

ANNEX**EU Ecolabel criteria for awarding the EU Ecolabel to growing media and soil improvers
FRAMEWORK****Aims of the criteria**

The EU Ecolabel criteria target the best growing media and soil improvers on the market, in terms of environmental performance. The criteria focus on the main environmental impacts associated with the life cycle of these products and promote circular economy aspects.

In particular, the criteria aim to promote the use of recycled or organic materials for fertilising purposes and allow a more resource-efficient general use of nutrients. To ensure the product safety and reduce the possible risk to human, animal or plant health, or to the environment, the content of contaminants such as heavy metals is limited. Furthermore, the content of impurities in EU Ecolabel growing media and soil improvers derived from bio-waste, in particular polymers but also metal and glass, is limited to the technically feasible extent.

To this end the criteria:

- (1) incentivize the circularity of the nutrients by incorporation of the secondary raw materials into the EU Ecolabel soil improvers and growing media;
- (2) set requirements on the admitted components of the final product;
- (3) set requirements on energy consumption and CO₂ emission for manufacturing of mineral growing media;
- (4) set rules for recycling/recovery of materials used in the growing media;
- (5) set requirement on the final product chemical safety;
- (6) set requirements on the quality of the final product.

For the EU Ecolabel to be awarded for a specific product, applicants must comply with each requirement. The Criteria for awarding the EU Ecolabel to “growing media and soil improvers” and their applicability to each type of product covered by the scope are as follows:

Table 1. Overview of applicable criteria according to the specific product

Criterion	Growing media	Soil improvers
Criterion 1 – Components	x	x
Criterion 1.1 - Organic components of the final product	x	x
Criterion 2 - Mineral growing media and mineral components	x	x
Criterion 2.1. - Energy consumption and CO ₂ emissions	x	

Criterion 2.2 - Sources of mineral extraction	x	x
Criterion 2.3 - Mineral growing media use and after use	x	
Criterion 3 - Recycled/recovered materials in growing media	x	
Criterion 4 - Excluded and restricted substances	x	x
Criterion 4.1 – Limits for heavy metals	x	x
Criterion 4.2 - Polycyclic Aromatic Hydrocarbons (PAHs)	x	x
Criterion 4.3 - Restrictions on substances classified under Regulation (EC) No 1272/2008 of the European Parliament and of the Council ¹	x	x
Criterion 4.4 - Restrictions on Substances of Very High Concern (SVHCs)	x	x
Criterion 4.5 – Pathogens	x	x
Criterion 5 – Fitness for use	x	x
Criterion 5.1 – Stability	x	x
Criterion 5.2 - Physical contaminants	x	x
Criterion 5.3 - Organic matter and dry matter		x
Criterion 5.4 - Viable weed seeds and plant propagules	x	x
Criterion 5.5 - Plant response	x	x
Criterion 6 - Growing media features	x	
Criterion 6.1 - Electrical conductivity	x	
Criterion 6.2 Sodium content	x	
Criterion 6.3 Chloride content	x	
Criterion 7 - Provision of information	x	x
Criterion 7.1. Soil improvers		x
Criterion 7.2 Growing media	x	

¹ Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 ([OJ L 353, 31.12.2008, p. 1](#)).

Criterion 8 - Information appearing on the EU Ecolabel	x	x
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Assessment and verification

Specific assessment and verification requirements are indicated within each criterion.

Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria, these may originate from the applicant and/or their supplier(s) as appropriate.

Competent bodies shall preferentially recognise attestations that are issued by bodies accredited in accordance with the relevant harmonised standard for testing and calibration laboratories, and verifications by bodies that are accredited in accordance with the relevant harmonised standard for bodies certifying products, processes and services. Where appropriate, test methods other than those indicated for each criterion may be used if the Competent Body assessing the application accepts their equivalence.

Where appropriate, Competent Bodies may require supporting documentation and may carry out independent verifications.

Changes in suppliers and production sites pertaining to products to which the EU Ecolabel has been granted shall be notified to Competent Bodies, together with supporting information to enable verification of continued compliance with the criteria.

As pre-requisite, the product must meet all respective legal requirements of the country (countries) in which the product is intended to be placed on the market. The applicant shall declare the product's compliance with this requirement.

