mineral fertiliser has a total phosphorus (P) content of 5 % phosphorus pentoxide (P_2O_5)-equivalent or more by mass
hexavalent chromium (Cr VI)	2
mercury (Hg)	1
nickel (Ni)	50
lead (Pb)	120
inorganic arsenic (As)	40
biuret ($C_2H_5N_3O_2$)	12 g/kg
PAH	6
PCB	1

4. The copper (Cu) content in an organo-mineral fertiliser must not exceed 600 mg/kg dry matter, and the zinc (Zn) content in an organo-mineral fertiliser must not exceed 1 500 mg/kg dry matter. However, these limit values shall not apply where copper (Cu) or zinc (Zn) has been intentionally added

to an organo-mineral fertiliser for the purpose of correcting a soil micronutrient deficiency and is declared in accordance with Part II of Appendix III.

5. Maximum amount of pathogens in an organo-mineral fertiliser:

- (a) absence of *Salmonella* spp. in 25 g or 25 ml;
- (b) a maximum of 1 000 viable bacteria (CFU) of *Escherichia coli* or *Enterococcaceae* in a sample of 1 g or ml.

The analysis shall be carried out on 5 samples, making 1 average sample for the determination of the presence of pathogens in an organo-mineral fertiliser.

TYPE 1.B.I: SOLID ORGANO-MINERAL FERTILISERS

1. A solid organo-mineral fertiliser shall be in solid form.

2. A solid organo-mineral fertiliser shall contain at least one of the following declared primary nutrients: nitrogen (N), phosphorus pentoxide (P₂O₅) or potassium oxide (K₂O).

Where a solid organo-mineral fertiliser contains only one declared primary nutrient, that nutrient content shall be at least the following:

- (a) 2.5 % of total nitrogen (N), of which at least 1 % shall be organic nitrogen (N_{org}),
- (b) 2 % of total phosphorus pentoxide (P₂O₅), or
- (c) 2 % of total potassium oxide (K₂O).

Where a solid organo-mineral fertiliser contains more than one declared primary nutrient, those nutrient contents shall be at least the following:

- (a) 2 % of total nitrogen (N), of which at least 0.5 % shall be organic nitrogen (N_{org}),
- (b) 2 % of total phosphorus pentoxide (P₂O₅), or
- (c) 2 % of total potassium oxide (K₂O).

The sum of those nutrient contents shall be at least 15 % by mass of an HR fertilising product.

3. Organic carbon (C_{org}) content in a solid organo-mineral fertiliser shall be at least 7.5 % by mass of an HR fertilising product.

4. In a solid organo-mineral fertiliser, each physical unit shall contain organic carbon (C_{org}) and all the nutrients in their declared content. A physical unit refers to one of the component pieces of a product, such as granules or pellets.

TYPE 1.B.II: LIQUID ORGANO-MINERAL FERTILISERS

1. A liquid organo-mineral fertiliser shall be in liquid form.

2. A liquid organo-mineral fertiliser shall contain at least one of the following declared primary nutrients: nitrogen (N), phosphorus pentoxide (P₂O₅) or potassium oxide (K₂O).

Where a liquid organo-mineral fertiliser contains only one declared primary nutrient, that nutrient content shall be at least the following:

- (a) 2 % of total nitrogen (N), of which 0.5 % shall be organic nitrogen (N_{org}), or
- (b) 2 % of total phosphorus pentoxide (P₂O₅), or
- (c) 2 % of total potassium oxide (K₂O).

Where a liquid organo-mineral fertiliser contains more than one declared primary nutrient, those nutrient contents shall be at least the following:

- (a) 2 % of total nitrogen (N), of which 0.5 % by mass shall be organic nitrogen (N_{org})
- (b) 2 % of total phosphorus pentoxide (P₂O₅), or
- (c) 2 % of total potassium oxide (K₂O).

The sum of those nutrient contents shall be at least 6 % by mass of an HR fertilising product.

3. Organic carbon (C_{org}) content in a liquid organo-mineral fertiliser shall be at least 3 % by mass of the HR fertilising product.

TYPE 1.C: MINERAL FERTILISERS

1. A mineral fertiliser shall be a fertiliser containing or releasing nutrients in a mineral form, other than an organic or organo-mineral fertiliser.

2. In addition to the requirements of either Type 1. (C) I or Type 1. (C) II, a mineral fertiliser which contains more than 1 % by mass of organic carbon (C_{org}), other than organic carbon (C_{org}) from

- chelating or complexing agents referred to in point 3 of CMC 1 in Appendix II, Part II,
- nitrification inhibitors, denitrification inhibitors or urease inhibitors referred to in point 4 of CMC 1 in Appendix II, Part II,
- coating agents referred to in point 1(a) of CMC 9 in Appendix II, Part II,
- urea (CH_4N_2O), or
- calcium cyanamide ($CaCN_2$)

shall meet the requirement that pathogens in an inorganic fertiliser must not exceed the limits set out in the following table:

(a) absence of *Salmonella* spp. in 25 g or 25 ml;

(b) a maximum of 1 000 viable bacteria (CFU) of *Escherichia coli* or *Enterococcaceae* in a sample of 1 g or ml.

The analysis shall be carried out on 5 samples, making 1 average sample for the determination of the presence of pathogens in a mineral fertiliser.

TYPE 1.C.I: MINERAL MACRONUTRIENT FERTILISERS

1. A mineral macronutrient fertiliser shall contain one or more of the following macronutrients:

(a) primary macronutrients: nitrogen (N), phosphorus (P) or potassium (K),

(b) secondary macronutrients: calcium (Ca), magnesium (Mg), sodium (Na) or sulphur (S).

2. Contaminants in a mineral macronutrient fertiliser must not exceed the following limit values:

Contaminant	Maximum content (mg/kg dry matter)
cadmium (Cd)	3 mg Cd/kg P_2O_5 where an organo-mineral fertiliser has a total phosphorus (P) content of less than 5 % phosphorus pentoxide (P_2O_5)-equivalent by mass or 60 mg Cd/kg P_2O_5 where an organo-mineral fertiliser has a total phosphorus (P) content of 5 % phosphorus pentoxide (P_2O_5)-equivalent or more by mass
hexavalent chromium (Cr VI)	2
mercury (Hg)	1
nickel (Ni)	100
lead (Pb)	120
inorganic arsenic (As)	40
biuret ($C_2H_5N_3O_2$)	12 g/kg
perchlorate (ClO_4^-)	50

3. The copper (Cu) content in a mineral fertiliser must not exceed 600 mg/kg dry matter, and the zinc (Zn) content in an inorganic macronutrient fertiliser must not exceed 1 500 mg/kg dry matter. However, these limit values shall not apply where copper (Cu) or zinc (Zn) has been intentionally added to a mineral fertiliser for the purpose of correcting a soil micronutrient deficiency and is declared in accordance with Appendix III, Part II.

TYPE 1.C.I.a: SOLID MINERAL MACRONUTRIENT FERTILISERS

A solid mineral macronutrient fertiliser shall be in solid form.

TYPE 1.C.I.a.1: STRAIGHT SOLID MINERAL MACRONUTRIENT FERTILISERS

1. A straight solid mineral macronutrient fertiliser shall have a declared content of:
 - (a) only one macronutrient (nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), sodium (Na), sulphur (S)), or
 - (b) only one primary macronutrient (nitrogen (N), phosphorus (P), potassium (K)) and one or more secondary macronutrients (calcium (Ca), magnesium (Mg), sodium (Na), sulphur (S)).
2. Where a straight solid mineral macronutrient fertiliser contains only one declared macronutrient (nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), sodium (Na), sulphur (S)), that macronutrient content shall be at least the following:
 - (a) 10 % of total nitrogen (N)
 - (b) 12 % of total phosphorus pentoxide (P₂O₅)
 - (c) 6 % of total potassium oxide (K₂O)
 - (d) 5 % of total magnesium oxide (MgO)
 - (e) 9 % of total calcium oxide (CaO)
 - (f) 10 % of total sulphur trioxide (SO₃), or
 - (g) 1 % of total sodium oxide (Na₂O).

However, the total sodium oxide (Na₂O) content shall not exceed 40 % by mass of an HR fertilising product.

Where a straight solid mineral macronutrient fertiliser contains only one declared primary macronutrient (nitrogen (N), phosphorus (P), potassium (K)) and one or more declared secondary macronutrients (calcium (Ca), magnesium (Mg), sodium (Na), sulphur (S)):

- (a) that primary macronutrient content shall be at least the following:
 - i. 3 % of total nitrogen (N)
 - ii. 3 % of total phosphorus pentoxide (P₂O₅), or
 - iii. 3 % of total potassium oxide (K₂O);
- (b) that or those secondary macronutrient contents shall be at least the following:
 - i. 1.5 % of total magnesium oxide (MgO)
 - ii. 1.5 % of total calcium oxide (CaO)
 - iii. 1.5 % of total sulphur trioxide (SO₃)
 - iv. 1 % of total sodium oxide (Na₂O).

However, the total sodium oxide (Na₂O) content shall not exceed 40 % by mass of an HR fertilising product.

The sum of all declared primary and secondary macronutrient contents shall be at least 18 % by mass of an HR fertilising product.

TYPE 1.C.I.a.2: COMPOUND SOLID MINERAL MACRONUTRIENT FERTILISERS

1. A compound solid mineral macronutrient fertiliser shall have a declared content of:

- (a) more than one primary macronutrient (nitrogen (N), phosphorus (P), potassium (K)), or
- (b) more than one secondary macronutrient (calcium (Ca), magnesium (Mg), sodium (Na), sulphur (S)) and no primary macronutrient (nitrogen (N), phosphorus (P), potassium (K)).

2. A compound solid inorganic macronutrient fertiliser shall contain more than one of the following declared macronutrients in at least the following contents:

- (a) 3 % of total nitrogen (N)
- (b) 3 % of total phosphorus pentoxide (P₂O₅)
- (c) 3 % of total potassium oxide (K₂O)
- (d) 1.5 % of total magnesium oxide (MgO)
- (e) 1.5 % of total calcium oxide (CaO)
- (f) 1.5 % of total sulphur trioxide (SO₃), or
- (g) 1 % of total sodium oxide (Na₂O).

However, the total sodium oxide (Na₂O) content shall not exceed 40 % by mass of an HR fertilising product.

The sum of all declared macronutrient contents shall be at least 18 % by mass of an HR fertilising product.

TYPE 1.C.I.a.1.A and 1.C.I.a.2.A STRAIGHT AND COMPOUND SOLID MINERAL MACRONUTRIENT AMMONIUM NITRATE FERTILISERS OF HIGH NITROGEN CONTENT

1. A straight or compound solid mineral macronutrient ammonium nitrate fertiliser of high nitrogen content shall be ammonium nitrate (NH₄NO₃)-based and contain 28 % or more by mass of nitrogen (N) as a result of ammonium nitrate (NH₄NO₃).

2. Any matter other than ammonium nitrate (NH₄NO₃) shall be inert towards ammonium nitrate (NH₄NO₃).

3. A straight or compound solid mineral macronutrient ammonium nitrate fertiliser of high nitrogen content shall be made available to the end-user only in packaged form. The package shall be closed in such a way or by such a device that, when it is opened, the fastening, the fastening seal or the package itself is irreparably damaged. Valve sacks may be used.

A straight or compound solid mineral macronutrient ammonium nitrate fertiliser of high nitrogen content shall undergo an oil retention and detonation resistance check

4. Following two thermal cycles described under point 4.1 in Module A1 in Part II of Annex IV to Regulation (EU) 2019/1009, the oil retention of a straight or compound solid mineral macronutrient ammonium nitrate fertiliser of high nitrogen content must not exceed 4 % by mass.

5. The detonation resistance of a straight or compound solid mineral macronutrient ammonium nitrate fertiliser of high nitrogen content shall be such, that:

- following five thermal cycles as described under point 4.3 in Module A1 in Part II of Annex IV to Regulation (EU) 2019/1009,
- in two detonation resistance tests as described under point 4.4 in Module A1 in Part II of Annex IV to Regulation (EU) 2019/1009, one or more of the supporting lead cylinders is crushed by less than 5 %.

6. The percentage by mass of combustible material measured as carbon (C) must not exceed:

- 0.2 % for a straight or compound solid mineral macronutrient ammonium nitrate fertiliser of high nitrogen content (≥ 31.5 % by mass), and

- 0.4 % for a straight or compound solid mineral macronutrient ammonium nitrate fertiliser of high nitrogen content (28 % by mass \leq nitrogen (N) content $<$ 31.5 % by mass).
7. A solution of 10 g of a straight or compound solid mineral macronutrient ammonium nitrate fertiliser of high nitrogen content in 100 ml of water must have a pH of at least 4.5.
8. No more than 5 % by mass shall pass through a 1 mm mesh sieve, and not more than 3 % by mass shall pass through a 0.5 mm mesh sieve.
9. The copper (Cu) content shall not be higher than 10 mg/kg, and the chlorine (Cl) content shall not be higher than 200 mg/kg.

TYPE 1.C.I.b: LIQUID MINERAL MACRONUTRIENT FERTILISERS

A liquid mineral macronutrient fertiliser shall be in liquid form.

TYPE 1.C.I.b.1: STRAIGHT LIQUID MINERAL MACRONUTRIENT FERTILISERS

1. A straight liquid mineral macronutrient fertiliser shall have a declared content of:
 - (a) only one macronutrient (nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), sodium (Na), sulphur (S)), or
 - (b) only one primary macronutrient (nitrogen (N), phosphorus (P), potassium (K)) and one or more secondary macronutrients (calcium (Ca), magnesium (Mg), sodium (Na), sulphur (S)).
2. Where a straight liquid mineral macronutrient fertiliser contains only one declared macronutrient (nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), sodium (Na), sulphur (S)), that macronutrient content shall be at least the following:
 - (a) 5 % of total nitrogen (N)
 - (b) 5 % of total phosphorus pentoxide (P_2O_5)
 - (c) 3 % of total potassium oxide (K_2O)
 - (d) 2 % of total magnesium oxide (MgO)
 - (e) 6 % of total calcium oxide (CaO)
 - (f) 5 % of total sulphur trioxide (SO_3), or
 - (g) 1 % of total sodium oxide (Na_2O).

However, the total sodium oxide (Na_2O) content shall not exceed 40 % by mass of an HR fertilising product.

Where a straight liquid mineral macronutrient fertiliser contains only one declared primary macronutrient (nitrogen (N), phosphorus (P), potassium (K)) and one or more declared secondary macronutrients (calcium (Ca), magnesium (Mg), sodium (Na), sulphur (S)):

- (a) that primary macronutrient content shall be at least the following:
 - i. 1.5 % of total nitrogen (N)
 - ii. 1.5 % of total phosphorus pentoxide (P_2O_5), or
 - iii. 1.5 % of total potassium oxide (K_2O), and
- (b) that or those secondary macronutrient contents shall be at least the following:
 - i. 0.75 % of total magnesium oxide (MgO)
 - ii. 0.75 % of total calcium oxide (CaO)
 - iii. 0.75 % of total sulphur trioxide (SO_3), or
 - iv. 0.5 % of total sodium oxide (Na_2O).

However, the total sodium oxide (Na_2O) content shall not exceed 20 % by mass of an HR fertilising product.

The sum of all declared primary and secondary macronutrient contents shall be at least 7 % by mass of an HR fertilising product.

TYPE 1.C.I.b.2: COMPOUND LIQUID MINERAL MACRONUTRIENT FERTILISERS

1. A compound liquid mineral macronutrient fertiliser shall have a declared content of:
 - (a) more than one primary macronutrient (nitrogen (N), phosphorus (P), potassium (K)), or
 - (b) more than one secondary macronutrient (calcium (Ca), magnesium (Mg), sodium (Na), sulphur (S)) and no primary macronutrient (nitrogen (N), phosphorus (P), potassium (K)).
2. A compound liquid mineral macronutrient fertiliser shall contain more than one of the following declared nutrients in at least the following contents:
 - (a) 1.5 % of total nitrogen (N)
 - (b) 1.5 % of total phosphorus pentoxide (P₂O₅)
 - (c) 1.5 % of total potassium oxide (K₂O)
 - (d) 0.75 % of total magnesium oxide (MgO)
 - (e) 0.75 % of total calcium oxide (CaO)
 - (f) 0.75 % of total sulphur trioxide (SO₃), or
 - (g) 0.5 % of total sodium oxide (Na₂O).

However, the total sodium oxide (Na₂O) content shall not exceed 20 % by mass of an HR fertilising product.

The sum of all declared nutrient contents shall be at least 7 % by mass of an HR fertilising product.

TYPE 1.C.II: MINERAL MICRONUTRIENT FERTILISERS

1. A mineral micronutrient fertiliser shall be a mineral fertiliser other than a mineral macronutrient fertiliser aimed at providing plants or mushrooms with one or more of the following micronutrients: boron (B), cobalt (Co), copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo) or zinc (Zn).
2. Mineral micronutrient fertilisers shall be made available to the end-user only in packaged form.
3. Contaminants in a mineral micronutrient fertiliser must not exceed the following limit values:

Contaminant	Limit values of contaminants expressed in mg/kg of mineral micronutrient fertiliser
arsenic (As)	1 000
cadmium (Cd)	200
lead (Pb)	600
mercury (Hg)	100
nickel (Ni)	2 000

TYPE 1.C:II.a: STRAIGHT MINERAL MICRONUTRIENT FERTILISERS

1. A straight mineral micronutrient fertiliser shall have a declared content of not more than one micronutrient.
2. A straight mineral micronutrient fertiliser shall belong to one of the typologies, and shall comply with the corresponding description and minimum micronutrient content requirements in the following table:

Typology	Description	Minimum micronutrient content by mass
Micronutrient salt fertiliser	A chemically obtained straight solid mineral micronutrient fertiliser containing a mineral ion salt as its essential ingredient	10 % by mass of micronutrient salt fertiliser shall consist of a water-soluble micronutrient
Micronutrient oxide or hydroxide fertiliser	A chemically obtained straight solid mineral micronutrient fertiliser containing oxide or hydroxide as its essential ingredient	10 % by mass of a micronutrient oxide or hydroxide fertiliser shall consist of a micronutrient
Micronutrient-based straight mineral micronutrient fertiliser	A straight mineral micronutrient fertiliser combining a micronutrient salt fertiliser with one or more other micronutrient salt fertilisers and/or with a single micronutrient chelate	% by mass of a micronutrient-based fertiliser shall consist of a micronutrient
Micronutrient solution fertiliser	An aqueous solution of different forms of a straight mineral micronutrient fertiliser	% by mass of a micronutrient solution fertiliser shall consist of a water-soluble micronutrient
Micronutrient suspension fertiliser	A suspension of different forms of a straight mineral micronutrient fertiliser	% by mass of a micronutrient suspension fertiliser shall consist of a micronutrient
Micronutrient chelate fertiliser	A water-soluble straight mineral micronutrient fertiliser in which the declared micronutrient is chemically combined with chelating agent(s) fulfilling the requirements of CMC 1 in Part II of Appendix II	- 5 % by mass of a micronutrient chelate fertiliser shall consist of a water-soluble micronutrient, and - at least 80 % of the water-soluble micronutrient shall be chelated by a chelating agent fulfilling the requirements of CMC 1 in Part II of Appendix II
UVCB iron chelates	A water-soluble straight mineral micronutrient fertiliser in which the declared iron is chemically combined with chelating agent(s) fulfilling the requirements of CMC 1 in Part II of Appendix II	- 5 % by mass of UVCB iron chelates shall consist of water-soluble iron, and - at least 80 % of the water-soluble iron shall be chelated and at least 50 % of the water soluble iron shall be chelated by a chelating agent fulfilling the requirements of CMC 1 in Part II of Appendix II
Micronutrient complex fertiliser	A water-soluble straight mineral micronutrient fertiliser in which the declared micronutrient is chemically combined with complexing agent(s) fulfilling the requirements of CMC 1 in Part II of Appendix II	- 5 % by mass of a micronutrient complex fertiliser shall consist of a water-soluble micronutrient, and - at least 80 % of the water-soluble micronutrient shall be complexed by a complexing agent fulfilling the requirements of CMC 1 in

	Part II of Appendix II.
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UVCB: substance of unknown or variable composition, complex reaction products or biological materials

TYPE 1.C.II.b: COMPOUND MINERAL MICRONUTRIENT FERTILISERS

1. A compound mineral micronutrient fertiliser shall have a declared content of more than one micronutrient.
2. The sum of all declared micronutrient contents in a compound inorganic micronutrient fertiliser shall be at least:
 - (a) 2 % for fertilisers in liquid form
 - (b) 5 % for fertilisers in solid form.