The sampling shall be carried out according to EN 12579 (Soil improvers and growing media. Sampling). Samples shall be prepared according to EN 13040 (Soil improvers and growing media. Sample preparation for chemical and physical tests, determination of dry matter content, moisture content and laboratory compacted bulk density).

For the application year, the sampling and test frequency shall fulfil the requirements set in Appendix 1. For the following years, the sampling and test frequency of final products shall fulfil the requirements set in Appendix 2. Different sampling and testing frequencies are set for the following types of plants:

- Type 1: Treatment plants for waste or for animal by-products*
- Type 2: Product manufacture plants using materials from Type 1 plants.*
- Type 3: Product manufacture plants not using materials derived from waste or from animal by-products*

For Type 2 plants, the sampling and test frequencies for the application year and the following years will be the same as the frequencies set for Type 3, if their waste/animal by-product-derived materials' suppliers comply with the EU Ecolabel criteria for soil improvers. The applicant shall provide the Competent Body with the test reports from the suppliers, together with the documentation to ensure the compliance of the suppliers with the EU Ecolabel criteria. The Competent Body may recognize the sampling and testing frequencies within the national or regional legislation and standards as valid to ensure the compliance with the EU Ecolabel criteria of the suppliers of waste or animal by-products derived materials.

In case when a product constitutes or contains material of animal origin reference shall be done to microbiological standards and animal and public health controls set out in Regulation (EU) No 142/2011⁽²⁾. A written confirmation from the applicant that all the criteria are fulfilled shall also be required for the assessment.

The following definitions shall apply:

- (1) 'Annual input' means the annual amount of materials treated in a waste or animal by-product treatment plant;
- (2) 'Annual output' means annual production of a product family;
- (3) 'Batch' means quantity of goods manufactured by the same process under the same conditions and labelled in the same manner and is assumed to have the same characteristics;
- (4) 'Bio-waste' means biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises and comparable waste from food processing plants;
- (5) 'Component' means the input material that is used as an ingredient of the product and that complies with the requirement for Component Material Categories (CMCs) specified in Annex II to Regulation (EU) 2019/1009 of the European Parliament and of the Council⁽³⁾;
- (6) 'Fiberisation' means mechanical-thermal extrusion or steam treatment of wood chips the purpose of which is to generate high pressure and high temperatures up to 150 °C or higher, breaking the wood chips into wood fibers which are used as a growing media component
- (7) 'Mineral growing medium' means a growing medium totally composed by mineral components.
- (8) 'Material recovery' means any recovery operation, other than energy recovery and the reprocessing into materials, that are to be used as fuels or other means to generate energy. It includes, inter alia, preparing for re-use, recycling and backfilling;
- (9) 'Organic soil improver' means soil improvers that consists of material 95 % of which is of solely biological origin.
- (10) 'Product family' means the range of products composed by the same constituents;
- (11) 'Recovery' means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Annex II to Directive 2008/98/EC sets out a non-exhaustive list of recovery operations;
- (12) 'Recycling' means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It

² Commission Regulation (EU) No 142/2011 of 25 February 2011 implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products and derived products not intended for human consumption and implementing Council Directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive. OJ L 54, 26.2.2011, p. 1–254.

³ Regulation (EU) 2019/1009 of the European Parliament and of the Council of 5 June 2019 laying down rules on the making available on the market of EU fertilising products and amending Regulations (EC) No 1069/2009 and (EC) No 1107/2009 and repealing Regulation (EC) No 2003/2003. OJ L 170, 25.6.2019, p. 1–114

includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.

- (13) 'Total organic carbon' (TOC) means quantity of carbon that is converted into carbon dioxide by combustion and which is not liberated as carbon dioxide by acid treatment.

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Criterion 1 – Components

This criterion applies to growing media and soil improvers.

The components admitted shall be organic and/or mineral components.

A final product shall not contain intentionally added peat.