APPENDIX 1.B**TYPE 2: LIMING MATERIALS**

1. A liming material shall contain oxides, hydroxides, carbonates or silicates of the nutrients calcium (Ca) or magnesium (Mg).
2. Contaminants in a liming material must not exceed the following limit values:

Contaminant	Maximum content (mg/kg dry matter)
cadmium (Cd)	1
hexavalent chromium (Cr VI)	2
mercury (Hg)	0,7
nickel (Ni)	90
lead (Pb)	100
arsenic (As)	40

3. The copper (Cu) content in a liming material must not exceed 300 mg/kg dry matter, and the zinc (Zn) content in a liming material must not exceed 800 mg/kg dry matter.
4. The following parameters determined on the basis of the mass of a liming material shall be met:
 - (a) minimum neutralising value: 15 (equivalent CaO) or 9 (equivalent HO-), and
 - (b) minimum reactivity: 10 % (hydrochloric acid test) or 50 % after 6 months (incubation test), and
 - (c) minimum grain size: at least 70 % < 1 mm, except for burnt limes, granulated liming material and chalk (at least 70 % of the liming material shall pass through a 1 mm sieve).

APPENDIX 1.C**TYPE 3: SOIL IMPROVERS****TYPE 3.A: ORGANIC SOIL IMPROVERS**

An organic soil improver shall consist of material 95 % of which is of solely biological origin. An organic soil improver may contain peat, leonardite and lignite, but no other material which is fossilized or embedded in geological formations.

TYPE 3.A.I: SOLID ORGANIC SOIL IMPROVERS

1. A solid organic soil improver shall consist of material 95 % of which is of solely biological origin.

A solid organic soil improver may contain peat, leonardite and lignite, but no other material which is fossilized or embedded in geological formations.

2. Contaminants in a solid organic soil improver must not exceed the following limit values:

Contaminant	Maximum content (mg/kg dry matter)
cadmium (Cd)	1
hexavalent chromium (Cr VI)	2
mercury (Hg)	0,7
nickel (Ni)	50
lead (Pb)	100
inorganic arsenic (As)	40
PAH	6
PCB	1

3. The copper (Cu) content in a solid organic soil improver must not exceed 300 mg/kg dry matter, and the zinc (Zn) content in an organic soil improver must not exceed 800 mg/kg dry matter.

4. Pathogens in a solid organic soil improver must meet the requirements set out in the following table:

(a) absence of *Salmonella* spp. in 25 g or 25 ml;

(b) a maximum of 1 000 viable bacteria (CFU) of *Escherichia coli* or *Enterococcaceae* in a sample of 1 g or ml.

The analysis shall be carried out on 5 samples, making 1 average sample for the determination of the presence of pathogens in a solid organic soil improver.

5. A solid organic soil improver shall contain at least 20 % of dry matter.

6. Organic carbon (C_{org}) content in a solid organic soil improver shall be at least 7.5 % by mass of an HR fertilising product.

TYPE 3.A.II: LIQUID ORGANIC SOIL IMPROVER

1. A liquid organic soil improver shall consist of material 95 % of which is of solely biological origin.

A liquid organic soil improver may contain peat, leonardite and lignite, but no other material which is fossilized or embedded in geological formations.

2. Contaminants in a liquid organic soil improver must not exceed the following limit values:

Contaminant	Maximum content (mg/kg dry matter)
cadmium (Cd)	2
hexavalent chromium (Cr VI)	2
mercury (Hg)	1
nickel (Ni)	50
lead (Pb)	120
inorganic arsenic (As)	40
PAH	6
PCB	1

3. The copper (Cu) content in a liquid organic soil improver must not exceed 300 mg/kg dry matter, and the zinc (Zn) content in an organic soil improver must not exceed 800 mg/kg dry matter.

4. Pathogens in a liquid organic soil improver shall meet the requirements set out in the following table:

- (a) absence of *Salmonella* spp. in 25 g or 25 ml;
- (b) a maximum of 1 000 viable bacteria (CFU) of *Escherichia coli* or *Enterococcaceae* in a sample of 1 g or ml.

The analysis shall be carried out on 5 samples, making 1 average sample for the determination of the presence of pathogens in a liquid organic soil improver.

5. A liquid organic soil improver shall contain at least 2 % of dry matter.

6. Organic carbon (C_{org}) content in a liquid organic soil improver shall be at least 0.7 % by mass of an HR fertilising product.

TYPE 3.B: INORGANIC (MINERAL) SOIL IMPROVERS

1. An inorganic (mineral) soil improver is a soil improver whose function is to improve the physical and chemical properties of the soil and the biological activity of the soil, and which is not of organic origin.

2. Contaminants in an inorganic (mineral) soil improver must not exceed the following limit values:

Contaminant	Maximum content (mg/kg dry matter)
cadmium (Cd)	1,5
hexavalent chromium (Cr VI)	2
mercury (Hg)	1
nickel (Ni)	100
lead (Pb)	120
inorganic arsenic (As)	40

3. The copper (Cu) content in an inorganic (mineral) soil improver must not exceed 300 mg/kg dry matter, and the zinc (Zn) content must not exceed 800 mg/kg dry matter.

4. Pathogens in an inorganic (mineral) soil improver shall meet the requirements set out in the following table:

- (a) absence of *Salmonella* spp. in 25 g or 25 ml;
- (b) a maximum of 1 000 viable bacteria (CFU) of *Escherichia coli* or *Enterococcaceae* in a sample of 1 g or ml.

The analysis shall be carried out on 5 samples, making 1 average sample for the determination of the presence of pathogens in an inorganic (mineral) soil improver.

APPENDIX I.D

TYPE 4: GROWING MEDIA

According to the purpose and method of use, growing media are divided into two subtypes:

1. TYPE 4.A Growing media for agricultural purposes
2. TYPE 4.B Other growing media

TYPE 4.A GROWING MEDIA FOR AGRICULTURAL PURPOSES

1. A growing medium for agricultural purposes shall be an HR fertilising product other than soil in situ, the function of which is for plants or mushrooms to grow in. For the purpose of this point, plants include algae.

2. Contaminants in a growing medium for agricultural purposes must not exceed the following limit values:

Contaminant	Maximum content (mg/kg dry matter)
cadmium (Cd)	1,5
hexavalent chromium (Cr VI)	2
mercury (Hg)	1
nickel (Ni)	50
lead (Pb)	120
inorganic arsenic (As)	40
PAH	6
PCB	1

2. (a) By derogation from the table above, the limit value for nickel (Ni) in a growing medium for agricultural purposes composed by mineral constituents and offered for professional use in horticulture, green roofs or green walls, shall apply to the bioavailable content of the contaminant.

3. The copper (Cu) content in a growing medium must not exceed 200 mg/kg dry matter, and the zinc (Zn) content in a growing medium must not exceed 500 mg/kg dry matter.

4. Pathogens in a growing medium for agricultural purposes shall meet the requirements set out in the following table:

- (a) absence of *Salmonella* spp. in 25 g or 25 ml;
- (b) a maximum of 1 000 viable bacteria (CFU) of *Escherichia coli* or *Enterococcaceae* in a sample of 1 g or ml.

The analysis shall be carried out on 5 samples, making 1 average sample for the determination of the presence of pathogens in a growing medium for agricultural purposes.

5. In addition to the requirements set out in points 1 to 4, the growing medium for agricultural purposes shall also meet the following requirements:

- (a) at least 15 % by mass of organic matter in the dry matter,
- (b) no more than 2 germinable seeds per 1 litre of volume sample,
- (c) no more than 3 g/kg dry matter of macroscopic impurities above 2 mm in any of the following forms: glass, metal or plastics,
- (d) no more than 5 g/kg dry matter of the sum of the macroscopic impurities referred to in point (b).

After 16 July 2026, the presence of plastics above 2 mm within the maximum limit value referred to in point (b) shall be no more than 2.5 g/kg dry matter. After 16 July 2029 the limit value of 2.5 g/kg dry matter for plastics above 2 mm shall be re-assessed in order to take into account the progress made with regards to separate collection of bio-waste.

6. The frequency of testing the fulfilment of the requirements set out points 1 to 5 in the production of a growing medium for agricultural purposes shall be carried out on the basis of the production of annual quantities in tonnes, as follows:

Annual quantities (tonnes)	Number of analyses
Up to 1 000 tonnes	1
Between 1 001 and 5 000	2
Between 5 001 and 10 000	3
Between 10 001 and 50 000	5
More than 50 000	10

TYPE 4.B OTHER GROWING MEDIA

1. Other growing media are HR fertilising products other than soil in situ which may not be used on agricultural land for food production; they may not be taken out, deposited, or introduced into agricultural land for food production.
2. In addition to the restrictions on agricultural land, other growing media shall not be used:
 - (a) in water protection areas designated in accordance with legislation governing water,
 - (b) on coastal land designated in accordance with legislation governing water,
 - (c) on land saturated with water or on snow-covered or frozen land,
 - (d) on inclined land, where there is a risk of erosion or surface leaching,
 - (e) for the remediation of gravel and other surfaces on permeable geological substrates,
 - (f) in wetlands,
 - (g) on forest land,
 - (h) on children’s playgrounds, and
 - (i) in the area of karst cracks and aquifers, except for the recultivation of landfills in such areas in accordance with the regulation governing the disposal of waste in landfills.
3. Unless otherwise specified in regulations governing water protection areas or environmental protection, other growing media may be used exclusively for the following purposes:
 - (a) cultivation of ornamental plants in containers in gardens and nurseries,
 - (b) improvement of soil in parks, public areas or sports, recreation or leisure areas,
 - (c) covering landfills in accordance with the regulation governing the disposal of waste in landfills,
 - (d) improvement of transport infrastructure soil, and
 - (e) construction of biofilters.
4. For the production of other growing media, one or more of the following shall be used as an integral material, in varying proportions:
 - (a) CMCs referred to in Appendix II to this Ordinance,
 - (b) sludge from sewage treatment plants, and
 - (c) industrial sludge from wastewater treatment plants in the agri-food industry.

Before mixing with other CMCs composing other growing media, sludge entering the composition of other growing media shall undergo a stabilisation process.

After mixing CMCs within other growing media, the blend must undergo a production manufacturing involving aerobic composting. The aerobic composting shall consist of controlled decomposition of biodegradable materials, which is predominantly aerobic and which allows the development of temperatures suitable for thermophilic bacteria as a result of biologically produced heat. All parts of each batch shall be either regularly and thoroughly moved and turned or subject to forced ventilation in order to ensure the correct sanitation and homogeneity of the material. During the composting process, all parts of each batch shall have one of the following temperature-time profiles:

- 70 °C or more for at least 3 days,
- 65 °C or more for at least 5 days,
- 60 °C or more for at least 7 days, or
- 55 °C or more for at least 14 days.

5. Contaminants in other growing media must not exceed the following limit values:

Contaminant	Maximum content (mg/kg dry matter)
cadmium (Cd)	3

hexavalent chromium (Cr VI)	2
mercury (Hg)	3
nickel (Ni)	100
lead (Pb)	200
inorganic arsenic (As)	40
PAH	6
PCB	1

6. The copper (Cu) content in other growing media must not exceed 500 mg/kg dry matter, and the zinc (Zn) content must not exceed 1 800 mg/kg dry matter.

7. Pathogens in other growing media shall meet the requirements set out in the following table:

- (a) absence of *Salmonella* spp. in 25 g or 25 ml;
- (b) a maximum of 1 000 viable bacteria (CFU) of *Escherichia coli* or *Enterococcaceae* in a sample of 1 g or ml.

The analysis shall be carried out on 5 samples, making 1 average sample for the determination of the presence of pathogens in other growing media.

8. In addition to the requirements set out in points 1 to 4, other growing media shall also meet the following requirements:

- (a) at least 15 % by mass of organic matter in the dry matter,
- (b) no more than 2 germinable seeds per 1 litre of volume sample,
- (c) no more than 3 g/kg dry matter of macroscopic impurities above 2 mm in any of the following forms: glass, metal or plastics;
- (d) no more than 5 g/kg dry matter of the sum of the macroscopic impurities referred to in point (b).

After 16 July 2026, the presence of plastics above 2 mm within the maximum limit value referred to in point (b) shall be no more than 2.5 g/kg dry matter. After 16 July 2029 the limit value of 2.5 g/kg dry matter for plastics above 2 mm shall be re-assessed in order to take into account the progress made with regards to separate collection of bio-waste.

9. The frequency of testing the fulfilment of the requirements set out points 1 to 8 in the production of other growing media shall be carried out on the basis of the production of annual quantities in tonnes, as follows:

Annual quantities (tonnes)	Number of analyses
Up to 1 000 tonnes	1
Between 1 001 and 5 000	2
Between 5 001 and 10 000	3
Between 10 001 and 50 000	5
More than 50 000	10

APPENDIX I.E

TYPE 5: INHIBITORS

TYPE 5.A: NITROFICATION INHIBITORS

1. A nitrification inhibitor shall inhibit the biological oxidation of ammoniacal nitrogen (NH₃-N) to nitrite nitrogen (NO₂-), thus slowing the formation of nitrate nitrogen (NO₃-).

2. The ammoniacal nitrogen ($\text{NH}_3\text{-N}$) oxidation rate shall be measured by:
 - (a) ammoniacal nitrogen ($\text{NH}_3\text{-N}$) disappearance, or

(b) the sum of nitrite nitrogen (NO₂-) and nitrate nitrogen (NO₃-) production with respect to time.

3. Compared to a control sample where the nitrification inhibitor has not been added, a soil sample containing the nitrification inhibitor shall show a 20 % reduction in ammoniacal nitrogen (NH₃-N) oxidation rate based on an analysis carried out 14 days after application at the 95 % confidence level.

TYPE 5.B: DENITRIFICATION INHIBITORS

1. A denitrification inhibitor shall inhibit the formation of nitrous oxide (N₂O) by slowing down or blocking the conversion of nitrate (NO₃-) to dinitrogen (N₂) without influencing the nitrification process as described in Type 5.A.

2. Compared to a control sample where the denitrification inhibitor has not been added, an in vitro test containing the denitrification inhibitor shall show a 20 % reduction in rate of the release of nitrous oxide (N₂O) based on an analysis carried out 14 days after application at the 95 % confidence level.

TYPE 5.C: UREASE INHIBITORS

1. A urease inhibitor shall inhibit hydrolytic action on urea (CH₄N₂O), by the urease enzyme, primarily targeted to reduce ammonia volatilisation.

2. Compared to a control sample where the urease inhibitor has not been added, an in vitro test containing the urease inhibitor shall show a 20 % reduction in the rate of hydrolysis of urea (CH₄N₂O) based on an analysis carried out 14 days after application at the 95 % confidence level.

APPENDIX I.F

TYPE 6: PLANT BIOSTIMULANTS

1. Contaminants in a plant biostimulant must not exceed the following limit values:

Contaminant	Maximum content (mg/kg dry matter)
cadmium (Cd)	1,5
hexavalent chromium (Cr VI)	2
mercury (Hg)	1
nickel (Ni)	50
lead (Pb)	120
arsenic (As)	40

2. The copper (Cu) content in a plant biostimulant must not exceed 600 mg/kg dry matter, and the zinc (Zn) content in a plant biostimulant must not exceed 1 500 mg/kg dry matter.

3. The plant biostimulant shall have the effects that are claimed on the label for the plants specified thereon.

TYPE 6.A: MICROBIAL PLANT BIOSTIMULANTS

1. A microbial plant biostimulant shall consist of a micro-organism or a consortium of micro-organisms referred to in Appendix II.

2. Pathogens in a microbial plant biostimulant must not exceed the limits set out in the following

table:

Micro-organisms/their toxins, metabolites	Sampling plans		Limit
<i>Salmonella</i> spp.			Absence in 25 g or 25 ml
<i>Escherichia coli</i>			Absence in 1 g or 1 ml
<i>Listeria monocytogenes</i>			Absence in 25 g or 25 ml
<i>Vibrio</i> spp.			Absence in 25 g or 25 ml
<i>Shigella</i> spp.			Absence in 25 g or 25 ml
<i>Staphylococcus aureus</i>			Absence in 25 g or 25 ml
<i>Enterococcaceae</i>			10 ⁵ CFU/g
Anaerobic plate count unless the microbial plant biostimulant is an aerobic bacterium			10 ⁵ CFU/g or ml
Yeast and mould count unless the microbial plant biostimulant is a fungus			1000 CFU/g or ml

Where:

n = number of units comprising the sample;

c = number of sample units giving values over the defined limit.

3. When the microbial plant biostimulant is in liquid form, the plant biostimulant shall have a pH optimal for contained micro-organisms and for plants.

TYPE 6.B: NON-MICROBIAL PLANT BIOSTIMULANTS

1. A non-microbial plant biostimulant shall be a plant biostimulant other than a microbial plant biostimulant.
2. Pathogens in a non-microbial plant biostimulant shall meet the requirements set out in the following table:
 - (a) absence of *Salmonella* spp. in 25 g or 25 ml;
 - (b) a maximum of 1 000 viable bacteria (CFU) of *Escherichia coli* or *Enterococcaceae* in a sample of 1 g or ml.

The analysis shall be carried out on 5 samples, making 1 average sample for the determination of the presence of pathogens in a non-microbial plant biostimulant.

APPENDIX I.G

TYPE 7: FERTILISING PRODUCT BLENDS

1. A fertilising product blend shall be an HR fertilising product composed of two or more HR fertilising products of types 1 to 6 for which the compliance with the requirements of this Ordinance of each component HR fertilising product in the blend has been demonstrated, or composed of two or more CE-marked EU fertilising products of types 1 to 6, for which compliance with the requirements of Regulation (EU) 2019/1009 of each component EU fertilising product in the blend has been demonstrated.

2. The blending shall not change the nature of each component HR fertilising product or EU fertilising product and shall not have an adverse effect on human, animal or plant health, on safety, or on the environment, under reasonably foreseeable conditions of storage or use of the fertilising product blend.
- 2a. An inhibiting compound in a blend shall be present in a concentration, which is within the range of concentrations that ensures the achievement of the reduction rates in the conditions referred to in Type 5 in Part II of this Appendix and, respectively, in point 4 of CMC 1 in Part II of Appendix II, at the level of the blend.
3. The manufacturer of the blend shall ensure its compliance with the requirements from points 1, 2 and 2a of this Type, as well as its compliance with the labelling requirements laid down in Appendix III. The manufacturer shall assume responsibility for the compliance of the blend with the requirements of the Act and of this Ordinance by drafting an HR declaration of conformity for the fertilising product blend in accordance with the requirements of the relevant type based on the decision on entry in the Register of HR Fertilising Products for each component HR fertilising product belonging to the blend, or, if the blend consists of a CE-marked EU fertilising product placed on the market in accordance with Regulation (EU) 2019/1009, based on the EU declaration of conformity.
4. Economic operators making fertilising product blends available on the market of the Republic of Croatia shall comply with the provisions of this Ordinance and with the provisions of Regulation (EU) 2019/1009, as applicable, with regard to the obligations of manufacturers, authorised representatives, importers and distributors, as set out in Article 3 of the Act and Articles 6 to 9 of Regulation (EU) 2019/1009.

APPENDIX II

COMPONENT MATERIAL CATEGORIES (CMCs)

An HR fertilising product shall consist solely of component materials complying with the requirements for one or more of the CMCs listed in this Appendix.

The component materials, and the input materials used to produce them, shall not contain any of the substances for which maximum limit values are indicated in Appendix I in such quantities as to jeopardise the HR fertilising product's compliance with the applicable requirements of that Appendix.

PART I

Designation of

CMCs

- CMC 1 Virgin material substances and mixtures
- CMC 2 Plants, plant parts or plant extracts
- CMC 3 Compost
- CMC 4 Fresh crop digestate
- CMC 5 Digestate other than fresh crop digestate
- CMC 6 Food industry by-products
- CMC 7 Micro-organisms
- CMC 8 Nutrient polymers
- CMC 9 Polymers other than nutrient polymers
- CMC 10 Derived products within the meaning of Regulation (EC) No 1069/2009
- CMC 11 By-products within the meaning of Directive 2008/98/EC
- CMC 12 Precipitated phosphate salts and derivatives
- CMC 13 Thermal oxidation materials and derivatives
- CMC 14 Pyrolysis and gasification materials
- CMC 15 Recovered high purity materials

PART II

REQUIREMENTS RELATED TO CMCs

Part II defines the component materials of which HR fertilising products shall solely consist.

CMC 1 VIRGIN MATERIAL SUBSTANCES AND MIXTURES

1. An HR fertilising product may contain substances and mixtures, except¹:
 - (a) waste within the meaning of Directive 2008/98/EC,
 - (b) substances or mixtures which have ceased to be waste in one or more Member States by virtue of the national measures transposing Article 6 of Directive 2008/98/EC,
 - (c) substances formed from precursors which have ceased to be waste in one or more Member States by virtue of the national measures transposing Article 6 of Directive 2008/98/EC, or mixtures containing such substances,
 - (d) by-products within the meaning of Directive 2008/98/EC,
 - (e) animal by-products or derived products within the meaning of Regulation (EC) No

1069/2009;
(f) polymers, other than:

- i. polymers that are the result of a polymerisation process that has taken place in nature, independently of the extraction process with which they have been extracted and that have not been chemically modified within the meaning of Article 3(40) of Regulation (EC) No 1907/2006,
 - ii. biodegradable polymers, or
 - iii. polymers with a water-solubility higher than 2 g/L in the following conditions:
 - temperature 20 0 C,
 - pH 7
 - loading: 10 g/1 000 mL
 - test time: 24h,
 - (g) compost,
 - (h) digestate,
 - (i) precipitated phosphate salts or derivates, which are recovered from waste or are by-products within the meaning of Directive 2008/98/EC,
 - (j) thermal oxidation materials or derivates which are recovered from waste or are by-products within the meaning of Directive 2008/98/EC,
 - (k) pyrolysis and gasification materials, which are recovered from waste or are by-products within the meaning of Directive 2008/98/EC, or
 - (l) ammonium salts, sulphate salts, phosphate salts, elemental sulphur, calcium carbonate or calcium oxide, which are recovered from waste within the meaning of Article 3, point 1 of Directive 2008/98/EC.
2. All substances incorporated into the HR fertilising product, on their own or in a mixture, except polymers, shall have been registered pursuant to Regulation (EC) No 1907/2006², with a dossier containing:
- (a) the information provided for by Annexes VI, VII and VIII to Regulation (EC) No 1907/2006,
 - (b) a chemical safety report pursuant to Article 14 of Regulation (EC) No 1907/2006 covering the use as a fertilising product, unless explicitly covered by one of the registration obligation exemptions provided for by Annex IV to Regulation (EC) No 1907/2006 or by points 6, 7, 8, 9 or 10 (only for magnesium oxide) of Annex V to that Regulation.
3. Where the substance or one of the substances in the mixture is intended to enhance the long term availability to plants of micronutrients in the HR fertilising product, that substance shall be either a chelating agent or a complexing agent, and the following rules shall apply:
- (a) The chelating agent shall be an organic substance consisting in a molecule which:
 - i. has two or more sites that donate electron pairs to a central transition metal cation (zinc (Zn), copper (Cu), iron (Fe), manganese (Mn), magnesium (Mg), calcium (Ca) or cobalt (Co)), and
 - ii. is large enough to form a five- or six- membered cyclic structure.
- The HR fertilising product shall remain stable for at least 3 days in a solution having any pH within the range declared as guaranteeing acceptable stability.
- (b) The complexing agent shall be an organic substance forming a flat or steric structure with one di- or tri- valent transition metal cation (zinc (Zn), copper (Cu), iron (Fe), manganese (Mn) or cobalt (Co)).
- The HR fertilising product shall remain stable in water solution at pH 6 and 7 for at least 1 day.
4. Where the substance or one of the substances in the mixture is intended to improve the HR fertilising product's nutrient release patterns by delaying or stopping the activity of specific groups of micro-organisms or enzymes, that substance shall be a nitrification, a denitrification or a urease inhibiting compound, and the following rules shall apply:
- (a) The nitrification inhibiting compound shall inhibit the biological oxidation of

ammoniacal nitrogen ($\text{NH}_3\text{-N}$) contained in the HR fertilising product to nitrite nitrogen (NO_2^-), thus slowing the formation of nitrate nitrogen (NO_3^-).

The ammoniacal nitrogen ($\text{NH}_3\text{-N}$) oxidation rate shall be measured by either of the following:

- i. ammoniacal nitrogen ($\text{NH}_3\text{-N}$) disappearance;
- ii. the sum of nitrite nitrogen (NO_2^-) and nitrate nitrogen (NO_3^-) production with respect to time. Compared to a control sample where the nitrification inhibiting compound has not been added, a soil sample containing the nitrification inhibiting compound shall show a 20 % reduction in ammoniacal nitrogen ($\text{NH}_3\text{-N}$) oxidation rate based on an analysis carried out 14 days after application at the 95 % confidence level.

The nitrification inhibiting compound shall be present in the HR fertilising product in a concentration, which is within the range of concentrations that ensures the achievement of such a reduction.

At least 50 % of the total nitrogen (N) content of the HR fertilising product shall consist of the nitrogen (N) forms ammonium (NH_4^+) and urea ($\text{CH}_4\text{N}_2\text{O}$);

- (b) the denitrification inhibiting compound shall inhibit the formation of nitrous oxide (N_2O) contained in the HR fertilising product by slowing down or blocking the conversion of nitrate (NO_3^-) to nitrogen (N_2) without influencing the nitrification process as described in Type 5.A.

Compared to a control sample where the denitrification inhibiting compound has not been added, an in vitro test containing the denitrification inhibiting compound shall show a 20 % reduction in rate of the release of nitrous oxide (N_2O) based on an analysis carried out 14 days after application at the 95 % confidence level.

The denitrification inhibiting compound shall be present in the HR fertilising product in a concentration, which is within the range of concentrations that ensures the achievement of such a reduction.

- (c) The urease inhibiting compound shall inhibit hydrolytic action on urea ($\text{CH}_4\text{N}_2\text{O}$) contained in the HR fertilising product by the urease enzyme, primarily targeted to reduce ammonia volatilisation.

Compared to a control sample where the urease inhibiting compound has not been added, an in vitro test containing the urease inhibiting compound shall show a 20 % reduction in the rate of hydrolysis of urea ($\text{CH}_4\text{N}_2\text{O}$) based on an analysis carried out 14 days after application at the 95 % confidence level.

The urease inhibiting compound shall be present in the HR fertilising product in a concentration, which is within the range of concentrations that ensures the achievement of such a reduction.

At least 50 % of the total nitrogen (N) content of the HR fertilising product shall consist of the nitrogen (N) form urea ($\text{CH}_4\text{N}_2\text{O}$).

CMC 2 PLANTS, PLANT PARTS OR PLANT EXTRACTS

An HR fertilising product may contain plants, plant parts or plant extracts having undergone no processing other than cutting, grinding, milling, sieving, sifting, centrifugation, pressing, drying, frost treatment, freeze-drying, extraction with water, supercritical CO_2 extraction, or fiberisation at a temperature not higher than 100 °C and without any additives except water.

For the purpose of this point, plants include mushrooms and algae and exclude blue-green algae (cyanobacteria).

CMC 3 COMPOST

1. An HR fertilising product may contain compost obtained through aerobic composting of exclusively one or more of the following input materials:

- (a) bio-waste within the meaning of Directive 2008/98/EC resulting from separate bio-waste collection at source;

- (b) living or dead organisms or parts thereof, which are unprocessed or processed only by manual, mechanical or gravitational means, by dissolution in water, by flotation, by extraction with water, by steam distillation or by heating solely to remove water, or which are extracted from air by any means, except:
 - i. materials originating from mixed municipal waste,
 - ii. sewage sludge, industrial sludge or dredging sludge, and
 - iii. animal by-products or derived products within the scope of Regulation (EC) No 1069/2009,
 - (c) composting additives which are necessary to improve the process performance or the environmental performance of the composting process provided that:
 - i. the additive complies with the requirement set out in point 2 in CMC 1 and
 - ii. the total concentration of all additives does not exceed 5 % of the total input material weight, or
 - (d) any material listed in points (a) or (b) or in point 2 which:
 - i. has previously been composted or digested, and
 - ii. contains no more than 6 mg/kg dry matter of PAH₁₆³;
 - (e) wood packaging, including untreated wooden containers, vessels, crates, pallets, etc., except for:
 - i. waste containing coatings, and
 - ii. waste containing non-biodegradable protective agents,
 - (f) by way of derogation from point (b), only industrial sludge from wastewater treatment plants in the agri-food industry may be used as input material in compost.
2. Notwithstanding point 1, an HR fertilising product may contain compost obtained through aerobic composting of Category 2 or Category 3 materials or derived products thereof, in accordance with the conditions set out in Article 32(1) and (2) and in the measures referred to in Article 32(3) of Regulation (EC) No 1069/2009, alone or mixed with input materials referred to in point 1, provided that:
- (a) the end point in the manufacturing chain has been determined in accordance with the third subparagraph of Article 5(2) of Regulation (EC) No 1069/2009, and the currently applicable delegated act in accordance with Article 51a, which supplements Regulation (EC) No 1069/2009 by the establishment of an end point in the production chain after which the requirements of this Regulation shall no longer apply to the derived products, and
 - (b) the conditions in points 3 and 4 are met.
3. The composting shall take place in a plant:
- (a) in which production lines for the processing of input materials referred to in points 1 and 2 are clearly separated from production lines for the processing of input materials other than those referred to in points 1 and 2, and
 - (b) where physical contacts between input and output materials are avoided, including during storage.
4. The aerobic composting shall consist of controlled decomposition of biodegradable materials, which is predominantly aerobic and which allows the development of temperatures suitable for thermophilic bacteria as a result of biologically produced heat. All parts of each batch shall be either regularly and thoroughly moved and turned or subject to forced ventilation in order to ensure the correct sanitation and homogeneity of the material. During the composting process, all parts of each batch shall have one of the following temperature-time profiles:
- 70 °C or more for at least 3 days,
 - 65 °C or more for at least 5 days,
 - 60 °C or more for at least 7 days, or
 - 55 °C or more for at least 14 days.

4. The compost shall contain:
- (a) no more than 6 mg/kg dry matter of PAH⁴;
 - (b) no more than 3 g/kg dry matter of macroscopic impurities above 2 mm in any of the following forms: glass, metal or plastics; and
 - (c) no more than 5 g/kg dry matter of the sum of the macroscopic impurities referred to in point (b).

After 16 July 2026, the presence of plastics above 2 mm within the maximum limit value referred to in point (b) shall be no more than 2.5 g/kg dry matter. After 16 July 2029 the limit value of 2.5 g/kg dry matter for plastics above 2 mm shall be re-assessed in order to take into account the progress made with regards to separate collection of bio-waste.

5. The compost shall meet at least one of the following stability criteria:
- (a) Oxygen uptake rate:
 - Definition: an indicator of the extent to which biodegradable organic matter is being broken down within a specified time period. The method is not suitable for material with a content of particle sizes > 10 mm that exceeds 20 %,
 - Criterion: maximum 25 mmol O₂/kg organic matter/h; or
 - (b) Self heating factor:
 - Definition: the maximum temperature reached by a compost in standardised conditions as an indicator of the state of its aerobic biological activity,
 - Criterion: minimum Rottegrad III.
6. If compliance with the requirement under point 4(a) follows certainly and uncontestedly from the characteristics or the process of recovery of compost or the manufacturing process of an HR fertilising product, that compliance can be presumed in the conformity assessment procedure without verification (such as testing), at the responsibility of the manufacturer.

CMC 4 FRESH CROP DIGESTATE

1. An HR fertilising product may contain digestate obtained through anaerobic digestion of exclusively one or more of the following input materials:
- (a) plants or plant parts grown for the production of biogas. For the purpose of this point, plants include algae and exclude blue-green algae (cyanobacteria);
 - (b) digestion additives which are needed to improve the process performance or the environmental performance of the digestion process provided that:
 - i. the additive complies with the requirement set out in point 2 in CMC 1 and
 - ii. the total concentration of all additives does not exceed 5 % of the total input material weight; or
 - (c) any material referred to in point (a) that has previously been digested.
2. The anaerobic digestion shall take place in a plant where physical contacts between input and output materials are avoided, including during storage.
3. The anaerobic digestion shall consist of controlled decomposition of biodegradable materials, which is predominantly anaerobic and at temperatures suitable for mesophilic or thermophilic bacteria. All parts of each batch shall be regularly and thoroughly moved and turned in order to ensure the correct sanitation and homogeneity of the material. During the digestion process, all parts of each batch shall have one of the following temperature-time profiles:
- (a) thermophilic anaerobic digestion at 55 °C for at least 24 hours followed by a hydraulic retention time of at least 20 days;
 - (b) thermophilic anaerobic digestion at 55 °C with a treatment process including pasteurisation as described in point 1 of Section 1 of Chapter I of Annex V to Commission Regulation (EU) No 142/2011;
 - (c) thermophilic anaerobic digestion at 55 °C;

(d) mesophilic anaerobic digestion at 35-47 °C.

3.a An HR fertilising product may contain a solid or liquid fraction, obtained by mechanical separation of a digestate compliant with points 1 to 3.

3.b An HR fertilising product may contain a digestate compliant with points 1 to 3, or a fraction compliant with point 3a, from which all or part of the soluble ammonium and/or of the phosphate has been removed to recover nitrogen and/or phosphorus, without the intention to otherwise modify the digestate or the fraction.

3.c An HR fertilising product may contain a digestate compliant with points 1 to 3 or point 3b, as well as a fraction compliant with point 3a, which have undergone only physical processing to remove water without the intention to otherwise modify the digestate or the fraction.

3.d Additives needed in the post processing of a digestate or a fraction in accordance with points 3a, 3b and

3c may be used provided that:

(a) the additive complies with the requirement set out in point 2 in CMC 1;

(b) the concentration of the additives needed in each of the processes does not exceed 5 % of the weight of the digestate or fraction used as input in the respective process.

4. The digestate or a fraction referred to in points 3a, 3b and 3c shall meet at least one of the following stability criteria:

(a) Oxygen uptake rate:

- Definition: an indicator of the extent to which biodegradable organic matter is being broken down within a specified time period. The method is not suitable for material with a content of particle sizes >10 mm that exceeds 20 %;

- Criterion: maximum 25 mmol O₂/kg organic matter/h; or

(b) residual biogas potential

- Definition: an indicator of the gas released from a digestate in a 28 day period and measured against the volatile solids contained within the sample. The test is run in triplicate, and the average result is used to demonstrate compliance with the criterion. The volatile solids are those solids in a sample of material that are lost on ignition of the dry solids at 550 °C;

- Criterion: maximum 0.25 l biogas/g volatile solids.

CMC 5 DIGESTATE OTHER THAN FRESH CROP DIGESTATE

1. An HR fertilising product may contain digestate obtained through anaerobic digestion of exclusively one or more of the following input materials:

(a) bio-waste within the meaning of Directive 2008/98/EC resulting from separate bio-waste collection at source;

(b) living or dead organisms or parts thereof, which are unprocessed or processed only by manual, mechanical or gravitational means, by dissolution in water, by flotation, by extraction with water, by steam distillation or by heating solely to remove water, or which are extracted from air by any means, except:

- i. materials originating from mixed municipal waste,

- ii. sewage sludge, industrial sludge or dredging sludge, and

- iii. animal by-products or derived products within the scope of Regulation (EC) No 1069/2009;

(c) digestion additives which are necessary to improve the process performance or the environmental performance of the digestion process provided that:

- i. the additive complies with the requirement set out in point 2 in CMC 1 and

- ii. the total concentration of all additives does not exceed 5 % of the total input material weight; or

(d) any material listed in points (a) or (b) or in point 2 which:

- i. has previously been composted or digested, and

- ii. contains no more than 6 mg/kg dry matter of PAH₁₆⁵

(e) by way of derogation from point (b), only industrial sludge from wastewater treatment plants in the agri-food industry may be used as input material in digestate other than fresh crop digestate.

2. Notwithstanding point 1, an HR fertilising product may contain digestate obtained through anaerobic digestion of Category 2 or Category 3 materials or derived products thereof, in accordance with the conditions set out in Article 32(1) and (2) and in the measures referred to in Article 32(3) of Regulation (EC) No 1069/2009, alone or mixed with input materials referred to in point 1, provided that:

(a) the end point in the manufacturing chain has been determined in accordance with the third subparagraph of Article 5(2) of Regulation (EC) No 1069/2009, and the currently applicable delegated act in accordance with Article 51a, which supplements Regulation (EC) No 1069/2009 by the establishment of an end point in the production chain after which the requirements of this Regulation shall no longer apply to the derived products, including manure and slurry, and

(b) the conditions in points 3 and 4 are met.

3. The anaerobic digestion shall take place in a plant where physical contacts between input and output materials are avoided, including during storage.

4. The anaerobic digestion shall consist of controlled decomposition of biodegradable materials, which is predominantly anaerobic and at temperatures suitable for mesophilic or thermophilic bacteria. All parts of each batch shall be regularly and thoroughly moved and turned in order to ensure the correct sanitation and homogeneity of the material. During the digestion process, all parts of each batch shall have one of the following temperature-time profiles:

(a) thermophilic anaerobic digestion at 55 °C for at least 24 hours followed by a hydraulic retention time of at least 20 days;

(b) thermophilic anaerobic digestion at 55 °C with a treatment process including pasteurisation as described in point 1 of Section 1 of Chapter I of Annex V to Regulation (EU) No 142/2011;

(c) thermophilic anaerobic digestion at 55 °C

(d) mesophilic anaerobic digestion at 37-40 °C with a treatment process including pasteurisation as described in point 1 of Section 1 of Chapter I of Annex V to Regulation (EU) No 142/2011, or

(e) mesophilic anaerobic digestion at 35-47 °C.

3.a An HR fertilising product may contain a solid or liquid fraction, obtained by mechanical separation of a digestate compliant with points 1 to 3.

3.b An HR fertilising product may contain a digestate compliant with points 1 to 3, or a fraction compliant with point 3a, from which all or part of the soluble ammonium and/or of the phosphate has been removed to recover nitrogen and/or phosphorus, without the intention to otherwise modify the digestate or the fraction.

3.c An HR fertilising product may contain a digestate compliant with points 1 to 3 or point 3b, as well as a fraction compliant with point 3a, which have undergone only physical processing to remove water without the intention to otherwise modify the digestate or the fraction.

3.d Additives needed in the post processing of a digestate or a fraction in accordance with points 3a, 3b and

3c may be used provided that:

(a) the additive complies with the requirement set out in point 2 in CMC 1;

(b) the concentration of the additives needed in each of the processes does not exceed 5 % of the weight of the digestate or fraction used as input in the respective process.

4. The digestate or the fraction referred to in points 3a, 3b and 3c shall not contain more than 6 mg/kg dry matter of PAH₁₆⁶.

5. The digestate or fraction referred to in points 3a, 3b and 3c shall contain:

- (a) no more than 3 g/kg dry matter of macroscopic impurities above 2 mm in any of the following forms: glass, metal or plastics; and
- (b) no more than 5 g/kg dry matter of the sum of the macroscopic impurities referred to in point (a).

After 16 July 2026, the presence of plastics above 2 mm within the maximum limit value referred to in point (a) shall be no more than 2.5 g/kg dry matter. After 16 July 2029

the limit value of 2.5 g/kg dry matter for plastics above 2 mm shall be re-assessed in order to take into account the progress made with regards to separate collection of bio-waste.

6. The digestate or a fraction referred to in points 3a, 3b and 3c shall meet at least one of the following stability criteria:

(a) Oxygen uptake rate:

- Definition: an indicator of the extent to which biodegradable organic matter is being broken down within a specified time period. The method is not suitable for material with a content of particle sizes > 10 mm that exceeds 20 %,
- Criterion: maximum 25 mmol O₂/kg organic matter/h; or

(b) residual biogas potential

- Definition: an indicator of the gas released from a digestate in a 28 day period and measured against the volatile solids contained within the sample. The test is run in triplicate, and the average result is used to demonstrate compliance with the criterion. The volatile solids are those solids in a sample of material that are lost on ignition of the dry solids at 550 °C.
- Criterion: maximum 0.25 l biogas/g volatile solids.

7. If compliance with the requirement under point 4 follows certainly and uncontestedly from the characteristics or the process of recovery of digestate, or its fraction, or the manufacturing process of an HR fertilising product, that compliance can be presumed in the conformity assessment procedure without verification (such as testing), at the responsibility of the manufacturer.

8. The frequency of testing the fulfilment of requirements for anaerobic digestate shall be carried out on the basis of the annual quantities of anaerobic digestate produced by biogas plants in tonnes, as follows:

Annual quantities (tonnes)	Number of analyses
Up to 1 000 tonnes	1
Between 1 001 and 5 000	2
Between 5 001 and 10 000	3
Between 10 001 and 50 000	5
Between 50 001 and 100 000	6
More than 100 001	7

9. Soil analyses (pH, N-min, mg P₂O₅ and K₂O) shall be carried out prior to the application of digestate.

CMC 6 FOOD INDUSTRY BY-PRODUCTS

1. An HR fertilising product may contain component material consisting of one of the following substances:

- (a) food industry factory lime, i.e. a material from the food processing industry obtained by carbonation of organic matter, using exclusively burnt lime from natural sources;
- (b) molasses, i.e. a viscous by-product of the refining of sugarcane or sugar beets into sugar;
- (c) vinasse, i.e. a viscous by-product of the fermentation process of molasses into ethanol, ascorbic acid or other products;
- (d) distillers grains, i.e. by-products resulting from the production of alcoholic beverages;
- (e) plants, plant parts or plant extracts having undergone only heat treatment or heat treatment in addition to processing methods referred to in point 2 of this Appendix; or
- (f) lime from drinking water production, i.e. residue which is released by production of drinking water from groundwater or surface water and consists, mainly, of calcium

carbonate.