Criterion 1.1. – Organic components of the final product

The following materials are allowed as organic components of a final product, either in unprocessed form or after their biological transformation through anaerobic digestion or composting:

- (a) plants, plant parts or plant extracts having undergone no other processing than cutting, grinding, milling, fiberization, sieving, sifting, centrifugation, pressing, drying, frost treatment, freeze-drying, extraction with water or supercritical CO₂ extraction, or heat treatment. For the purpose of this point, plants include mushrooms and algae and exclude blue-green algae (cyanobacteria).
- (b) materials derived from the recycling of the bio-waste from separate collection at source, as defined in the Directive 2008/98/EC of the European Parliament and of the Council⁽⁴⁾
- (c) 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:
 - materials originating from mixed municipal waste;
 - sewage sludge, industrial sludge or dredging sludge;
 - animal by-products or derived products falling within the scope of Regulation (EC) No 1069/2009 of the European Parliament and of the Council⁽⁵⁾ for which no end point in the manufacturing chain has been determined in accordance with the third subparagraph of Article 5(2) of that Regulation;
- (d) 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 of the European Parliament and of the Council provided that the end point in the manufacturing chain has been determined in accordance with the third subparagraph of Article 5(2) of that Regulation;
- (e) 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;
- (f) molasses, i.e. a viscous by-product of the refining of sugarcane or sugar beets into sugar;

⁴ Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. OJ L 312, 22.11.2008, p. 3–30

⁵ Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation). OJ L 300, 14.11.2009, p. 1–33

- (g) vinasse, i.e. a viscous by-product of the fermentation process of molasses into ethanol, ascorbic acid or other products;
- (h) distillers grains, i.e. by-products resulting from the production of alcoholic beverages
- (i) 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.
- (j) Any other organic component materials complying with the requirements specified in Annex II to Regulation (EU) 2019/1009 of the European Parliament and of the Council.

Assessment and verification:

The applicant shall provide the Competent Body with the list of all components of the final product.

The applicant shall provide the Competent Body with the information about the origin of each organic component of the product and a declaration of compliance with the above requirement.

Criterion 2 – Mineral growing media and mineral components

Criterion 2.1 Energy consumption and CO₂ emissions

This criterion applies to mineral growing media only.

The manufacture of expanded minerals and mineral wool shall fulfil the following energy consumption and CO₂ emissions thresholds:

- Energy consumption / product ≤ 11 GJ/t finished product, in primary energy
- CO₂ emissions / product ≤ 0.7 t CO₂/t finished product

Where “finished product” refers to the mineral wool in sheets.

The ratio energy consumption/product shall be calculated as an annual average as follows:

$$\text{ratio} \frac{\text{Energy}}{\text{Product}} = \frac{1}{\sum_{i=1}^n \text{Production}_i} \cdot \sum_{i=1}^n \left(F + 2.1 \cdot El_{\text{grid}} + \left(\frac{H_{\text{cog}}}{Ref H\eta} + \frac{El_{\text{cog}}}{Ref E\eta} \right) \cdot (1 - PES_{\text{cog}}) \right)_i$$

Where:

- *n* is the number of years of the period used to calculate the average
- *i* is each year of the period used to calculate the average
- *Production* is the production of the mineral wool or expanded minerals in tonnes in the year *i*
- *F* is the annual consumption of fuels in the production process in the year *i*
- *El_{grid}* is the annual electricity consumption from the grid in the year *i*
- *H_{cog}* is the annual consumption of useful heat from cogeneration in the year *i*
- *El_{cog}* is the annual consumption of electricity from cogeneration in the year *i*

- $Ref H\eta$ and $Ref E\eta$ are the reference efficiencies for the separate production of heat and electricity as defined in the Directive 2012/27/EU⁽⁶⁾ of the European Parliament and of the Council and calculated according to the Commission Delegated Regulation (EU) 2015/2402⁽⁷⁾
- PES_{cog} is the primary energy saving of the cogeneration plant as defined in the Directive 2012/27/EU, in the year i

The ratio CO₂ emissions/production shall be calculated as an annual average as follows:

$$\text{ratio} \frac{\text{CO}_2 \text{ emissions}}{\text{Product}} = \frac{1}{\sum_{i=1}^n \text{Production}_i} \cdot \sum_{i=1}^n (\text{Direct CO}_2 + \text{Indirect CO}_2)_i$$

Where:

- n is the number of years of the period used to calculate the average
- i is each year of the period used to calculate the average
- $Production$ is the mineral wool production in tonnes in the year i
- $Direct CO_2$ is the CO₂ emissions according to the Commission Implementing Regulation (EU) 2018/2066⁽⁸⁾, in the year i
- $Indirect CO_2$ is the indirect CO₂ emissions due to final energy consumption in the year i , and shall be calculated as:

$$\text{Indirect CO}_2 \text{ emission} = FE_{grid} \cdot El_{grid} + FE_{fuel cog} \cdot \left(\frac{H_{cog}}{Ref H\eta} + \frac{El_{cog}}{Ref E\eta} \right) \cdot (1 - PES_{cog})$$