2. All substances incorporated into the HR fertilising product, on their own or in a mixture, shall comply with the requirement set out in point 2 of CMC 1.

CMC 7 MICRO-ORGANISMS

An HR fertilising product belonging to Type 6. A may contain micro-organisms, including dead or empty-cell micro-organisms and non-harmful residual elements of the media on which they were produced, which:

- have undergone no other processing than drying or freeze-drying; and
- are listed in the following table:

Azotobacter spp.
Mycorrhizal fungi
Rhizobium spp.
Azospirillum spp.

CMC 8 NUTRIENT POLYMERS

1. An HR fertilising product may contain polymers exclusively made up of monomer substances complying with the criteria set out in points 1 and 2 of CMC 1, where the purpose of the polymerisation is to control the release of nutrients from one or more of the monomer substances.
2. At least 60 % of the polymers shall be soluble in a phosphate buffer solution with a pH of 7.5 at 100 °C.
3. The final degradation products shall be only ammonia (NH₃), water and carbon dioxide (CO₂).
4. The polymers shall not contain more than 600 ppm of free formaldehyde.

CMC 9 POLYMERS OTHER THAN NUTRIENT POLYMERS

1. An HR fertilising product may contain polymers other than nutrient polymers only in cases where the purpose of the polymer is:
 - (a) to control the water penetration into nutrient particles and thus the release of nutrients (in which case the polymer is commonly referred to as a ‘coating agent’),
 - (b) to increase the water retention capacity or wettability of the HR fertilising product, or
 - (c) to bind material in an HR fertilising product belonging to Type 4 of Appendix I.D.
- 1.a A Type 3 HR fertilising product may contain a polymer in the form of a mulch film.
2. After 17 October 2028, the polymers referred to in point 1(a) and (b) shall be:
 - (a) polymers that are the result of a polymerisation process that has taken place in nature, independently of the extraction process with which they have been extracted and that have not been chemically modified within the meaning of Article 3(40) of Regulation (EC) No 1907/2006, or
 - (b) polymers that are biodegradable according to the criteria set out in the subheading of this CMC
‘Biodegradability criteria for polymers referred to in section CMC 9, point 1(a) and (b)’.
- 2.a A polymer in mulch film from point 1a shall meet the biodegradability criteria set out in the subheading of this CMC *‘Biodegradability criteria for polymers in mulch films referred to in section CMC 9, point 1a’.*
3. For the polymers referred to in point 1(a) and (b) and in point 1a, neither the polymer, nor its degradation by-products, shall show any overall adverse effect on animal or plant health, or on the environment, under reasonably foreseeable conditions of use in the HR fertilising product. The polymers referred to in point 1(a) and (b) and point 1a shall pass a plant growth acute toxicity test, an earthworm acute toxicity test and a nitrification inhibition test with soil micro-organisms as follows:

- (a) In the plant growth acute toxicity test, the germination rate and the plant biomass of the tested plant species grown on the soil exposed to the test material shall be more than 90

% of the germination rate and the plant biomass of the same plant species grown on corresponding blank soil not exposed to the test material.

The results shall be considered to be valid only if in the controls (i.e. blank soil):

- the seedling emergence is at least 70 %;
 - the seedlings do not exhibit visible phytotoxic effects (e.g. chlorosis, necrosis, wilting, leaf and stem deformations) and the plants exhibit only normal variation in growth and morphology for that particular species;
 - the mean survival of emerged control seedlings is at least 90 % for the duration of the study; and
 - environmental conditions for a particular species are identical and growing media contain the same amount of soil matrix, support media, or substrate from the same source;
- (b) In the earthworm acute toxicity test, the observed mortality and the biomass of surviving earthworms in a soil exposed to the test material shall not differ by more than 10 % compared to those from the corresponding blank soil not exposed to the test material. The results shall be considered to be valid, if:
- the percent mortality observed in the control (i.e. blank soil) is less than 10 %, and
 - the average loss of biomass (mean weight) of the worms in the blank soil does not exceed 20 %;
- (c) in the nitrification inhibition test with soil micro-organisms, the nitrite formation in soil exposed to the test material shall be more than 90 % of those from the corresponding blank soil not exposed to the test material. The results shall be considered to be valid, if the variation between replicate control samples (blank soil) and test samples is less than 20 %.
4. The polymer referred to in point 1a shall pass an earthworm chronic toxicity test so that:
- (a) after an incubation period of 28 days, the observed mortality and the biomass of surviving adult earthworms in a soil exposed to the test material shall not differ by more than 10

% compared to those from the corresponding blank soil not exposed to the test material;

(b) after an incubation period of 56 days, the observed number of offspring in a soil exposed to the test material shall not differ by more than 10 % compared to those from the corresponding blank soil not exposed to the test material.

The results shall be considered to be valid only if in the controls (i.e. blank soil):

- (a) after an incubation period of 28 days, the observed adult mortality is no more than 10 %;
- (b) after an incubation period of 56 days each replicate (containing 10 adults) produces at least 30 offspring; and
- (c) the coefficient of variation of reproduction is no more than 30 %.

Biodegradability criteria of polymers referred to in section CMC 9, point 1(a) and (b)

1. The biodegradability of polymers referred to in section CMC 9, point 1(a) and (b), shall be demonstrated in the following two environmental compartments:

- (a) compartment 1: soil; and
- (b) compartment 2: fresh, estuarine or marine water.

2. The polymer shall achieve:

- (a) in compartment 1:
- i. ultimate degradation of at least 90 % relative to the degradation of the reference material within 48 months plus the functionality period (FP) as indicated on the label; or

- ii. mineralisation of at least 90 %, measured as evolved CO₂, over a maximum of 48 months plus the functionality period (FP) as indicated on the label;
- (b) in compartment 2: ultimate degradation relative to the degradation of the reference material in 12 months, as set out in the following table:

Criterion assessed	Pass criterion (FP = 0)	Pass criterion (FP = 1 month)	Pass criterion (FP = 2 months)	Pass criterion (FP = 3 months)	Pass criterion (FP ≥ 6 months)
Minimum target degradation after 12 months	≥ 43,8 %	≥ 41,0 %	≥ 38,1 %	≥ 35,1 %	≥ 25,0 %

For functionality periods of less than 6 months, other than the ones set out in this table, the pass criteria shall be calculated using the following exponential decay formula:

$$TD_{12m} = 1 - \exp(-\lambda * (12 - FP))$$

where:

- TD_{12m} = the minimum target degradation after 12 months (expressed as a percentage), λ = the degradation rate calculated as $\lambda = -\ln(0.1)/t_{90}$,
 T₉₀ = the time for 90 % biodegradation, which is 48 months, FP = the functionality period (expressed in months).

3. To demonstrate the biodegradability criteria in point 2(a), one of the following test methods shall be used:

- (a) EN ISO 17556:2019: Plastics – Determination of the ultimate aerobic biodegradability of plastic materials in soil by measuring the oxygen demand in a respirometer or the amount of carbon dioxide evolved;
- (b) ASTM D5988-96:2018: Standard Test Method for Determining Aerobic Biodegradation in Soil of Plastic Materials.

4. When there is no phase transition (glass transition or melting transition) between 25 °C and 37 °C, the temperature during testing in accordance with points 3(a) or (b) may be adjusted at 37 °C.

In such a case, the relevant criterion in point 2(a) shall be considered as being demonstrated if the polymer achieves:

- (a) at least 45 % ultimate degradation or mineralisation as referred to in point 2(a) in a separate test at 25 °C in 20 months, whereby degradation or mineralisation shall be progressing, and the plateau phase shall not have been reached, unless the degradation or mineralisation is at least 90 %; and
- (b) one of the following criteria:
- i. ultimate degradation of at least 90 % relative to degradation of the reference material within 20 months plus the functionality period of the product as indicated on the label; or
 - ii. mineralisation of at least 90 %, measured as evolved CO₂, over a maximum of 20 months plus the functionality period of the product as indicated on the label.

5. To demonstrate the biodegradability criteria in point 2(b), one of the following test methods shall be used:
 - (a) EN/ISO 14851:2019: Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium. Method by measuring the oxygen demand in a closed respirometer;
 - (b) EN/ISO 14852:2021: Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium. Method by analysis of evolved carbon dioxide;
 - (c) ASTM D6691:2018: Standard Test Method for Determining Aerobic Biodegradation of Plastic Materials in the Marine Environment by a Defined Microbial Consortium or Natural Sea Water Inoculum.
6. For polymers referred to in section CMC 9, point 1(a), the test shall be performed on a material consisting of:
 - (a) the polymer or polymers contained in or building a continuous coating on particles ('polymer particles') comparable in terms of composition, form, size and surface area to the coating agent present in the HR fertilising product;
 - (b) the isolated coating; or
 - (c) the polymer or the polymers in the form placed on the market where the core of the material is replaced by an inert material such as glass.
7. For polymers referred to in section CMC 9, point 1(b), the test shall be performed on a material consisting of the polymer in the form placed on the market.
8. The following materials may be used as reference materials:
 - (a) positive controls: biodegradable materials such as micro-crystalline cellulose powder, ashless cellulose filters or poly- β -hydroxybutyrate;
 - (b) negative controls: non-biodegradable polymers such as polyethylene or polystyrene.

Biodegradability criteria of polymers for mulch films referred to in section CMC 9, point 1a

1. The biodegradability of polymers in mulch films referred to in section CMC 9, point 1a, shall be demonstrated in the following two environmental compartments:
 - (a) compartment 1: soil;
 - (b) compartment 2: fresh, estuarine or marine water, or water sediment interface.
2. The polymer shall achieve:
 - (a) in compartment 1:
 - i. ultimate degradation of at least 90 % relative to the degradation of the reference material within 24 months plus the functionality period of the product as indicated on the label; or
 - ii. mineralisation of at least 90 %, measured as evolved CO₂, over a maximum of 24 months plus the functionality period of the product as indicated on the label;
 - (a) in compartment 2:
 - i. ultimate degradation of at least 30 % relative to the degradation of the reference material in 12 months; or
 - ii. ultimate degradation of at least 90 % relative to the degradation of the reference material in 24 months plus the functionality period of the product as indicated on the label.
3. To demonstrate the biodegradability criteria in point 2(a), one of the following test methods shall be used:

- (a) EN ISO 17556:2019: Plastics – Determination of the ultimate aerobic biodegradability of plastic materials in soil by measuring the oxygen demand in a respirometer or the amount of carbon dioxide evolved;
- (b) ISO/CD 23517:2021: Plastics – Soil biodegradable materials for mulch films for use in agriculture and horticulture;
- (c) ASTM D5988-96:2018: Standard Test Method for Determining Aerobic Biodegradation in Soil of Plastic Materials.

4. When there is no phase transition (glass transition or melting transition) between 25 °C and 37 °C, the temperature during testing in accordance with points 3(a), (b) and (c) may be adjusted at 37 °C.

In such a case, the relevant criterion in point 2(a) shall be considered as being demonstrated if the polymer achieves:

- (a) at least 45 % ultimate degradation or mineralisation as referred to in point 2(a) in a separate test at 25 °C in 10 months, whereby degradation or mineralisation shall be progressing, and the plateau phase shall not have been reached, unless the degradation or mineralisation is at least 90 %; and
- (b) one of the following criteria:
 - i. ultimate degradation of at least 90 % relative to degradation of the reference material within 10 months plus the functionality period of the product as indicated on the label; or
 - ii. mineralisation of at least 90 %, measured as evolved CO₂, over a maximum of 10 months plus the functionality period of the product as indicated on the label.

5. To demonstrate the biodegradability criteria in point 2(b), one of the following test methods shall be used:

- (a) EN/ISO 14851:2019: Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium. Method by measuring the oxygen demand in a closed respirometer;
- (b) EN/ISO 14852:2021: Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium. Method by analysis of evolved carbon dioxide;
- (c) ASTM D6691:2018: Standard Test Method for Determining Aerobic Biodegradation of Plastic Materials in the Marine Environment by a Defined Microbial Consortium or Natural Sea Water Inoculum.
- (d) EN/ISO 19679:2020: Plastics - Determination of aerobic biodegradation of non-floating plastic materials in a seawater/sediment interface - Method by analysis of evolved carbon dioxide;
- (e) EN/ISO 18830:2017: Plastics - Determination of aerobic biodegradation of non-floating plastic materials in a seawater/sandy sediment interface - Method by measuring the oxygen demand in closed respirometer.

6. Polymers may be tested in any of the following forms:

- (a) in the form of the film placed on the market;
- (b) in a powder form of the milled film.

7. The following materials may be used as reference materials:

- (a) positive controls: biodegradable materials such as micro-crystalline cellulose powder, ashless cellulose filters or poly- β -hydroxybutyrate;
- (b) negative controls: non-biodegradable polymers such as polyethylene or polystyrene.

CMC 10 DERIVED PRODUCTS WITHIN THE MEANING OF REGULATION (EC) NO 1069/2009

An HR fertilising product may contain derived products within the meaning of Regulation (EC) No 1069/2009 having reached the end point in the manufacturing chain as determined in accordance with that Regulation, and which are listed in the following table and as specified therein:

Component material	Additional requirements
<p>Processed manure fulfilling the conditions in Article 3(d) of Delegated Regulation (EU) 2023/1605</p>	<p>An HR fertilising product may contain processed manure only if it was treated to reach an end point according to Regulation (EC) No 1069/2009 and the material underwent additional processing so that at least one of the following conditions is met:</p> <ul style="list-style-type: none"> (a) at least 90 % by dry mass of the material can pass through a sieve with a mesh of 0.25 mm; (b) the material has been granulated under pressure, pelletised, dried at temperatures higher than 100 °C or has undergone any equivalent process that ensures that the content of viable weed seeds and plant propagules in the processed manure is no more than 3 units/l; or (c) the material fulfills at least one of the stability criteria set out in point 5 of CMC 3. <p>1.2 The material referred to in point 1.1 may undergo one or more of the following additional processes:</p> <ul style="list-style-type: none"> (a) the processing methods referred to in CMC 2; (b) biological treatment involving nitrification and denitrification; (c) mechanical separation of the solid and liquid fractions; (d) processes to recover nutrients and/or organic carbon, without the intention to otherwise modify the material; (e) chemical processing to modify the pH without the intention to otherwise modify the material; (f) physical processing to remove water and to transform the material into powder, granules or pellets, without the intention to otherwise modify the material. <p>1.3 Additives required for the processing referred to in points 1.1 and 1.2 may be used provided that:</p> <ul style="list-style-type: none"> (a) the additive complies with the requirement set out in point 2 of CMC 1; (b) the concentration of the additives needed in each of the processes does not exceed 5 % of the weight of the processed manure or fraction used as input in the respective process. <p>1.4. The processed manure shall contain no more than 6 mg/kg dry matter of PAH₁₆.</p>

	<p>1.5. The processed manure to be used as component material in an HR fertilising product shall be stored in a way that protects it against precipitation and direct sunlight.</p>
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<p>Processed Category II and III animal by-products which have undergone approved treatment methods in accordance with Regulation (EC) No 1069/2009</p>	<p>1.1 An HR fertilising product may contain processed by-products only if they have undergone one of the approved treatment methods ensuring the elimination of risks to public and animal health pursuant to 15 Regulation (EU) 1069/2009 and Regulation (EU) No 142/2011. This includes, but is not limited to: pressure sterilisation, chemical or biological hydrolysis, fermentation or other processing methods that ensure the elimination of pathogens and the agronomic value of the material.</p> <p>1.2 The material referred to in point 1.1 may undergo additional processing operations which do not alter its basic chemical structure, including:</p> <ul style="list-style-type: none"> (a) mechanical separation into liquid and solid fractions; (b) biological treatment, including nitrification and denitrification processes; (c) chemical adjustment of the pH value without the addition of substances that could jeopardise the safety of the end product. <p>1.3 Additives used in processing may be used provided that:</p> <ul style="list-style-type: none"> (a) they meet the requirements set out in point 2 of CMC 1, (b) their concentration does not exceed 5 % by mass of the processed material. <p>1.4. Processed materials shall meet the stability and contamination criteria prescribed in the relevant parts of CMC 3 and CMC 5.</p> <p>1.5. The processed material shall contain no more than 6 mg/kg dry matter of PAH16 (2).</p> <p>1.6. Processed materials used as a component material in an HR fertilising product shall be stored in a way that protects the product against contamination and degradation.</p>
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2. Where compliance with the requirement set out in point 1.4 follows certainly and uncontestably from the nature or the processing of the component material or the manufacturing process of the HR fertilising product, such compliance may be presumed in the conformity assessment procedure without verification (such as testing), under the responsibility of the manufacturer.

CMC 11: BY-PRODUCTS WITHIN THE MEANING OF DIRECTIVE 2008/98/EC

1. An HR fertilising product may contain by-products within the meaning of Directive 2008/98/EC, except⁷:

- (a) animal by-products or derived products within the meaning of Regulation (EC) No

1069/2009,
(b) polymers, other than:

- i. polymers that are the result of a polymerisation process that has taken place in nature, independently of the extraction process with which they have been extracted and that have not been chemically modified within the meaning of Article 3(40) of Regulation (EC) No 1907/2006,
 - ii. biodegradable polymers, or
 - iii. polymers with a water-solubility higher than 2 g/L in the following conditions:
 - temperature 20 °C
 - pH 7
 - loading: 10 g/1 000 mL
 - test time: 24h,
 - (c) compost,
 - (d) digestate,
 - (e) precipitated phosphate salts or derivatives, which are recovered from waste or are by-products within the meaning of Directive 2008/98/EC,
 - (f) thermal oxidation materials or derivatives, which are recovered from waste or are by-products within the meaning of Directive 2008/98/EC,
 - (g) pyrolysis and gasification materials, which are recovered from waste or are by-products within the meaning of Directive 2008/98/EC, or
 - (h) ammonium salts, sulphate salts, phosphate salts, elemental sulphur, calcium carbonate or calcium oxide, which are recovered from waste within the meaning of Article 3, point 1, of Directive 2008/98/EC.
2. The by-products shall comply with the requirement set out in point 2 in CMC 1.

CMC 12: PRECIPITATED PHOSPHATE SALTS AND DERIVATES

1. An HR fertilising product may contain precipitated phosphate salts obtained through precipitation exclusively from one or more of the following input materials:
- (a) wastewaters and sewage sludge from municipal wastewater treatment plants, other than animal by-products or derived products within the scope of Regulation (EC) No 1069/2009;
 - (b) wastewaters and sludge from processing of foods, beverages, pet foods, animal feeds, or dairy products, other than animal by-products or derived products within the scope of Regulation (EC) No 1069/2009, unless processing steps involved contact with biocidal products within the meaning of Article 3(1), point (a), of Regulation (EU) No 528/2012 of the European Parliament and of the Council (10) other than those defined as product-type 4 of main group 1 of Annex V to that Regulation;
 - (c) bio-waste within the meaning of Article 3, point 4, of Directive 2008/98/EC resulting from separate bio-waste collection at source, other than animal by-products or derived products within the scope of Regulation (EC) No 1069/2009;
 - (d) processing residues within the meaning of Article 2, point (t), of Directive 2009/28/EC of the European Parliament and of the Council (11) from the production of bioethanol and biodiesel derived from materials referred to in this point, sub-points (b), (c) and (e);
 - (e) living or dead organisms or parts thereof, which are unprocessed or processed only by manual, mechanical or gravitational means, dissolution in water, flotation, extraction with water, steam distillation or heating solely to remove water, or which are extracted from air by any means, except⁸:
 - i. materials originating from mixed municipal waste,
 - ii. sewage sludge, industrial sludge or dredging sludge,
 - iii. animal by-products or derived products within the scope of Regulation (EC) No 1069/2009;

(f) substances and mixtures, other than⁹:

- i. those referred to in sub-points (a) to (e),
- ii. waste within the meaning of Article 3, point 1, of Directive 2008/98/EC,
- iii. substances or mixtures which have ceased to be waste in one or more Member States by virtue of the national measures transposing Article 6 of Directive 2008/98/EC,
- iv. substances formed from precursors which have ceased to be waste in one or more Member States by virtue of the national measures transposing Article 6 of Directive 2008/98/EC, or mixtures containing such substances,
- v. non-biodegradable polymers,
- vi. animal by-products or derived products within the scope of Regulation (EC) No 1069/2009.

In addition, precipitated phosphate salts shall be obtained through precipitation from any input material referred to in sub-points (a) to (f), or a combination thereof, processed by manual, mechanical or gravitational means, solid-liquid fractionation using biodegradable polymers, dissolution in water, flotation, extraction with water, steam distillation or heating solely to remove water, thermal hydrolysis, anaerobic digestion or composting. The temperature under such processes shall not be raised above 275 °C.

2. The precipitation process shall take place under controlled conditions in a reactor. In addition, only input materials, which are not contaminated with other material streams, or input materials, other than animal by-products or derived products within the scope of Regulation (EC) No 1069/2009, which have been unintentionally contaminated with other material streams in a one-off incident resulting only in trace levels of exogenous compounds shall be used.

In the plant where the precipitation takes place, physical contacts between input and output materials shall be avoided after the precipitation process, including during storage.

3. The precipitated phosphate salts shall contain:

- (a) a minimum phosphorus pentoxide (P_2O_5) content of 16 % of the dry matter content;
- (b) a maximum organic carbon (C_{org}) content of 3 % of the dry matter content;
- (c) no more than 3 g/kg dry matter of macroscopic impurities above 2 mm in any of the following forms: organic matter, glass, stones, metal and plastics;
- (d) no more than 5 g/kg dry matter of the sum of the macroscopic impurities referred to in sub-point (c).

4. An HR fertilising product may contain derivatives from precipitated phosphate salts produced through one or more chemical manufacturing steps that react the precipitated phosphate salts with materials referred to in sub-point 1 (f) that are consumed in or used for chemical processing.

The derivative manufacturing process shall be executed so as to intentionally modify the chemical composition of the precipitated phosphate salts.

5. The precipitated phosphate salts used for the derivatives shall comply with points 1, 2 and 3.

6. Notwithstanding point 1, an HR fertilising product may contain precipitated phosphate salts obtained through precipitation from Category 2 or Category 3 materials or derived products thereof, in accordance with the conditions set out in Article 32(1) and (2) of Regulation (EC) No 1069/2009 and in the measures referred to in Article 32(3) of that Regulation, alone or mixed with input materials referred to in point 1, provided that both of the following conditions are fulfilled:

- (a) the end point in the manufacturing chain has been determined in accordance with Article 5(2), third subparagraph, of Regulation (EC) No 1069/2009, and the currently applicable delegated act in accordance with Article 51a, which supplements Regulation (EC) No 1069/2009 by the establishment of an end point in the production chain after which the requirements of this Regulation shall no longer apply to the derived products, and

(b) the conditions in points 2 and 3 are met.

An HR fertilising product may also contain derivatives from such precipitated phosphate salts, obtained in accordance with the conditions set out in point 4.

7. In the plant where the precipitation takes place, the production lines for the processing of input materials allowed for the precipitated phosphate salts and derivatives referred to in points 1, 4 and 6 shall be clearly separated from production lines for the processing of other input materials.

8. Where for the relevant type of an HR fertilising product containing or consisting of precipitated phosphate salts or derivatives or both there are no requirements regarding *Salmonella* spp., *Escherichia coli* or *Enterococcaceae* in Appendix I, those pathogens shall meet the requirements set out in the following table:

(a) absence of *Salmonella* spp. in 25 g or 25 ml;

(b) a maximum of 1 000 viable bacteria (CFU) of *Escherichia coli* or *Enterococcaceae* in a sample of 1 g or ml.

The analysis shall be carried out on 5 samples, making 1 average sample for the determination of the presence of pathogens in a type of HR fertilising product consisting of precipitated phosphate salts.

9. Pathogens in an HR fertilising product containing or consisting of precipitated phosphate salts obtained from materials referred to in sub-point 1 (a) or derivatives from such precipitated phosphate salts or both shall not exceed the following limits:

(a) a maximum of 100 viable bacteria (CFU) of *Clostridium perfringens* in a sample of 1 g or ml

(b) absence of *Ascaris* spp. viable eggs in 25 g or 25 ml

10. The requirements set out in points (8) and (9), as well as the requirements for *Salmonella* spp., *Escherichia coli* or *Enterococcaceae* set for the corresponding type of an HR fertilising product consisting only of precipitated phosphate salts or derivatives or both shall not apply when those precipitated phosphate salts or all of the biogenic input materials used in the precipitation process have undergone one of the following processes:

(a) pressure sterilisation through the heating to a core temperature of more than 133 °C for at least 20 minutes at an absolute pressure of at least 3 bars, whereby the pressure must be produced by the evacuation of all air in the sterilisation chamber and the replacement of the air by steam ('saturated steam');

(b) processing in a pasteurisation or hygienisation unit that reaches a temperature of 70 °C for at least one hour.

11. Precipitated phosphate salts obtained from materials referred to in sub-point 1 (a) and derivatives obtained from such precipitated phosphate salts shall have no more than 6 mg/kg dry matter of PAH₁₆¹⁰.

12. The sum of aluminium (Al) and iron (Fe) in precipitated phosphate salts or derivatives shall not exceed 10 % of the dry matter of the precipitated phosphate salts or the derivatives.

13. The precipitated phosphate salts or derivatives shall comply with the requirement set out in point 2 in CMC 1.

14. For the purposes of points 3, 11 and 12, the dry matter of precipitated phosphate salts and derivatives shall be measured using vacuum drying at 40 °C until constant weight to avoid the loss of crystal-bound water.

15. If compliance with one of the requirements set out in points 11 and 12 follows certainly and uncontestedly from the characteristics or the process of recovery of precipitated phosphate salts or derivatives or the manufacturing process of an HR fertilising product, that compliance can be presumed during the conformity assessment procedure without verification (such as testing), at the responsibility of the manufacturer.

CMC 13: THERMAL OXIDATION MATERIALS OR DERIVATES

1. An HR fertilising product may contain thermal oxidation materials obtained through thermochemical conversion under non-oxygen-limiting conditions exclusively from one or

more of the following input materials:

- (a) living or dead organisms or parts thereof, which are unprocessed or processed only by manual, mechanical or gravitational means, by dissolution in water, by flotation,

- by extraction with water, by steam distillation or by heating solely to remove water, or which are extracted from air by any means, except¹¹:
- i. materials originating from mixed municipal waste,
 - ii. sewage sludge, industrial sludge or dredging sludge, and
 - iii. animal by-products or derived products within the scope of Regulation (EC) No 1069/2009;
- (b) vegetable waste from the food processing industry and fibrous vegetable waste from virgin pulp production and from production of paper from virgin pulp, if not chemically modified;
- (c) bio-waste fraction resulting from subsequent treatment operations of bio-waste separately collected for recycling within the meaning of Directive 2008/98/EC, for which incineration delivers the best environmental outcome in accordance with Article 4 of that Directive other than animal by-products or derived products within the scope of Regulation (EC) No 1069/2009;
- (d) materials resulting from a controlled microbial or thermochemical conversion process using exclusively the input materials referred to in sub-points (a), (b), and (c);
- (e) sewage sludge from municipal wastewater treatment plants, other than animal by-products or derived products within the scope of Regulation (EC) No 1069/2009;
- (f) materials from the independently operated treatment of waste water not covered by Council Directive 91/271/EEC from food processing, pet food, feed, milk and drink industries, other than animal by-products or derived products within the scope of Regulation (EC) No 1069/2009;
- (g) waste within the meaning of Directive 2008/98/EC with the exception of¹²:
- i. input materials referred to in sub-points (a) to (f),
 - ii. hazardous waste within the meaning of Article 3, point 2 of Directive 2008/98/EC,
 - iii. materials originating from mixed municipal waste,
 - iv. bio-waste within the meaning of Article 3, point 4, of Directive 2008/98/EC resulting from separate bio-waste collection at source, and
 - v. animal by-products or derived products within the scope of Regulation (EC) No 1069/2009;
- (h) auxiliary fuels (natural gas, liquefied gas, natural gas condensate, process gases and components thereof, crude-oil, coal, coke as well as their derived materials), when used to process input materials referred to in sub-points (a) to (g);
- (i) substances which are used in manufacturing processes of the iron and steel industry; or
- (j) substances and mixtures, with the exception of¹³:
- i. input materials referred to in sub-points (a) to (i),
 - ii. waste within the meaning of Article 3, point 1, of Directive 2008/98/EC,
 - iii. substances or mixtures which have ceased to be waste in one or more Member States by virtue of the national measures transposing Article 6 of Directive 2008/98/EC,
 - iv. substances formed from precursors which have ceased to be waste in one or more Member States by virtue of the national measures transposing Article 6 of Directive 2008/98/EC, or mixtures containing such substances, and
 - v. animal by-products or derived products within the scope of Regulation (EC) No 1069/2009.

2. Notwithstanding point 1, an HR fertilising product may contain thermal oxidation materials obtained through thermochemical conversion under non-oxygen-limiting conditions from Category 2 or Category 3 materials or derived products thereof, in accordance with the conditions set out in Article 32(1) and (2) of Regulation (EC) No 1069/2009 and in the measures referred to in Article 32(3) of that

Regulation, alone or mixed with input materials referred to in point 1, provided that both of the following conditions are fulfilled:

(a) the end point in the manufacturing chain has been determined in accordance with Article 5(2), third subparagraph, of Regulation (EC) No 1069/2009, and the currently applicable delegated act in accordance with Article 51a, which supplements Regulation (EC) No 1069/2009 by the establishment of an end point in the production chain after which the requirements of this Regulation shall no longer apply to the derived products, and

(b) the conditions in points 3, 4, and 5 are met.

3. The thermal oxidation shall take place under non-oxygen limiting conditions in such a way that the gas resulting from the thermochemical conversion process is raised, after the last injection of combustion air, in a controlled and homogeneous fashion and even under the most unfavourable conditions to a temperature of at least 850 °C for at least 2 seconds. These conditions shall apply to all input materials, with the exemption of:

(a) the input materials referred to in points 1 (a), (b) and (h), or resulting from a controlled microbial or thermochemical conversion process using exclusively those materials, and

(b) input materials referred to in point 2,

for which a temperature of at least 450 °C for at least 0.2 seconds shall apply;

4. The thermal oxidation shall take place in an incineration or combustion chamber. The chamber may only process input materials, which are not contaminated with other material streams, or input materials, other than animal by-products or derived products within the scope of Regulation (EC) No 1069/2009, which have been unintentionally contaminated with other material streams in a one-off incident resulting only in trace levels of exogenous compounds shall be used.

All of the following conditions shall be met in the plant, where the thermal oxidation takes place:

(a) the production lines for the processing of input materials referred to in points 1 and 2 shall be clearly separated from production lines for the processing of other input materials,

(b) the input material shall be oxidised in such a way that the total organic carbon (C_{org}) content of the resulting slags and bottom ashes is less than 3 % by dry matter of the material,

(c) physical contact between input and output materials shall be avoided after the thermochemical conversion process, including during storage.

5. The thermal oxidation materials shall be ashes or slags, and have no more than:

(a) 6 mg/kg dry₆matter of PAH¹⁴,

(b) 20 ng WHO toxicity equivalents¹⁵ of PCDD/F¹⁶/kg dry matter.

6. An HR fertilising product may contain derivatives from thermal oxidation materials that have been produced from the input materials referred to in points 1 and 2 that meet the conditions of point 5 and that have been manufactured by a thermochemical conversion process in accordance with points 3 and 4. The derivative manufacturing process shall be executed so as to intentionally modify the chemical composition of the thermal oxidation material.

The derivative manufacturing process shall be of the following nature:

(a) chemical manufacturing: derivatives are produced through one or more chemical manufacturing steps that react thermal oxidation materials with input materials referred to in sub-point 1 (j) that are consumed in or used for chemical processing whereas non-biodegradable polymers shall not be used;

(b) thermochemical manufacturing: derivatives are produced through one or more manufacturing steps that thermochemically react thermal oxidation materials with reactants referred to in points 1 and 2 that are consumed in or used for chemical

processing.

Thermal oxidation materials that display one or more of the hazardous properties listed in Annex III to Directive 2008/98/EC shall not be mixed or reacted, either

with waste, substances or materials with the intention of reducing hazardous substances to levels below the limit values for the hazardous property as laid down in Annex III to that Directive. Using a mass balance approach, manufacturers that use thermal oxidation materials with hazardous properties must demonstrate the removal or transformation of the contaminants to levels below the limit values laid down in Annex III to Directive 2008/98/EC.

7. Contaminants in an HR fertilising product containing or consisting of thermal oxidation materials or derivatives must not exceed the following limit values:

- (a) total chromium (Cr): 400 mg/kg dry matter, if the thermal oxidation materials or derivatives are from input materials referred to in sub-points 1 (e), (g) or (i);
- (b) thallium (Tl): 2 mg/kg dry matter, if the thermal oxidation materials or derivatives are from input materials referred to in sub-points 1 (e), (g), (h) or (i).

The chlorine (Cl⁻) content shall not be higher than 30 g/kg of dry matter. However, this limit value shall not apply to HR fertilising products produced through a manufacturing process where a Cl⁻ containing compound has been added with the intention of producing alkali metal salts or alkaline earth metal salts, and is declared in accordance with Appendix III.

The vanadium (V) content shall not be higher than 600 mg/kg dry matter if the thermal oxidation materials or derivatives are from input materials referred to in sub-points 1 (g) or (i).

8. The thermal oxidation materials or derivatives shall comply with the requirement set out in point 2 in CMC 1.

9. If compliance with one of the requirements under points 5 and 7 follows certainly and uncontestedly from the characteristics or the process of recovery of the thermal oxidising material or derivative or the manufacturing process of an HR fertilising product, that compliance can be presumed in the conformity assessment process without verification (such as testing), at the responsibility of the manufacturer.

CMC 14: PYROLYSIS AND GASIFICATION MATERIALS

1. An HR fertilising product may contain pyrolysis or gasification materials obtained through the thermochemical conversion under oxygen-limiting conditions of exclusively one or more of the following input materials:

- (a) living or dead organisms or parts thereof, which are unprocessed or processed only by manual, mechanical or gravitational means, dissolution in water, flotation, extraction with water, steam distillation or heating solely to remove water, or which are extracted from air by any means, except¹⁷:
 - i. materials originating from mixed municipal waste,
 - ii. sewage sludge, industrial sludge or dredging sludge, and
 - iii. animal by-products or derived products within the scope of Regulation (EC) No 1069/2009;
- (b) vegetable waste from the food processing industry and fibrous vegetable waste from virgin pulp production and from production of paper from virgin pulp, if not chemically modified;
- (c) processing residues within the meaning of Article 2, point (t) of Directive 2009/28/EC from the production of bioethanol and biodiesel, derived from materials referred to in sub-points (a), (b) and (d);
- (d) bio-waste within the meaning of Article 3, point 4, of Directive 2008/98/EC resulting from separate bio-waste collection at source, other than animal by-products or derived products within the scope of Regulation (EC) No 1069/2009;
- (e) pyrolysis or gasification additives which are necessary to improve the process performance or the environmental performance of the pyrolysis or gasification process, provided that those additives are

consumed in chemical processing or used for such processing and that total concentration of all additives do not exceed 25 % of the fresh matter of the total input material, with the exception of¹⁸:

- i. input materials referred to in sub-points (a) to (d),
- ii. waste within the meaning of Article 3, point 1, of Directive 2008/98/EC,
- iii. substances or mixtures which have ceased to be waste in one or more Member States by virtue of the national measures transposing Article 6 of Directive 2008/98/EC,
- iv. substances formed from precursors which have ceased to be waste in one or more Member States by virtue of the national measures transposing Article 6 of Directive 2008/98/EC, or mixtures containing such substances,
- v. non-biodegradable polymers, and
- vi. animal by-products or derived products within the scope of Regulation (EC) No 1069/2009.

In addition, an HR fertilising product may contain pyrolysis or gasification materials obtained through thermochemical conversion under oxygen-limiting conditions of any input material referred to in sub-points (a) to (e), or combination thereof, processed by manual, mechanical or gravitational means, by solid-liquid fractionation using biodegradable polymers, by dissolution in water, by flotation, by extraction with water, by steam distillation or by heating solely to remove water, by composting or by anaerobic digestion.

2. The thermochemical conversion process shall take place under oxygen-limiting conditions in such a way that a temperature of at least 180 °C for at least two seconds is reached in the reactor. The pyrolysis or gasification reactor may only process input materials, which are not contaminated with other material streams, or input materials, other than animal by-products or derived products within the scope of Regulation (EC) No 1069/2009, which have been unintentionally contaminated with other material streams in a one-off incident resulting only in trace levels of exogenous compounds shall be used.

In the plant where the pyrolysis or gasification takes place, physical contacts between input and output materials shall be avoided after the thermochemical process, including during storage.

3. The pyrolysis and gasification materials shall have a molar ratio of hydrogen (H) to organic carbon (H/C_{org}) of less than 0.7, with testing to be performed in the dry and ash-free fraction for materials that have an organic carbon (C_{org}) content of less than 50 %. They shall have no more than:

- (a) 6 mg/kg dry₆matter of PAH¹⁹,
- (b) 20 ng WHO toxicity equivalents²⁰ of PCDD/F²¹/kg dry matter,

4. Notwithstanding point 1, an HR fertilising product may contain pyrolysis or gasification materials obtained through the thermochemical conversion under oxygen-limiting conditions of Category 2 or Category 3 materials or derived products thereof, in accordance with the conditions set out in Article 32(1) and (2) of Regulation (EC) No 1069/2009 and in the measures referred to in Article 32(3) of that Regulation, alone or mixed with input materials referred to in point 1, provided that both of the following conditions are fulfilled:

- (a) the end point in the manufacturing chain has been determined in accordance with Article 5(2), third subparagraph, of Regulation (EC) No 1069/2009, and the currently applicable delegated act in accordance with Article 51a, which supplements Regulation (EC) No 1069/2009 by the establishment of an end point in the production chain after which the requirements of this Regulation shall no longer apply to the derived products, and
- (b) the conditions in points 2 and 3 are met.

5. In the plant where the pyrolysis or gasification takes place, the production lines for the processing of input materials referred to in points 1 and 4 shall be clearly separated from production lines for the processing of other input materials.

6. In an HR fertilising product containing or consisting of pyrolysis and gasification materials:
 - (a) the chlorine (Cl⁻) content shall not be higher than 30 g/kg dry matter and
 - (b) the thallium (Tl) content shall not be higher than 2 mg/kg dry matter, in case more than 5 % of pyrolysis or gasification additives relative to the fresh weight of total input material have been applied.
7. The pyrolysis and gasification material shall comply with the requirement set out in point 2 in CMC 1.
8. If compliance with a requirement under points 3 and 6 follows certainly and uncontestably from the characteristics of the pyrolysis and gasification material or the manufacturing process of an HR fertilising product, that compliance can be presumed in the conformity assessment procedure without verification (such as testing), at the responsibility of the manufacturer.

CMC 15: RECOVERED HIGH PURITY MATERIALS

1. An HR fertilising product may contain a recovered high purity material, which is ammonium salt, sulphate salt, phosphate salt, elemental sulphur, calcium carbonate or calcium oxide, or mixtures thereof, of a purity of at least 95 % dry matter of the material.
2. The high purity material shall be recovered from waste generated from:
 - (a) a manufacturing process that uses as input materials substances and mixtures other than animal by-products or derived products within the scope of Regulation (EC) No 1069/2009, or
 - (b) a gas purification or emission control process designed to remove nutrients from off-gases derived from one or more of the following input materials and facilities:
 - i. substances and mixtures, other than waste within the meaning of Article 3, point 1, of Directive 2008/98/EC,
 - ii. plants or plant parts;
 - iii. bio-waste within the meaning of Article 3, point 4, of Directive 2008/98/EC, resulting from separate bio-waste collection at source;
 - iv. urban and domestic waste waters within the meaning of Article 2, points 1 and 2, respectively, of Directive 91/271/EEC;
 - v. sludge within the meaning of Article 2, point (a), of Directive 86/278/EEC, which displays no hazardous properties listed in Annex III to Directive 2008/98/EC;
 - vi. waste within the meaning of Article 3, point 1, of Directive 2008/98/EC and fuels input to a waste co-incineration plant as defined in Directive 2010/75/EU of the European Parliament and of the Council and operated according to the conditions of that Directive, on condition that these inputs display no hazardous properties listed in Annex III to Directive 2008/98/EC;
 - vii. Category 2 or Category 3 materials or derived products thereof, in accordance with the conditions set out in Article 32(1) and (2) and in the measures referred to in Article 32(3) of Regulation (EC) No 1069/2009, provided that the off-gases are derived from a composting or digestion process in accordance with CMCs 3 and 5, respectively, in Appendix II to this Ordinance;
 - viii. manure within the meaning of Article 3, point 20, of Regulation (EC) No 1069/2009 or derived products thereof; or
 - ix. livestock housing facilities.