Where

FE_{grid} is the EU average carbon intensity of the electricity grid. Two alternative values can be used:

- EU average carbon intensity of the electricity grid based on Art 22, Point 3 of Commission Delegated Regulation (EU) 2019/331⁽⁹⁾ and equal to 0.376 tCO₂/MWh; or
- carbon intensity of the electricity provided by the electricity supplier, which is the contracting supplier.

$FE_{fuel cog}$ is the CO₂ emission factor of the fuel consumed in the cogeneration plant.

⁶ Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (OJ L 315, 14.11.2012, p. 1).

⁷ Commission Delegated Regulation (EU) 2015/2402 of 12 October 2015 reviewing harmonised efficiency reference values for separate production of electricity and heat in application of Directive 2012/27/EU of the European Parliament and of the Council and repealing Commission Implementing Decision 2011/877/EU.

⁸ Commission Implementing Regulation (EU) 2018/2066 of 19 December 2018 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council and amending Commission Regulation (EU) No 601/2012.

⁹ Commission Delegated Regulation (EU) 2019/331 of 19 December 2018 determining transitional Union-wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council. OJ L 59, 27.2.2019, p. 8–69

The direct CO₂ emissions shall be monitored according to Commission Implementing Regulation (EU) 2018/2066.

The period to calculate the ratios energy consumption/product and CO₂ emissions/product shall be the last 5 years before the application. If the operation period of the plant is less than 5 years at the date of application, the ratio shall be calculated as an annual average of that operation period, which shall be at least one year.

Assessment and verification:

The applicant shall provide the Competent Body with a declaration which includes the following information:

- *Ratio energy consumption (GJ)/product (tonne)*
- *Ratio CO₂ emissions (tonne)/product (tonne)*
- *Direct CO₂ emissions (tonnes) for each year of the period to calculate the average*
- *Indirect CO₂ emissions (tonnes) for each year of the period to calculate the average*
- *Fuels consumed, consumption of each fuel (GJ), sub-process/es of the manufacture process where they are consumed for each year of the period to calculate the average*
- *Electricity consumption from the grid (GJ final energy) for each year of the period to calculate the average*
- *Useful heat consumption from cogeneration (GJ final energy) for each year of the period to calculate the average*
- *Electricity consumption from cogeneration (GJ final energy) for each year of the period to calculate the average*
- *Reference efficiencies for separate production of heat and electricity*
- *Primary energy saving (PES) (%) of the cogeneration for each year of the period to calculate the average*
- *Identification of fuels used in cogeneration and their share in the fuel mix, for each year of the period to calculate the average*

The following documents shall be provided together with the declarations:

- *Annual emissions report according to Commission Implementing Regulation (EU) 2018/2066, for each year of the period to calculate the average*
- *Verification report finding the annual emissions report satisfactory according to Commission Implementing Regulation (EU) 2018/2067⁽¹⁰⁾, for each year of the period to calculate the average*
- *Records of electricity consumption from the grid provided by the supplier, for each year of the period to calculate the average*
- *Records of the useful heat and electricity consumption from cogeneration, both on-site and purchased, for each year of the period to calculate the average*

¹⁰ Commission Implementing Regulation (EU) 2018/2067 of 19 December 2018 on the verification of data and on the accreditation of verifiers pursuant to Directive 2003/87/EC of the European Parliament and of the Council (OJ L 334, 31.12.2018, p. 94–134).

- *For the carbon intensity value, the provided EU average value shall be used unless the applicant presents documentation establishing the average value for the electricity provided by its contracting supplier. The documentation used as proof of compliance shall include technical specifications that indicate the average value (i.e. copy of a contract).*

Criterion 2.2 Sources of mineral extraction

This criterion applies to growing media and soil improvers.