The input materials referred to in points (i) to (vi) shall not contain animal by-products or derived products within the scope of Regulation (EC) No 1069/2009.

3. The high purity material shall have an organic carbon (C_{org}) content of no more than 0.5 % dry matter of the material.
4. The high purity material shall contain no more than:
 - (a) 6 mg/kg dry matter of polycyclic aromatic hydrocarbons (PAH₁₆)²²;
 - (b) 20 ng WHO toxicity equivalents²³/kg dry matter of the polychlorinated dibenzo-pa-dioxins and dibenzofurans (PCDD/PCDF)²⁴.
5. An HR fertilising product containing or consisting of high purity materials shall contain no more than:
 - (a) 400 mg/kg dry matter of total chromium (Cr); and
 - (b) 2 mg/kg dry matter of thallium (Tl).
6. Where compliance with a given requirement laid down in points 4 and 5 (such as absence of a given contaminant) follows certainly and uncontestably from the nature or the recovery process of the high purity material or the manufacturing process of the HR fertilising product, that compliance may be presumed in the conformity assessment procedure without verification (such as testing), under the responsibility of the manufacturer.
7. Where for the corresponding type of an HR fertilising product containing or consisting of high purity materials referred to in point 2(b) no requirements regarding *Salmonella* spp., *Escherichia coli* or *Enterococcaceae* have been laid down in Appendix I, the HR fertilising product shall meet the following requirements for pathogens:
 - (a) absence of *Salmonella* spp. in 25 g or 25 ml;
 - (b) a maximum of 1 000 viable bacteria (CFU) of *Escherichia coli* or *Enterococcaceae* in a sample of 1 g or ml.

The analysis shall be carried out on 5 samples, making 1 average sample for the determination of the presence of pathogens in a type of HR fertilising product consisting of recovered high purity materials.

8. The compliance of an HR fertilising product containing or consisting of high purity materials referred to in point 2(b) with requirements in point (7), or with the requirements for *Salmonella* spp., *Escherichia coli* or *Enterococcaceae* set out in Appendix I for the corresponding type of the HR fertilising product shall be verified via testing, in accordance with point 5.1.3.1 in Module D1 – quality assurance of the manufacturing process in Part II of Annex IV to Regulation (EU) 2019/1009.

The requirements in point (7) and the requirements for *Salmonella* spp., *Escherichia coli* or *Enterococcaceae* set out in Appendix I for the corresponding type of an HR fertilising product consisting only of high purity materials referred to in point 2(b) shall not apply, when the high purity materials or all of the biogenic input materials used have undergone one of the following processes:

- (a) pressure sterilisation through the heating to a core temperature of more than 133 °C for at least 20 minutes at an absolute pressure of at least 3 bars, whereby the pressure must be produced by the evacuation of all air in the sterilisation chamber and the replacement of the air by steam ('saturated steam');
- (b) processing in a pasteurisation or hygienisation unit that reaches a temperature of 70 °C for at least one hour.

The requirements in point (7) and the requirements for *Salmonella* spp., *Escherichia coli* or *Enterococcaceae* set out in Appendix I for the corresponding type of an HR fertilising product consisting only of high purity materials referred to in point 2(b) shall not apply, where the off-gases derive from an incineration process as defined in Directive 2010/75/EU.

9. High purity materials that are stored in a way that does not protect them against precipitation and direct sunlight may be added to an HR fertilising product only if they meet the requirements laid down for the respective HR fertilising product.

10. The high purity material shall comply with the requirement set out in point 2 in CMC 1.

APPENDIX III

LABELLING OF HR FERTILISING PRODUCTS

This Appendix sets out the labelling requirements for HR fertilising products. The requirements laid down in Part II and Part III of this Appendix for a given type of HR fertilising products, as specified in Appendix I, apply to HR fertilising products in all subcategories of that type of HR fertilising products.

PART I

GENERAL LABELLING REQUIREMENTS

1. The following information shall be provided:
 - (a) for HR fertilising products in Type 1 to Type 6, the designation as indicated in Articles 4, 5, 6, 7, 8 and 9 of this Ordinance, corresponding to the product's claimed function;
 - (b) for HR fertilising products in Type 7, the designations as indicated in Articles 4, 5, 6, 7, 8 and 9 of this Ordinance, corresponding to the claimed functions of the component HR fertilising products;
 - (c) the quantity of the HR fertilising product, indicated by mass or volume;
 - (d) instructions for intended use, including application rates, timing and frequency, and target plants or mushrooms;
 - (e) recommended storage conditions;
 - (f) for products containing a polymer belonging to CMC 9 in Part II of Appendix II, point 1(a) or (b):
 - i. the time period following use during which the nutrient release is being controlled or the water retention capacity is being increased (the 'functionality period'), which shall not be longer than the period between two applications in accordance with the use instructions referred to in point (d);
 - ii. an instruction to apply the product in compliance with the buffer zones required for fertilising products in accordance with the relevant national rules or, in the absence of such rules, to apply the product at least 3 m from any surface water body;
 - (fa) for products belonging to Type 3 and containing a polymer referred to in Part II of Appendix II, CMC 9, point 1a:
 - i. the time period following use during which the soil improver will fulfil its function (the 'functionality period'), which shall not be longer than the period between two applications in accordance with the use instructions referred to in point (d) of this point;
 - ii. an instruction to apply the product in compliance with the buffer zones required for fertilising products in accordance with the relevant national rules or, in the absence of such rules, to apply the product at least 3 m from any surface water body;
 - iii. an instruction to follow the national measures on handling mulch films after their functionality period or, in the absence of such measures, to incorporate in soil the product after its functionality period and maintain it buried;
 - (g) any relevant information on measures recommended to manage risks to human, animal or plant health, to safety or to the environment; and
 - (h) a list of all ingredients above 5 % by product weight or volume, or in the case of products in liquid form by dry weight, in descending order of magnitude, including the

designations of the relevant CMCs as referred to Appendix II to this Ordinance. Where the ingredient is a substance or a mixture, it shall be identified in accordance with Article 18 of Regulation (EC)

- No 1272/2008. Naturally occurring substances may be identified by their mineral names.
2. Where the HR fertilising product has functions described in two or more of the types laid down in Appendix I, only those functions for which the HR fertilising product has been subject to a successful conformity assessment in accordance with this Ordinance may be claimed by using the corresponding type designations as indicated in Appendix I.
 3. Where the HR fertilising product contains a component material which, if placed on the market as food or feed, would have been subject to maximum residue limits established pursuant to Regulation (EC) No 470/2009 or Regulation (EU) No 1831/2003 of the European Parliament and of the Council, maximum residue levels set in accordance with Regulation (EC) No 396/2005 of the European Parliament and of the Council, or maximum levels established pursuant to Council Regulation (EEC) No 315/93 or Directive 2002/32/EC of the European Parliament and of the Council, and that component material contains a substance in exceedance of (one of) the corresponding limit value(s), the maximum concentration of that substance in the HR fertilising product shall be indicated, together with a warning that the HR fertilising product must not be used in such a manner as to risk leading to the exceedance of that limit in food or feed.
 4. Where the HR fertilising product contains derived products within the meaning of Regulation (EC) No 1069/2009 other than manure, the following instruction shall be provided on the label: ‘Farmed animals shall not be fed, either directly or by grazing, with herbage from land to which the product has been applied unless the cutting or grazing takes place after the expiry of a waiting period of at least 21 days.’.
 5. Where the HR fertilising product contains ricin, the following instruction shall be provided on the label: ‘Hazardous to animals in case of ingestion’.
 6. Where the HR fertilising product contains unprocessed or processed cocoa shells, the following instruction shall be provided on the label: ‘Toxic to dogs and cats’.
 7. The end-user shall be instructed not to use the product in contact with soil, and in collaboration with the manufacturer, to make sure of a sound disposal of the product after end of use where the HR fertilising product:
 - (a) is a growing medium as referred to in Type 4, point 2a, of Appendix I.D; or
 - (b) contains a polymer with the purpose of binding material in the product as referred to in Part II, section CMC 9, point 1(c) of Appendix II, which does not meet any of the requirements in Part II, section CMC 1, point 1(f)(i), (ii), (iii) or (iv) of that Appendix.
 8. Information other than the information required under points 1 to 6:
 - (a) shall not mislead the user, for example by attributing to the product properties that it does not possess, or by suggesting that the product possesses unique characteristics which similar products also have;
 - (b) shall relate to verifiable factors;
 - (c) shall not make claims such as ‘sustainable’ or ‘environmentally friendly’ unless such claims refer to legislation, or clearly identified guidelines, standards or schemes, with which the EU fertilising product complies; and
 - (d) shall not make claims by means of statements or visual representations that the HR fertilising product prevents or treats plant diseases or protects plants against harmful organisms.
 9. The phrase ‘poor in chloride’ or similar may only be used if the chloride (Cl⁻) content is below 30 g/kg of dry matter.
 10. Where the nutrient content information requirements in this Appendix are expressed in oxidised form, the nutrient content may be expressed in elemental form instead or in addition to the oxidised form in accordance with the following conversion factors:
 - phosphorus (P) = phosphorus pentoxide (P₂O₅) x 0.436;
 - potassium (K) = potassium oxide (K₂O) x 0.830;

calcium (Ca) = calcium oxide (CaO) x 0.715;
magnesium (Mg) = magnesium oxide (MgO) x
0.603;

sodium (Na) = sodium oxide (Na₂O) x 0.742;

sulphur (S) = sulphur trioxide (SO₃) x 0.400.

11. Where the information requirements in this Appendix refer to organic carbon (C_{org}), the information may refer to organic matter instead of or in addition to organic carbon (C_{org}) in accordance with the following conversion factor:

organic carbon (C_{org}) = organic matter x 0.56.

PART II

PRODUCT-SPECIFIC LABELLING REQUIREMENTS

TYPE 1: FERTILISERS

1. The content of nutrients may be declared only where they are present in the HR fertilising product in the minimum quantity specified in Appendix I for the relevant type.

2. If nitrogen (N) or phosphorus (P) are not declared nutrients, the content of nitrogen (N) or phosphorus (P₂O₅) shall nevertheless be indicated if above 0.5 % by mass. That indication shall be separate from the nutrient declaration.

3. The following rules apply to fertilisers containing inhibitors, as specified in CMC 1 in Appendix II:

- (a) the label shall state the words ‘nitrification inhibitor’, ‘denitrification inhibitor’ or ‘urease inhibitor’, as relevant;
- (b) the nitrification inhibitor content shall be expressed as a % by mass of the total nitrogen (N) present as ammonium nitrogen (NH₄⁺) and urea nitrogen (CH₄N₂O);
- (c) the denitrification inhibitor content shall be expressed as a % by mass of the nitrate (NO₃⁻) present;
- (d) the urease inhibitor content shall be expressed as a % by mass of the total nitrogen (N) present as urea nitrogen (CH₄N₂O).

4. The term ‘mineral fertiliser’ may be used only if the fertiliser belongs to Type 1 (C) and fulfils the following additional conditions:

- (a) the mineral fertiliser must not contain more than 1 % by mass of organic carbon (C_{org}) other than organic carbon from:
 - i. chelating or complexing agents referred to in point 3 of CMC 1 in Appendix II,
 - ii. nitrification inhibitors, denitrification inhibitors or urease inhibitors referred to in point 4 of CMC 1 in Appendix II,
 - iii. coating agents referred to in point 1(a) of CMC 9 in Appendix II,
 - iv. urea, or
 - v. calcium cyanamide (CaCN₂);
- (b) where phosphorus (P) is a declared nutrient, the declared phosphorus content shall consist only of phosphorus in the phosphatic form, and the mineral fertiliser shall fulfil at least one of the following solubility criteria:
 - i. water solubility: minimum level 40 % of total phosphorus (P),
 - ii. solubility in neutral ammonium citrate: minimum level 75 % of total phosphorus (P), or
 - iii. solubility in formic acid (only for soft rock phosphate): minimum level 55 % of total phosphorus (P);
- (c) where nitrogen (N) is a declared nutrient, the declared nitrogen content shall consist only of the sum of nitric nitrogen, ammoniacal nitrogen, ureic nitrogen, and nitrogen from methylene-urea, from isobutylidenediurea, and from crotonylidenediurea.

TYPE 1 (A): ORGANIC FERTILISERS

The following information shall be provided:

- (a) the declared primary nutrients nitrogen (N), phosphorus (P) or potassium (K), by their chemical symbols in the order N-P-K;
- (b) the declared secondary nutrients calcium (Ca), magnesium (Mg), sodium (Na), or sulphur (S) by their chemical symbols in the order Ca-Mg-Na-S;
- (c) numbers indicating the content of the declared nutrients total nitrogen (N), total phosphorus in the form of phosphorus pentoxide (P₂O₅) or total potassium in the form of potassium oxide (K₂O), followed by numbers in brackets indicating the total content of calcium oxide (CaO), magnesium oxide (MgO), sodium oxide (Na₂O) or sulphur trioxide (SO₃);
- (d) the content of the following declared nutrients and other parameters, in the following order and as
% by mass:
 - i. nitrogen (N):
 - total nitrogen (N);
 - minimum amount of organic nitrogen (N_{org}), followed by a description of the origin of the organic matter used;
 - nitrogen in the form of ammoniacal nitrogen;
 - ii. total phosphorus pentoxide (P₂O₅);
 - iii. total potassium oxide (K₂O);
 - iv. calcium oxide (CaO), magnesium oxide (MgO), sodium oxide (Na₂O) and sulphur trioxide (SO₃), expressed:
 - where those nutrients are totally soluble in water, only as the content soluble in water;
 - where the soluble content of those nutrients is at least a quarter of the total content of those nutrients, as the total content and as the content soluble in water;
 - in other cases, as the total content;
 - v. organic carbon (C_{org});
 - vi. dry matter;
- (e) the ratio of organic carbon to total nitrogen (C_{org}/N);
- (f) production date;
- (g) the form of the physical unit of the product, such as powder or pellets, if applicable.

TYPE 1 (B): ORGANO-MINERAL FERTILISERS

1. The following information shall be provided:

- (a) the declared primary nutrients nitrogen (N), phosphorus (P) or potassium (K), by their chemical symbols in the order N-P-K;
- (b) where applicable, the declared secondary nutrients calcium (Ca), magnesium (Mg), sodium (Na) or sulphur (S) by their chemical symbols in the order Ca-Mg-Na-S;
- (c) numbers indicating the content of the declared nutrients total nitrogen (N), total phosphorus in the form of phosphorus pentoxide (P₂O₅) or total potassium in the form of potassium oxide (K₂O), followed by numbers in brackets indicating the total content of calcium oxide (CaO), magnesium oxide (MgO), sodium oxide (Na₂O) or sulphur trioxide (SO₃);
- (d) the content of the following declared nutrients and other parameters, in the following order and as
% by mass:

i. nitrogen (N):

- total nitrogen (N);
 - minimum amount of organic nitrogen (N_{org}), followed by a description of the origin of the organic matter used;
 - nitrogen in the form of nitric nitrogen;
 - nitrogen in the form of ammoniacal nitrogen;
 - nitrogen in the form of urea nitrogen;
- ii. phosphorus pentoxide (P₂O₅):
- total phosphorus pentoxide (P₂O₅);
 - water-soluble phosphorus pentoxide (P₂O₅);
 - phosphorus pentoxide (P₂O₅) soluble in neutral ammonium citrate;
 - where soft ground phosphate is present, phosphorus pentoxide (P₂O₅) soluble in formic acid;
- iii. potassium oxide (K₂O):
- total potassium oxide (K₂O);
 - water soluble potassium oxide (K₂O);
- iv. calcium oxide (CaO), magnesium oxide (MgO), sodium oxide (Na₂O) and sulphur trioxide (SO₃), expressed:
- where those nutrients are totally soluble in water, only as the content soluble in water;
 - where the soluble content of those nutrients is at least a quarter of the total content of those nutrients, as the total content and as the content soluble in water;
 - in other cases, as the total content;
- v. organic carbon (C_{org});
- vi. dry matter,

(e) where urea (CH₄N₂O) is present, information about the possible air quality impacts of the release of ammonia from the fertiliser use, and an invitation to users to apply appropriate remediation measures.

2. Where one or more of the micronutrients boron (B), cobalt (Co), iron (Fe), manganese (Mn) and molybdenum (Mo) are present in the minimum content indicated as % by mass in the following table, they:

- shall be declared if they are intentionally added to an organo-mineral fertiliser, and
- may be declared in other cases:

Micronutrient	Content of micronutrient (% by mass)		
	Solid organo-mineral fertilisers		Liquid organo-mineral fertilisers
	Intended for use on crops or grassland	Intended for horticultural use	
Boron (B)	0,01	0,01	0,01
Cobalt (Co)	0,002	n.a.	0,002
Iron (Fe)	0,5	0,02	0,02
Manganese (Mn)	0,1	0,01	0,01
Molybdenum (Mo)	0,001	0,001	0,001

3. Where one or both of the micronutrients copper (Cu) and zinc (Zn) are present, without being intentionally added, in the minimum content indicated as % by mass in the following table, they may be declared:

Micronutrient	Content of micronutrient (% by mass)		
	Solid organo-mineral fertilisers		Liquid organo-mineral fertilisers
	Intended for use on crops or grassland	Intended for horticultural use	
Copper (Cu)	0,01	0,002	0,002
Zinc (Zn)	0,01	0,002	0,002

4. Where copper (Cu) or zinc (Zn) is intentionally added to the organo-mineral fertiliser, the total content of copper (Cu) or zinc (Zn) shall be declared.

5. The micronutrients referred to in points 2, 3 and 4 shall be declared after the information on macronutrients. The following information shall be provided:

- (a) where micronutrients are intentionally added, indication of the names and chemical symbols of the declared micronutrients, listed in the following order: boron (B), cobalt (Co), copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo) and zinc (Zn), followed by the names of their counter-ions;
- (b) the total micronutrient content expressed as % by mass:
 - where those micronutrients are totally soluble in water, only as the content soluble in water;
 - where the soluble content of those micronutrients is at least a quarter of the total content of those micronutrients, as the total content and as the content soluble in water;
 - in other cases, as the total content;
- (c) where the declared micronutrients are chelated by chelating agents,
 - the following qualifier after the name and the chemical identifier of the micronutrient: 'chelated by [name of the chelating agent(s) or its(their) abbreviation]'/ 'complexed by [name of the complexing agent(s) or its(their) abbreviation]'/ 'chelated by [name of the chelating agent(s) or its(their) abbreviation] and complexed by [name of the complexing agent(s) or its (their) abbreviation]';
 - the amount of chelated/complexed micronutrient(s) as % by mass;
- (d) where the declared micronutrients are chelated by chelating agent(s), the pH range guaranteeing acceptable stability;
- (e) where micronutrients are intentionally added, the following statement: 'To be used only where there is a recognised need. Do not exceed the application rate'.

6. Where an organo-mineral fertiliser has a cadmium (Cd) content equal to or lower than 20 mg/kg phosphorus pentoxide (P₂O₅), the statement 'Low cadmium (Cd) content' or similar, or a visual representation to that effect, may be added.

TYPE 1 (C): MINERAL FERTILISERS

TYPE 1 (C) I: MINERAL MACRONUTRIENT FERTILISERS

1. The following information shall be provided:
 - (a) where applicable, the declared primary nutrients nitrogen (N), phosphorus (P) or potassium (K), by their chemical symbols in the order N-P-K;
 - (b) where applicable, the declared secondary nutrients calcium (Ca), magnesium (Mg), sodium (Na) or sulphur (S) by their chemical symbols in the order Ca-Mg-Na-S;
 - (c) numbers indicating the content of the declared nutrients total nitrogen (N), total phosphorus in the form of phosphorus pentoxide (P₂O₅) or total potassium in the form of potassium oxide (K₂O), followed by numbers in brackets indicating the total content of calcium oxide (CaO), magnesium oxide (MgO), sodium oxide (Na₂O) or sulphur trioxide (SO₃);
 - (d) the content of the following declared nutrients, in the following order and as % by mass:
 - i. nitrogen (N):
 - total nitrogen (N);
 - nitrogen in the form of nitric nitrogen;
 - nitrogen in the form of ammoniacal nitrogen;
 - nitrogen in the form of urea nitrogen;
 - nitrogen from urea formaldehyde, isobutylidenediurea, crotonylidenediurea;
 - nitrogen from cyanamide nitrogen;
 - ii. phosphorus pentoxide (P₂O₅):
 - total phosphorus pentoxide (P₂O₅);
 - water-soluble phosphorus pentoxide (P₂O₅);
 - phosphorus pentoxide (P₂O₅) soluble in neutral ammonium citrate;
 - where soft ground phosphate is present, phosphorus pentoxide (P₂O₅) soluble in formic acid;
 - iii. water soluble potassium oxide (K₂O);
 - iv. calcium oxide (CaO), magnesium oxide (MgO), sodium oxide (Na₂O) and sulphur trioxide (SO₃), expressed:
 - where those nutrients are totally soluble in water, only as the content soluble in water;
 - where the soluble content of those nutrients is at least a quarter of the total content of those nutrients, as the total content and as the content soluble in water;
 - in other cases, as the total content;
 - (e) where urea (CH₄N₂O) is present, information about the possible air quality impacts of the release of ammonia from the fertiliser use, and an invitation to users to apply appropriate remediation measures.
2. Where a mineral macronutrient fertiliser has a cadmium (Cd) content equal to or lower than 20 mg/kg phosphorous pentoxide (P₂O₅), the statement 'Low cadmium (Cd) content' or similar, or a visual representation to that effect, may be added.

TYPE 1 (C) I. (a): SOLID MINERAL MACRONUTRIENT FERTILISERS

1. A solid mineral macronutrient fertiliser may be labelled 'complex' only if each physical unit contains all the declared nutrients in their declared content.
2. The granulometry of a solid inorganic macronutrient fertiliser shall be indicated, expressed as % by mass of the product passing through a determined sieve.
3. The form of the physical unit of the product shall be indicated with one, or a combination of two or more, of the following mentions:
 - (a) granules,

- (b) pellets,
 (c) powder, where at least 90 % by mass of the product can pass through a sieve with a mesh of 1 mm, or
 (d) prills.
4. For coated solid mineral macronutrient fertilisers, the name of the coating agents and the percentage of fertiliser coated by each coating agent shall be indicated and followed by:
 (a) for polymer coated solid mineral macronutrient fertilisers, the following marking:
 ‘The rate of nutrient releases can vary according to the temperature of the substrate. An adjustment of fertilisation may be necessary’; and
 (b) for sulphur (S) coated solid mineral macronutrient fertilisers and sulphur (S)/polymer coated solid mineral macronutrient fertilisers, the following marking:
 ‘The rate of nutrient release can vary according to the temperature of the substrate and the biological activity. An adjustment of fertilisation may be necessary’.
5. Where one or more of the micronutrients boron (B), cobalt (Co), iron (Fe), manganese (Mn) and molybdenum (Mo) are present in the minimum content indicated in the following table as % by mass, they:
- shall be declared if they are intentionally added to the solid inorganic macronutrient fertiliser, and
 - may be declared in other cases:

Micronutrient	Content of micronutrient (% by mass)	
	Intended for use on crops or grassland	Intended for horticultural use
Boron (B)	0,01	0,01
Cobalt (Co)	0,002	n.a.
Iron (Fe)	0,5	0,02
Manganese (Mn)	0,1	0,01
Molybdenum (Mo)	0,001	0,001

6. Where one or both of the micronutrients copper (Cu) and zinc (Zn) are present, without being intentionally added, in the minimum content indicated as % by mass in the following table, they may be declared:

Micronutrient	Content of micronutrient (% by mass)	
	Intended for use on crops or grassland	Intended for horticultural use
Copper (Cu)	0,01	0,002
Zinc (Zn)	0,01	0,002

7. Where copper (Cu) or zinc (Zn) is intentionally added to the solid inorganic macronutrient fertiliser the total content of copper (Cu) or zinc (Zn) shall be declared.
8. The micronutrients referred to in points 5, 6 and 7 shall be declared after the information on macronutrients. The following information shall be provided:

- (a) where micronutrients are intentionally added, indication of the names and chemical symbols of the declared micronutrients, listed in the following order: boron (B), cobalt (Co), copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo) and zinc (Zn), followed by the names of their counter-ions;
- (b) the total micronutrient content expressed as % by mass:
- where those micronutrients are totally soluble in water, only as the content soluble in water;
 - where the soluble content of those micronutrients is at least a quarter of the total content of those micronutrients, as the total content and as the content soluble in water;
 - in other cases, as the total content;
- (c) where the declared micronutrients are chelated by chelating agent(s) or complexed by complexing agent(s):
- the following qualifier, as applicable, after the name and chemical identifier of the micronutrient:
‘chelated by [name of the chelating agent(s) or its(their) abbreviation]’/‘complexed by [name of the complexing agent(s) or its(their) abbreviation]’/‘chelated by [name of the chelating agent(s) or its(their) abbreviation] and complexed by [name of the complexing agent(s) or its (their) abbreviation]’;
 - the amount of chelated/complexed micronutrient(s) as % by mass;
- (d) where the declared micronutrients are chelated by chelating agent(s), the pH range guaranteeing acceptable stability;
- (e) where micronutrients are intentionally added, the following statement: ‘To be used only where there is a recognised need. Do not exceed the application rate’.

TYPE 1 (C) I. (b): LIQUID MINERAL MACRONUTRIENT FERTILISERS

1. The label shall indicate whether the liquid mineral macronutrient fertiliser is in suspension or in solution.
2. The nutrient content may be indicated as % by mass or volume.
3. Where one or more of the micronutrients boron (B), cobalt (Co), iron (Fe), manganese (Mn) and molybdenum (Mo) are present in the minimum content indicated in the following table as % by mass, they:
 - shall be declared if they are intentionally added to the liquid mineral macronutrient fertiliser, and
 - may be declared in other cases:

Micronutrient	Content of micronutrient (% by mass)
Boron (B)	0,01
Cobalt (Co)	0,002
Iron (Fe)	0,02
Manganese (Mn)	0,01
Molybdenum (Mo)	0,001

4. Where one or both of the micronutrients copper (Cu) and zinc (Zn) are present, without being intentionally added, by at least 0.002 % by mass, they may be declared.
5. Where copper (Cu) or zinc (Zn) is intentionally added to the liquid inorganic macronutrient fertiliser the total content of copper (Cu) or zinc (Zn) shall be declared.
6. The micronutrients referred to in points 3, 4 and 5 shall be declared after the information on macronutrients. The following information shall be provided:
 - (a) indication of the names and chemical symbols of the declared micronutrients, listed in the following order: boron (B), cobalt (Co), copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo) and zinc (Zn), followed by the names of their counter-ions when the declared micronutrients are intentionally added;
 - (b) the total micronutrient content expressed as % by mass or volume:
 - where those micronutrients are totally soluble in water, only as the content soluble in water;
 - where the soluble content of those micronutrients is at least a quarter of the total content of those micronutrients, as the total content and as the content soluble in water;
 - in other cases, as the total content;
 - (c) where the declared micronutrients are chelated by chelating agent(s) or complexed by complexing agent(s):
 - the following qualifier, as applicable, after the name and chemical identifier of the micronutrient: ‘chelated by [name of the chelating agent(s) or its(their) abbreviation]’/‘complexed by [name of the complexing agent(s) or its(their) abbreviation]’/‘chelated by [name of the chelating agent(s) or its(their) abbreviation] and complexed by [name of the complexing agent(s) or its (their) abbreviation]’;
 - the amount of chelated/complexed micronutrient(s) as % by mass;
 - (d) where the declared micronutrients are chelated by chelating agent(s), the pH range guaranteeing acceptable stability;
 - (e) where micronutrients are intentionally added, the following statement: ‘To be used only where there is a recognised need. Do not exceed the application rate’.

TYPE 1 (C) II: MINERAL MICRONUTRIENT FERTILISERS

1. The declared micronutrients in the inorganic micronutrient fertiliser shall be listed by their names and chemical symbols of the declared micronutrients, in the following order: boron (B), cobalt (Co), copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo) and zinc (Zn), followed by the names of their counter-ions when the declared micronutrients are intentionally added.
2. Where the declared micronutrients are chelated by chelating agent(s) and each chelating agent can be identified and quantified and chelates at least 1 % water-soluble micronutrient, or the declared micronutrients are complexed by complexing agent(s), the following qualifiers shall be added, as applicable, after the name and chemical identifier of the micronutrient:
 - ‘chelated by [name of the chelating agent(s) or its(their) abbreviation]’/‘complexed by [name of the complexing agent(s) or its(their) abbreviation]’/‘chelated by [name of the chelating agent(s) or its(their) abbreviation] and complexed by [name of the complexing agent(s) or its (their) abbreviation]’,
 - the amount of chelated/complexed micronutrient(s) as % by mass.

2a. Where the declared micronutrients are chelated by chelating agent(s), the pH range guaranteeing acceptable stability shall be indicated.

3. The following statement shall appear: ‘To be used only where there is a recognised need. Do not exceed the application rate’.

TYPE 1 (C) II. (a): STRAIGHT MINERAL MICRONUTRIENT FERTILISERS

1. The label shall indicate the relevant typology, as referred to in the table under Type 1. (C) II. (a) of Appendix I.

2. The total micronutrient content shall be expressed as % by mass:

- where the micronutrient is totally soluble in water, only as the content soluble in water;
- where the soluble content of the micronutrient is at least a quarter of the total content of that micronutrient, as the total content and as the content soluble in water;
- in other cases, as the total content.

TYPE 1 (C) II. (b): COMPOUND MINERAL MICRONUTRIENT FERTILISERS

1. Micronutrients may be declared only if they are present in the minimum content indicated in the following table as % by mass:

Micronutrient	Content of micronutrient (% by mass)	
	Non-chelated, non-complexed	Chelated or complexed
Boron (B)	0,2	n.a.
Cobalt (Co)	0,02	0,02
Copper (Cu)	0,5	0,1
Iron (Fe)		0,3
Manganese (Mn)	0,5	0,1
Molybdenum (Mo)	0,02	n.a.
Zinc (Zn)	0,5	0,1

2. If the compound mineral micronutrient fertiliser is in suspension or in solution, the label shall indicate ‘in suspension’ or ‘in solution’, as relevant.

3. The total micronutrient content shall be expressed as % by mass:

- where those micronutrients are totally soluble in water, only as the content soluble in water;
- where the soluble content of the micronutrients is at least half of the total content of those micronutrients, as the total content and as the content soluble in water;
- in other cases, as the total content.

TYPE 2: LIMING MATERIALS

The following parameters shall be declared in the following order:

- neutralising value;

- granulometry, expressed as % by mass of product passing through a sieve of 1.0 mm;
- total calcium oxide (CaO), expressed as % by mass;
- total magnesium oxide (MgO), expressed as % by mass;
- reactivity and method of determination of reactivity, except for oxide and hydroxide limes.

TYPE 3: SOIL IMPROVERS

1. The dry matter content expressed as % by mass shall be declared.
2. The following nutrients expressed as % by mass shall be declared, if exceeding 0,5 % by mass: nitrogen (N), phosphorus pentoxide (P₂O₅) and potassium oxide (K₂O).

TYPE 3(A) ORGANIC SOIL IMPROVERS

The following parameters shall be declared:

- pH;
- electrical conductivity, given as mS/m;
- organic carbon (C_{org}) content, expressed as % by mass;
- minimum amount of organic nitrogen (N_{org}), expressed as % by mass, followed by a description of the origin of the organic matter used;
- the ratio of organic carbon to total nitrogen (C_{org}/N).

TYPE 4: GROWING MEDIA

The following parameters shall be declared in the following order:

- electrical conductivity given as mS/m, except for mineral wool;
- pH;
- quantity:
 - for mineral wool, expressed as number of pieces and the three dimensions length, height, and width;
 - for other pre-shaped growing media, expressed as size in at least two dimensions;
 - for other growing media, expressed as total volume;
 - except for pre-shaped growing media, quantity expressed as volume of materials with a particle size greater than 60 mm, when present;
- nitrogen (N) extractable by CaCl₂/DTPA (calcium chloride/diethylenetriaminepentaacetic acid; 'CAT-soluble'), if above 150 mg/l;
- phosphorus pentoxide (P₂O₅) extractable by CaCl₂/DTPA (calcium chloride/diethylenetriaminepentaacetic acid; 'CAT-soluble'), if above 20 mg/l;
- potassium oxide (K₂O) extractable by CaCl₂/DTPA ((calcium chloride/diethylenetriaminepentaacetic acid; 'CAT-soluble'), if above 150 mg/l;
- production date.

TYPE 5: INHIBITORS

1. All ingredients shall be declared by product weight or volume in descending order of magnitude.

2. The content of the inhibiting compound(s) as % by mass or volume shall be declared.
3. The use instructions referred to in point 1(d) in Part I of this Appendix shall contain information on:
 - (a) the types of HR fertilising products with which the inhibitor may be mixed, in particular:
 - i. for the nitrification inhibitor referred to in Type 5(A) of Appendix I, an HR fertilising product in which at least 50 % of the total nitrogen (N) content consists of the nitrogen (N) forms ammonium (NH_4^+) and urea ($\text{CH}_4\text{N}_2\text{O}$);
 - ii. for the urease inhibitor referred to in Type 5(C) of Appendix I, an HR fertilising product in which at least 50 % of the total nitrogen (N) content consists of the nitrogen (N) form urea ($\text{CH}_4\text{N}_2\text{O}$);
 - (b) the minimum and maximum recommended concentration of inhibiting compound(s) when mixed with a fertiliser prior to its use:
 - i. for the nitrification inhibitor referred to in Type 5(A) of Appendix I, as a % by mass of the total nitrogen (N) present as ammonium nitrogen (NH_4^+) and urea nitrogen ($\text{CH}_4\text{N}_2\text{O}$);
 - ii. for the denitrification inhibitor referred to in Type 5 (B) of Appendix I, as a % by mass of the nitrate (NO_3^-) present;
 - iii. for the urease inhibitor referred to in Type 5(c) of Appendix I, as a % by mass of the total nitrogen (N) present as urea nitrogen ($\text{CH}_4\text{N}_2\text{O}$).

TYPE 6: PLANT BIOSTIMULANTS

The following information shall be provided:

- (a) physical form;
- (b) production and expiry date;
- (c) application method(s);
- (d) effect claimed for each target plant; and
- (e) any relevant instructions related to the efficacy of the product, including soil management practices, chemical fertilisation, incompatibility with plant protection products, recommended spraying nozzles size, sprayer pressure and other anti-drift measures.

TYPE 6 (A): MICROBIAL PLANT BIOSTIMULANTS

All intentionally added micro-organisms shall be mentioned. Where the micro-organism has multiple strains, the intentionally added strains shall be mentioned. Their concentration shall be expressed as the number of active units per volume or weight, or in any other manner that is relevant to the micro-organism, e.g. colony forming units per gram (CFU/g).

The label shall contain the following phrase: ‘Micro-organisms may have the potential to provoke sensitising reactions’.

TYPE 7: FERTILISING PRODUCT BLENDS

All the labelling requirements applicable to all component HR fertilising products apply to the fertilising product blend, and shall be expressed in relation to the final fertilising product blend.

Where the fertilising product blend contains one or more plant biostimulants belonging to Type 6, the concentration of each plant biostimulant in the blend shall be indicated in g/kg or g/l at 20 °C.

Where the fertilising product blend contains one or more inhibitors belonging to Type 5, the use instructions referred to in point 3 in Type 5 in Part II of this Appendix shall not be added.

PART III

TOLERANCES

1. The declared nutrient content or physico-chemical characteristics of an HR fertilising product may deviate from the actual value only in accordance with the tolerances established in this Part for the relevant type. The tolerances are intended to allow for deviations in manufacture, in the distribution chain, and during sampling and analysis.
2. The tolerances allowed in respect of the declared parameters indicated in this Part are negative and positive values.
3. By derogation from point 1, the actual content of a component, in an HR fertilising product, for which a minimum or a maximum content is specified in Appendix I or Appendix II may never be lower than the minimum content or exceed the maximum content.

TYPE 1: FERTILISERS

The following tolerance rules apply to fertilisers containing nitrification, denitrification or urease inhibiting compounds, as specified in CMC 1 of Appendix II:

Inhibiting compounds	Permissible tolerance for the declared content of inhibiting compounds
Concentration below or equal to 2 %	± 20 % of the declared value
Concentration of more than 2 %	± 0.3 percentage points in absolute terms

TYPE 1 (A): ORGANIC FERTILISERS

Forms of the declared nutrient and other declared parameters	Permissible tolerance for the declared nutrient content and other declared parameters
Organic carbon (C _{org})	± 20 % relative deviation of the declared value up to a maximum of 2.0 percentage points in absolute terms
Dry matter content	± 5.0 percentage points in absolute terms
Total nitrogen (N)	± 50 % relative deviation of the declared value up to a maximum of 1.0 percentage point in absolute terms
Organic nitrogen (N _{org})	± 50 % relative deviation of the declared value up to a maximum of 1.0 percentage point in absolute terms
Total phosphorus pentoxide (P ₂ O ₅)	± 50 % relative deviation of the declared value up to a maximum of 1.0 percentage point in absolute terms
Total potassium oxide (K ₂ O)	± 50 % relative deviation of the declared value up to a maximum of 1.0 percentage point in absolute terms
Total and water-soluble magnesium oxide (MgO), calcium oxide (CaO), sulphur oxide (SO ₃) or sodium	± 25 % of the declared content of those nutrients up to a maximum of 1.5 percentage points in absolute terms

oxide (Na ₂ O)	
Organic carbon (C _{org})/total nitrogen (N)	± 20 % relative deviation of the declared value up to a maximum of 2.0 percentage points in absolute terms
Quantity	± 1.5 % relative deviation of the declared value

TYPE 1 (B): ORGANO-MINERAL FERTILISERS

Forms of the declared nutrient and other declared parameters	Permissible tolerance for the declared macronutrient content and other declared parameters
Organic carbon (C _{org})	± 20 % relative deviation of the declared value up to a maximum of 2.0 percentage points in absolute terms
Dry matter content	± 5.0 percentage points in absolute terms
Declared forms of inorganic nitrogen (N)	± 25 % relative deviation of the declared value up to a maximum of 2.0 percentage points in absolute terms
Organic nitrogen (N _{org})	± 50 % relative deviation of the declared value up to a maximum of 1.0 percentage point in absolute terms
Declared forms of phosphorus pentoxide (P ₂ O ₅)	± 25 % relative deviation of the declared value up to a maximum of 1.5 percentage points in absolute terms
Declared forms of potassium oxide (K ₂ O)	± 25 % relative deviation of the declared value up to a maximum of 1.5 percentage points in absolute terms
Total and water-soluble magnesium oxide (MgO), calcium oxide (CaO), sulphur trioxide (SO ₃)	± 25 % of the declared content of those nutrients up to a maximum of 1.0 percentage point in absolute terms
Total and water-soluble sodium oxide (Na ₂ O)	± 25 % relative deviation of the declared value up to a maximum of 0.9 percentage points in absolute terms
Quantity	± 1.5 % relative deviation of the declared value

Micronutrient	Permissible tolerance for the declared content of forms of micronutrient
Concentration below or equal to 2 %	± 20 % of the declared value
Concentration of more than 2 % and below or equal to 10 %	± 20 % relative deviation of the declared value up to a maximum of 1.0 percentage point in absolute terms
Concentration of more than 10 %	± 1.0 percentage point in absolute terms

TYPE 1 (C): MINERAL FERTILISERS

Forms of the declared nutrient and other declared parameters	Permissible tolerance for the declared macronutrient content and other declared parameters
Declared forms of nitrogen (N)	± 25 % relative deviation of the declared value up to a maximum of 2 percentage points in absolute terms
Declared forms of phosphorus pentoxide (P ₂ O ₅)	± 25 % relative deviation of the declared value up to a maximum of 2 percentage points in absolute terms

Declared forms of potassium oxide (K ₂ O)	± 25 % relative deviation of the declared value up to a maximum of 2 percentage points in absolute terms
Declared forms of nitrogen (N), phosphorus pentoxide (P ₂ O ₅) or potassium oxide (K ₂ O) in binary fertilisers	± 1.5 percentage points in absolute terms

Declared forms of nitrogen (N), phosphorus pentoxide (P ₂ O ₅) or potassium oxide (K ₂ O) in tertiary fertilisers	± 1.9 percentage points in absolute terms
Total and water-soluble magnesium oxide (MgO), calcium oxide (CaO), sulphur trioxide (SO ₃)	-50 and +100 % relative deviation of the declared content of those nutrients up to a maximum of -2 and + 4 percentage points in absolute terms
Total and water soluble sodium oxide (Na ₂ O)	- 25 % of the declared content up to a maximum of 0.9 percentage point in absolute terms + 50 % of the declared content up to a maximum of 1.8 percentage points in absolute terms
Granulometry	± 20 % relative deviation of the declared percentage of material passing a specific sieve
Quantity	± 1 % of the declared value for products under Type 1 (C) I ± 5 % of the declared value for products under Type 1 (C) II

Micronutrient	Permissible tolerance for the declared content of forms of micronutrient
Concentration below or equal to 2 %	± 50 % of the declared value
Concentration of more than 2 % and below or equal to 10 %	± 50 % of the declared value up to a maximum of 1.0 percentage point in absolute terms
Concentration of more than 10 %	± 1.0 percentage point in absolute terms