The extraction of minerals to be used as component of an EU Ecolabel growing media and soil improver shall only take place on sites that are covered by the following documentation:

- an environmental impact assessment and, where relevant, a report in accordance with Directive 2014/52/EU of the European Parliament and of the Council⁽¹¹⁾;
- a valid authorisation for the extraction activity issued by the relevant regional or national authority;
- a rehabilitation management plan associated with the authorisation for the extraction activity;
- a map indicating the location of the quarry;
- a declaration of conformity with Regulation (EU) No 1143/2014 of the European Parliament and of the Council⁽¹²⁾ on the prevention and management of the introduction and spread of invasive alien species;
- a declaration of conformity with Council Directive 92/43/EEC⁽¹³⁾ (habitats) and Directive 2009/147/EC of the European Parliament and of the Council⁽¹⁴⁾ (birds).

With regards to the last point above, in cases where extraction sites are located in Natura 2000 network areas, composed of Special Areas of Conservation under Directive 92/43/EEC and Special Protection Areas under Directive 2009/147/EC, extraction activities shall have been assessed and authorised in accordance with the provisions laid down in Article 6 of Directive 92/43/EEC and have taken into account the relevant EC Guidance document⁽¹⁵⁾.

Also with regards to the last point above, in cases where extraction sites are located outside the EU, if materials are extracted from areas officially nominated as candidates for or adopted as Areas of Special Conservation Interest; part of the Emerald network pursuant to Recommendation No 16 (1989) and Resolution No 3 (1996) of the Bern Convention⁽¹⁶⁾ or

¹¹ Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (OJ L 124, 25.4.2014, p.1).

¹² Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35).

¹³ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7).

¹⁴ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (OJ L 20, 26.1.2010, p. 7).

¹⁵ Guidance document on non-energy mineral extraction and Natura 2000. A summary. ISBN: 978-92-79-99542-2.

¹⁶ Convention on the Conservation of European Wildlife and Natural Habitats. Council of Europe. European Treaty Series – No. 104.

protected areas designated as such under the national legislation of the sourcing / exporting countries, the extraction activities shall have been assessed and authorised in accordance with provisions that provide assurances equivalent to Directives 92/43/EEC and 2009/147/EC.

Assessment and verification:

The applicant shall provide a declaration of compliance with this requirement issued by the competent authorities, or a copy of the authorisations issued by the competent authorities and any other required declarations and documentation.

The rehabilitation management plan shall include the objectives for the rehabilitation of the quarry, the conceptual final landform design, including the proposed post quarry land use, details on the implementation of an effective revegetation program and details of an effective monitoring programme to assess performance of the rehabilitated areas.

In case industrial or construction mineral extraction activities have been carried out in Natura 2000 network areas (in the Union), the Emerald network or protected areas designated as such under the national legislation of the sourcing/exporting countries (outside the Union), the applicant shall provide a declaration of compliance with this requirement issued by the competent authorities or a copy of their authorisation issued by the competent authorities.

Criterion 2.3 Mineral growing media use and after use

This criterion is applicable to mineral growing media only.

The mineral growing media shall only be offered for use for professional horticultural applications.

The applicant shall offer customers a structured collection and recycling service, which may use third party service providers. The collection and recycling service shall cover a minimum of 70% of the applicant sales, expressed in volume, across the European Union.

Assessment and verification

The applicant shall provide the Competent Body with a declaration that the mineral growing media is only offered for use in professional horticultural applications. A statement about the professional horticultural application of the product shall be included in the information provided to the end-user.

The applicant shall inform the Competent Body about the option(s) on offer of structured collection and recycling service and the results of the options implemented. In particular, the applicant shall provide the following documentation and information:

- *Contract documentation between the manufacturer and the service providers;*
- *Description of collection, processing and destinations;*
- *Annual overview of the total sales volume of growing media in the European Union Member States and an annual overview of the sales volumes in areas of those Member States where collection and processing are on offer.*

In case of new entrants, an estimation of the annual overview of the total sales volume of growing media in the European Union Member States and an estimation of the annual overview of the sales volumes in areas of those Member States where collection and

processing are on offer, shall be provided. Real data shall be provided 1 year after the EU Ecolabel license is awarded.

Criterion 3 – Recycled/recovered materials in growing media

This criterion applies to growing media only.