TYPE 2: LIMING MATERIALS

Forms of the declared nutrient and other declared parameters	Permissible tolerances for the declared parameter
Neutralising value	± 3
Granulometry	± 10 % relative deviation of the declared percentage of material passing a specific sieve.
Total calcium oxide (CaO)	± 3.0 percentage points in absolute terms
Total magnesium oxide (MgO)	
Concentration below 8 %	± 1.0 percentage point in absolute terms
Concentration between 8 % to 16 %	± 2.0 percentage points in absolute terms
Concentration above or equal to 16 %	± 3.0 percentage points in absolute terms
Reactivities (hydrochloric acid test and incubation test)	± 5.0 percentage points in absolute terms
Quantity	± 1 % relative deviation of the declared value

TYPE 3: SOIL IMPROVERS

Forms of the declared nutrient and other declared parameters	Permissible tolerances for the declared parameter
pH	± 1.0 of the declared value
Organic carbon (C _{org})	± 10 % relative deviation of the declared value up to a maximum of 3.0 percentage points in absolute terms
Organic nitrogen (N _{org})	± 50 % relative deviation of the declared value up to a maximum of 1.0 percentage point in absolute terms
Total nitrogen (N)	± 20 % relative deviation up to a maximum of 1.0 percentage point in absolute terms
Total phosphorus pentoxide (P ₂ O ₅)	± 20 % relative deviation up to a maximum of 1.0 percentage point in absolute terms
Total potassium oxide (K ₂ O)	± 20 % relative deviation up to a maximum of 1.0 percentage point in absolute terms
Dry matter content	± 10 % relative deviation of the declared value
Quantity	± 5 % relative deviation of the declared value
Electrical conductivity	± 75 % relative deviation of the declared value

TYPE 4: GROWING MEDIA

Forms of the declared nutrient and other declared parameters	Permissible tolerances for the declared parameter
Electrical conductivity	± 75 % relative deviation of the declared value
pH	± 1.0 of the declared value
Quantity by volume (litres or m ₃)	± 5 % relative deviation of the declared value
Quantity (volume) determination of materials with particle size greater than 60 mm	± 5 % relative deviation of the declared value
Quantity (volume) determination of pre-shaped growing medium	± 5 % relative deviation of the declared value
Nitrogen (N) extractable by CaCl ₂ /DTPA (calcium chloride/diethylenetriaminepentaacetic acid; 'CAT-soluble')	± 75 % relative deviation of the declared value
Phosphorus pentoxide (P ₂ O ₅) extractable by CaCl ₂ /DTPA (calcium chloride/diethylenetriaminepentaacetic acid; 'CAT-soluble')	± 75 % relative deviation of the declared value
Potassium oxide (K ₂ O) extractable by CaCl ₂ /DTPA	± 75 % relative deviation of the declared value

(calcium chloride/ diethylenetriaminepentaacetic	
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acid; 'CAT-soluble')	
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TYPE 5: INHIBITORS

Inhibiting compound	Permissible tolerance for the declared content of inhibiting compound
Concentration below or equal to 2 %	± 20 % of the declared value
Concentration of more than 2 %	± 10 % of the declared value up to a maximum of ± 2 % in absolute value

Quantity: ± 5 % of the declared value

TYPE 6: PLANT BIOSTIMULANTS

The quantity of a plant biostimulant may deviate by ± 5 % from the declared value. TYPE 6 (A): MICROBIAL PLANT BIOSTIMULANTS

The actual concentration of microorganisms may not deviate by more than 15 % from the declared value(s).

TYPE 7: FERTILISING PRODUCT BLENDS

Declared parameter	Permissible tolerance for the declared parameter
Quantity	The tolerance is the sum of the relative proportion of each component HR fertilising product multiplied by the tolerance for the type for that fertilising product. If the proportion of each HR fertilising product in the fertilising product blend cannot be determined, the tolerance is that of the type with the strictest quantity tolerance value.

Where the fertilising product blend contains one or more plant biostimulants belonging to Type 6, the following tolerances shall apply for the declared concentration of each plant biostimulant:

Declared concentration in g/kg or g/l at 20 °C	Tolerance
Up to 25	± 15 % relative deviation
More than 25 up to 100	± 10 % relative deviation
More than 100 up to 250	± 6 % relative deviation
More than 250 up to 500	± 5 % relative deviation
More than 500	± 25 g/kg or ± 25 g/l

APPENDIX IV**TECHNICAL DOCUMENTATION**

This Appendix sets out technical documentation depending on the type HR of the fertilising product and the component material category (CMC) of which a particular type consists.

For Types 1 -4, if they consist solely of one or more CMC 1 (except inhibitors), CMC 4, CMC 6, CMC 8 and/or CMC 11, mandatory technical documentation shall contain the following:

- a) a general description of the HR fertilising product, the type corresponding to the claimed function of the HR fertilising product and description of the intended use;
- b) information on the origin or manufacturing process of the component materials, CMCs referred to in Appendix II;
- c) brief descriptions and explanations necessary for the understanding of the manufacturing process of the HR fertilising product;
- d) a specimen of the label or the leaflet, or both, referred to in Article 17(1), containing the information required in accordance with Appendix III,
- e) results of calculations made, examinations carried out, etc.,
- f) where the HR fertilising product contains total chromium (Cr) above 200 mg/kg dry matter, information about the maximum quantity and exact source of total chromium (Cr).

For Type 1.C.I.a.1.A and Type 7 containing 28 % or more by mass of nitrogen (N) referred to in Types 1.C.I.a.1.A and Type 1.C.I.a.2.A, the mandatory technical documentation shall include:

- a) a general description of the HR fertilising product, the type corresponding to the claimed function of the HR fertilising product and description of the intended use;
- b) information on the origin or manufacturing process of the component materials, CMCs referred to in Appendix II;
- c) brief descriptions and explanations necessary for the understanding of the manufacturing process of the HR fertilising product;
- d) a specimen of the label or the leaflet, or both, referred to in Article 17(1), containing the information required in accordance with Appendix III,
- e) the name and address of the site, as well as their operators, where the relevant product and its main components were manufactured;
- f) results of calculations made, examinations carried out, etc.,
- g) product verification report regarding oil retention and detonation resistance.

For Types 1 - 6, if they consist solely of one or more CMC 1 (including inhibitors), CMC 2, CMC 4, CMC 6, CMC 7, CMC 8, CMC 9, CMC 10 and/or CMC 11 and Type 7, unless the product contains 28 % or more by mass of nitrogen (N) as referred to in Type 1.C.I.a.1.A, the mandatory technical documentation shall contain:

- a) a general description of the HR fertilising product, the type corresponding to the claimed function of the HR fertilising product and description of the intended use;
- b) information on the origin or manufacturing process of the component materials, CMCs referred to in Appendix II;
- c) brief descriptions and explanations necessary for the understanding of the manufacturing

process of the HR fertilising product;

- d) a specimen of the label or the leaflet, or both, referred to in Article 17(1), containing the information required in accordance with Appendix III,
- e) results of calculations made, examinations carried out, etc.,
- f) where the HR fertilising product contains or consists of derived products within the meaning of Regulation (EC) No 1069/2009, the commercial documents or health certificates required pursuant to Article 21 of that Regulation;
- g) where the HR fertilising product contains total chromium (Cr) above 200 mg/kg dry matter, information about the maximum quantity and exact source of total chromium (Cr).

For Types 1 -6, if they consist of one or more CMC 1, (including inhibitors), CMC 2, CMC 3, CMC 4, CMC 5, CMC 6, CMC 7, CMC 8, CMC 9, CMC 10, CMC 11, CMC 12, CMC 13, CMC 14 and/or CMC 15 and Type 7, unless the product contains 28 % or more by mass of nitrogen (N) as referred to in Type 1.C.I.a.1.A. the mandatory technical documentation shall contain:

- a) a general description of the HR fertilising product, the type corresponding to the claimed function of the HR fertilising product and description of the intended use;
- b) information on the origin or manufacturing process of the component materials, CMCs referred to in Appendix II;
- c) brief descriptions and explanations necessary for the understanding of the manufacturing process of the HR fertilising product and, in relation to materials belonging to CMC 3, 5, 12, 13, 14 or 15, as defined in Appendix II, a written description and a diagram of the production or recovery process, where each treatment, storage vessel and area is clearly identified;
- d) a specimen of the label or the leaflet, or both, referred to in Article 17(1), containing the information required in accordance with Appendix III,
- e) results of calculations made, examinations carried out, etc.,
- f) hazardous waste calculations for HR fertilising products containing or consisting of CMC 13; the testing referred to in point 6 in CMC 13 in Part II of Appendix II shall be carried out at least every year, or sooner than scheduled in case of any significant change that may affect the safety or quality of the HR fertilising product (for example processing of input material batches of different composition, modification of process conditions). For a representative input material batch that is processed at the plant, the hazardous property and the total mass shall be measured on the different input materials (1, ..., n) and on the output material that will be incorporated in the HR fertilising product. The incorporation rate of the hazardous property into the output material shall then be calculated as follows:

$$\text{incorporation rate (\%)} = \frac{\sum_{i=1}^n \text{HPC}_{\text{input material, i}} \times M_{\text{input material}}}{M_{\text{output material}}}$$

Where:

HPC=the concentration of the hazardous property (mg/kg),

M=the total mass (kg), and

i (1-n)=the different input materials used in the manufacturing process.

The removal of the hazardous property during the manufacturing process shall be such that the incorporation rate multiplied by the concentration of the hazardous property of each individual input material is below the limit values laid down in Annex III to Directive 2008/98/EC for that hazardous property,

- g) where the HR fertilising product contains or consists of derived products within the meaning of Regulation (EC) No 1069/2009, the commercial documents or health certificates required pursuant to Article 21 of that Regulation;

- h) where the HR fertilising product contains total chromium (Cr) above 200 mg/kg dry matter, information about the maximum quantity and exact source of total chromium (Cr).

APPENDIX V

FORMS USED IN THE APPLICATION OF THIS ORDINANCE

Form 1 APPLICATION FOR ENTRY OF AN HR FERTILISING PRODUCT IN THE REGISTER OF HR FERTILISING PRODUCTS

INFORMATION ON THE ECONOMIC OPERATOR – APPLICANT	
COMPANY NAME/FIRST NAME AND SURNAME	
REGISTERED SEAT/RESIDENCE	
REGISTRATION NUMBER	
NUMBER OF ENTRY IN THE REGISTER ⁽²⁵⁾	
INFORMATION ON THE MANUFACTURER OF THE HR FERTILISING PRODUCT ⁽²⁶⁾	
COMPANY NAME/FIRST NAME AND SURNAME	
REGISTERED SEAT/RESIDENCE	
COUNTRY FROM WHICH THE HR FERTILISING PRODUCT IS IMPORTED	
INFORMATION ON THE HR FERTILISING PRODUCT	
TYPE	
TRADE NAME	
COMPONENT MATERIAL CATEGORIES (CMC)	

NUTRIENT CONTENT BY MASS AND OTHER QUALITY PARAMETERS			
CONTAMINANTS ⁽²⁷⁾			
PACKAGING			
MOISTURE CONTENT ⁽²⁸⁾			
GRANULOMETRIC COMPOSITION ⁽²⁹⁾			
ATTACHED DOCUMENTS (CHECK AS APPLICABLE)		<ol style="list-style-type: none"> 1. Report on the analysis of the HR fertilising product issued by an authorised laboratory 2. Declaration of conformity of the component materials of the HR fertilising product 3. Technical documentation 4. Declaration on reaching the end point of the production chain within the meaning of Regulation (EC) No 1069/2009⁽³⁰⁾ 	
INPUT MATERIAL FOR COMPONENT MATERIAL CATEGORY (CMC) OF THE HR FERTILISING PRODUCT CONSISTS OF WASTE (REQUIREMENT FOR END-OF-WASTE PROCEDURE)			
		YES ⁽³¹⁾	NO
TYPE OF WASTE ENTERING THE	NAME, CLASS, FILE NUMBER AND DATE OF ISSUING THE ACT		

	PERMITTING THE RECOVERY OF WASTE		
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RECOVERY OPERATION ⁽³²⁾	PURSUANT TO THE REGULATION GOVERNING WASTE MANAGEMENT ⁽³³⁾	REQUIREM ENTS RETALED TO CMCs ⁽³⁴⁾	/

RESPONSIBLE PERSON

Form 2: APPLICATION FOR AUTHORISATION A QUALITY CONTROL LABORATORY FOR FERTILISING PRODUCTS

INFORMATION ON THE APPLICANT	
NAME	
REGISTERED SEAT	
RESPONSIBLE PERSON	
TELEPHONE/E-MAIL	
ATTACHED DOCUMENTS (CHECK AS APPLICABLE)	<ol style="list-style-type: none"> 1. Certification issued by the Croatian Accreditation Agency attesting the accreditation of the laboratory pursuant to standard HRN EN IS /IEC 17025; 2. Evidence of the fulfilment of the requirement relating to having a qualified person employed fulltime holding at least an engineering degree, or a bachelor's or master's degree in the field of agriculture, food technology, chemistry or chemical technology, or who is a veterinary surgeon with at least two years of professional experience in laboratory work and an employee of level VI or IV of chemical, chemical-technology or agricultural profession, depending on the scope of work of the laboratory 3. Extract from the court register; 4. Information on the spatial conditions of the facility; 5. Descriptions of the procedures and arrangements for carrying out the tests for which authorisation is requested; 6. A description of the technical equipment for carrying out the tests for which authorisation is requested; 7. Documentation relating to conducted laboratory comparison tests.

RESPONSIBLE PERSON

Form 3 DECLARATION OF CONFORMITY OF THE COMPONENT MATERIALS OF THE HR FERTILISING PRODUCT

I declare, under my full responsibility, that the component materials contained in the HR fertilising product:

TYPE:	
TRADE NAME:	

of applicant:

COMPANY NAME/FIRST NAME AND SURNAME:	
REGISTERED SEAT/RESIDENCE:	

for which an application for entry in the Register of HR Fertilising Products is submitted meet the requirements laid down for those component material categories (CMC) in Appendix II to this Ordinance.

Note: also to be filled out if a sub-type of an HR fertilising product Other growing medium containing sludge from municipal wastewater treatment plants and/or industrial sludge from wastewater treatment plants in the agri-food industry, which are not one of the CMCs, is entered in the Register of HR Fertilising Products.

Place _____, date _____.

RESPONSIBLE PERSON

Form 4 DECLARATION ON REACHING THE END POINT OF THE PRODUCTION CHAIN WITHIN THE MEANING OF REGULATION (EC) No 1069/2009

I declare, under my full responsibility, that for the derived products within the meaning of Regulation (EC) No 1069/2009 that HR fertilising product:

TYPE:	
TRADE NAME:	

of applicant:

COMPANY NAME/FIRST NAME AND SURNAME:	
REGISTERED SEAT/RESIDENCE:	

consists of or contains, and for which fertilising product an application for entry in the Register of HR Fertilising Products is submitted, the end point in the manufacturing chain is determined in accordance with the third subparagraph of Article 5(2) of Regulation (EC) No 1069/2009, and the currently applicable delegated act in accordance with Article 51a, which supplements Regulation (EC) No 1069/2009 by the establishment of an end point in the production chain after which the requirements of this Regulation shall no longer apply to the derived products.

Place _____, date _____.

RESPONSIBLE PERSON

¹ The exclusion of a material from CMC 1 does not prevent it from being an eligible component material by virtue of another CMC stipulating different requirements. See, for instance, CMC 3 on compost, CMCs 4 and 5 on digestate, CMCs 8 and 9 on polymers, CMC 10 on derived products within the meaning of Regulation (EC) No 1069/2009 or CMC 11 on by-products within the meaning of Directive 2008/98/EC.

² In the case of a substance recovered in the European Union, this condition is fulfilled if the substance is the same, within the meaning of point (d)(i) of Article 2(7) of Regulation (EC) No 1907/2006, as a substance registered with a dossier containing the information here indicated, and if information is available to the fertilising product manufacturer within the meaning of point (d)(ii) of Article 2(7) of Regulation (EC) No 1907/2006.

³ Sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, indeno[1,2,3-cd]pyrene, dibenzo[a,h]anthracene and benzo[ghi]perylene.

⁴ Sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, indeno[1,2,3-cd]pyrene, dibenzo[a,h]anthracene and benzo[ghi]perylene.

⁵ Sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, indeno[1,2,3-cd]pyrene, dibenzo[a,h]anthracene and benzo[ghi]perylene.

⁶ Sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, indeno[1,2,3-cd]pyrene, dibenzo[a,h]anthracene and benzo[ghi]perylene.

⁷ The exclusion of a material from CMC 11 does not prevent it from being an eligible component material by virtue of another CMC stipulating different requirements. See, for instance, CMC 3 on compost, CMCs 4 and 5 on digestate, CMCs 8 and 9 on polymers, CMC 10 on derived products within the meaning of Regulation (EC) No 1069/2009.

⁸ The exclusion of an input material from a sub-point does not prevent it from being an eligible input material by virtue of another sub-point.

⁹ The exclusion of an input material from a sub-point does not prevent it from being an eligible input material by virtue of another sub-point.

¹⁰ Sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, indeno[1,2,3-cd]pyrene, dibenzo[a,h]anthracene and benzo[ghi]perylene.

¹¹ The exclusion of an input material from a sub-point does not prevent it from being an eligible input material by virtue of another sub-point.

¹² The exclusion of an input material from a sub-point does not prevent it from being an eligible input material by virtue of another sub-point.

¹³ The exclusion of an input material from a sub-point does not prevent it from being an eligible input material by virtue of another sub-point.

¹⁴ Sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, indeno[1,2,3-cd]pyrene, dibenzo[a,h]anthracene and benzo[ghi]perylene.

¹⁵ van den Berg M., L.S. Birnbaum, M. Denison, M. De Vito, W. Farland, et al. (2006) The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. *Toxicological sciences: an official journal of the Society of Toxicology* 93:223 – 241 doi:10.1093/toxsci/kfl055.

¹⁶ Polychlorinated dibenzo-p-dioxins and dibenzofurans.

¹⁷ The exclusion of an input material from a sub-point does not prevent it from being an eligible input material by virtue of another sub-point.

¹⁸ The exclusion of an input material from a sub-point does not prevent it from being an eligible input material by virtue of another sub-point.

¹⁹ Sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, indeno[1,2,3-cd]pyrene, dibenzo[a,h]anthracene and benzo[ghi]perylene.

²⁰ van den Berg M., L.S. Birnbaum, M. Denison, M. De Vito, W. Farland, et al. (2006) The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. *Toxicological sciences: an official journal of the Society of Toxicology* 93:223 – 241 doi:10.1093/toxsci/kfl055.

²¹ Polychlorinated dibenzo-p-dioxins and dibenzofurans.

²² Sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, indeno[1,2,3-cd]pyrene, dibenzo[a,h]anthracene and benzo[ghi]perylene.

²³ van den Berg M., L. S. Birnbaum, M. Denison, M. De Vito, W. Farland, et al. (2006) The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. *Toxicological sciences: an official journal of the Society of Toxicology* 93:223-241. doi:10.1093/toxsci/kfl055.

²⁴ Sum of 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD; 1,2,3,4,7,8-HxCDD; 1,2,3,6,7,8-HxCDD; 1,2,3,7,8,9-HxCDD; 1,2,3,4,6,7,8-HpCDD; OCDD; 2,3,7,8-TCDF; 1,2,3,7,8-PeCDF; 2,3,4,7,8-PeCDF; 1,2,3,4,7,8-HxCDF; 1,2,3,6,7,8-HxCDF; 1,2,3,7,8,9-HxCDF; 2,3,4,6,7,8-HxCDF; 1,2,3,4,6,7,8-HpCDF; 1,2,3,4,7,8,9-HpCDF; and OCDF.

²⁵ Issued at the first entry of an HR fertilising product in the Register of HR Fertilising Products

²⁶ To be completed if it differs from the applicant

²⁷ If applicable

²⁸ If applicable

²⁹ If applicable

³⁰ If applicable

³¹ To be completed if an HR fertilising product resulting from a waste recovery operation is entered in the Register of HR Fertilising Products.

³² If the requirement under ⁽³¹⁾ is met, key waste numbers laid down in the Ordinance on Waste Management (Official Gazette of the Republic of Croatia, 106/22 and 138/24) shall be entered separately in each subsequent row.

³³ If requirement under ⁽³¹⁾ is met, information on the waste management permit or the recovery operator from the Register of collectors or recovery operators shall be entered for each type of waste

³⁴ If requirement under ⁽³¹⁾ is met, for each type of waste, the conformity of component materials of which

the fertilising product consists with the requirements laid down for the relevant component material category (CMC) referred to in Appendix II to this Ordinance shall be described