Growing media products shall contain a minimum percentage of organic or recycled/recovered content, as follows:

- (a). The growing medium shall contain at least 30% of organic components (expressed as volume of organic component per total volume of the final product or
- (b). The growing medium shall contain mineral components manufactured from a process using at least 30% of recycled/recovered materials (expressed as the dry weight of recycled/recovered materials per total dry weight of the input materials)

Assessment and verification:

The applicant shall declare the following information:

- *For the case (a): volume of organic components declared in Criterion 1 per total volume of the final product, or;*
- *For the case (b): dry weight of recycled/recovered materials per total weight of the input materials.*

For the case (b), the applicant shall also declare the following information about the mineral components:

- *Identification of raw material inputs, reporting amounts as dry weight and origins and*
- *Identification of recycled/recovered material inputs, reporting amount and origin, which is supported by invoice or verification document provided by the supplier of the recycled material.*

Criterion 4 – Excluded and restricted substances

Criterion 4.1 Limits for heavy metals

This criterion applies to growing media and soil improvers.

Criterion 4.1(a) Limits for heavy metals in soil improvers

The content of the following elements in the final product shall be lower than the values shown in Table 2, measured in terms of dry mass (DM) of the product.

Table 2. Heavy metals limits for soil improvers

Heavy metal	Maximum content in the product (mg/kg DM)
Cadmium (Cd)	1

Chromium VI (Cr VI)	2
Copper (Cu)	200
Mercury (Hg)	0.45
Nickel (Ni)	50
Lead (Pb)	100
Zinc (Zn)	300
Inorganic Arsenic (As)	10

Criterion 4.1(b). Limits for heavy metals in growing media

The content of the following elements in the final product shall be lower than the values shown in Table 3, measured in terms of dry mass (DM) of the product.

Table 3. Heavy metal limits for growing media

Heavy metal	Maximum content in the product (mg/kg DM)
Cadmium (Cd)	1.3
Chromium VI(Cr VI)	2
Copper (Cu)	200
Mercury (Hg)	0.45
Nickel (Ni)	50
Lead (Pb)	100
Zinc (Zn)	300
Inorganic Arsenic (As)	10

Assessment and verification

The applicant shall provide the Competent Body with the results of test reports conducted according to existing EN standards or testing procedures that shall be performed in a reliable and reproducible manner.

Once available, the applicant shall provide the Competent Body with the results of test reports, conducted in accordance with the corresponding harmonised standards the references of which have been published in the Official Journal of the European Union in

accordance with Article 13 of Regulation (EU) 2019/1009 of the European Parliament and of the Council.

The limit for nickel content in growing media of solely mineral constituents shall refer for to its bioavailable content

Criterion 4.2 Limits for Polycyclic Aromatic Hydrocarbons (PAHs)

This criterion applies to growing media and soil improvers.

The content of the following polycyclic aromatic hydrocarbons in the final product shall be lower than the values shown in Table 4, measured in terms of dry mass of the product.

Table 4. Limit for PAHs

Pollutant	Maximum content in the product (mg/kg DM)
PAH ₁₆	6

PAH₁₆ = 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

Assessment and verification

The applicant shall provide the Competent Body with test reports conducted in accordance with the testing procedure indicated in EN 16181-

Criterion 4.3 — Restrictions on substances classified under Regulation (EC) No 1272/2008 of the European Parliament and of the Council

The criterion applies to soil improvers and growing media and intentionally added substances therein.

The final product shall not be classified in accordance with any of the hazard classes, categories and associated hazard statements codes, in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council, that are listed below.

The final product shall not contain substances or mixtures in concentration greater than 0.010% w/w (in terms of wet weight) that are assigned any of the following hazard classes, categories and associated hazard statement codes, in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council, that are listed below.

- Group 1 hazards: Category 1A or 1B carcinogenic, mutagenic and/or toxic for reproduction (CMR): H340, H350, H350i, H360, H360F, H360D, H360FD, H360Fd, H360Df.
- Group 2 hazards: Category 2 CMR: H341, H351, H361, H361f, H361d, H361fd, H362; Category 1 aquatic toxicity: H400, H410; Category 1 and 2 acute toxicity: H300, H310, H330; Category 1 aspiration toxicity: H304; Category 1 specific target organ toxicity (STOT): H370, H372.
- Group 3 hazards: Category 2, 3 and 4 aquatic toxicity: H411, H412, H413; Category 3 acute toxicity: H301, H311, H331; Category 2 STOT: H371, H373.

The hazard statement codes in generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures shall apply.

The use of substances or mixtures that are chemically modified during the production process, so that any relevant hazard for which the substance or mixture has been classified under Regulation (EC) No 1272/2008 of the European Parliament and of the Council no longer applies, shall be exempted from the above requirement.

This criterion does not apply to those products composed of:

- Materials not included in the scope of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council according its Article 2(2).
- Substances covered by Article 2(7)(b) of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council, which sets out criteria for exempting substances within Annex V to that Regulation from the registration, downstream user and evaluation requirements.

In order to determine if this exclusion applies, the applicant shall screen any intentionally added materials or substances present at a concentration above 0.010% w/w (in terms of wet weight) in a final product. As a minimum, all additives used by the applicant must be screened.

Assessment and verification:

The applicant shall provide a list of all relevant materials and chemicals intentionally added in the production process, together with the relevant safety data sheets or chemical supplier declarations that demonstrate the compliance with the requirement.

Any materials or chemicals containing substances or mixtures with restricted classifications under Regulation (EC) No 1272/2008 of the European Parliament and of the Council shall be highlighted.

The approximate dosing rate of the material or chemical, together with the concentration of the restricted substance or mixture in that material or chemical (as provided in the safety data sheet or supplier declaration) and an assumed retention factor of 100 %, shall be used to estimate the quantity of the restricted substance or mixture remaining in the final product.

Justifications for any deviation from a retention factor of 100 % or for chemical modification of a restricted hazardous substance or mixture must be provided in writing.

For materials or substances exempted from meeting the requirement of criterion 4.3 (see Annexes IV and V to Regulation (EC) No 1907/2006 of the European Parliament and of the Council), a declaration to this effect by the applicant shall suffice to comply.

In the case of mineral wool, the applicant shall also provide the following:

- (a). Copy of a certificate awarded for the right to use the European Certification Board for Mineral Wool Products trademark as proof compliance with the Note Q of Annex VI to Regulation (EC) No 1272/2008 of the European Parliament and of the Council.*
- (b). Copy of a test report according to ISO 14184-1 Textiles - Determination of formaldehyde - Part 1: Free and hydrolysed formaldehyde*

The above evidence can also be provided directly to Competent Bodies by any supplier in the applicant's supply chain.

Criterion 4.4 Restrictions on Substances of Very High Concern (SVHCs)

The criterion applies to soil improvers and growing media.

All ingoing chemicals used in the production process by the applicant and any supplied materials that form part of the final product shall be covered by declarations from suppliers that they do not contain, in concentrations greater than 0.10% (in terms of wet weight), substances meeting the criteria referred to in Article 57 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council that have been identified according to the procedure described in Article 59 of that Regulation and included in the candidate list for substances of very high concern for authorisation. No derogation from this requirement shall be granted.

Assessment and verification

The applicant shall provide a declaration that the product has been produced using supplied chemicals or materials that do not contain any SVHC in concentrations greater than 0.10% (in terms of wet weight). The declaration shall be supported by safety data sheets of process chemicals or materials used or appropriate declarations from chemical or material suppliers.

The list of substances identified as SVHCs and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council can be found here:

http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp.

Reference to the list shall be made on the submission date of the EU Ecolabel application.

Criterion 4.5 - Pathogens

This criterion applies to growing media and soil improvers, with the exemption of mineral growing media.

The content of primary pathogens in the final product shall not exceed the maximum levels set in Table 5.

Table 5. Limit value proposed for pathogens

Micro-organisms to be tested	Sampling plans			Limit
	n	c	m	
<i>Salmonella spp.</i>	5	0	0	Absence in 25 g or 25 ml
<i>Escherichia coli</i> or <i>Enterococcaceae</i>	5	5	0	1 000 CFU in 1 g or 1 ml

CFU = colony-forming units

Assessment and verification:

The applicant shall provide the Competent Body with test reports conducted in accordance with the testing procedure indicated in Table 6.

Table 6. Standard test method for the detection of specific pathogens

Parameter	Test method
E. Coli	CEN/TR 16193 or ISO 16649-2 or EN ISO 9308-3
Salmonella	EN ISO 6579 or CEN/TR 15215
Enterococcacea	EN 15788 or EN ISO 7899-1 or BEA method

Criterion 5 – Fitness for use**Criterion 5.1 – Stability**

This criterion applies to growing media and soil improvers, with the exemption of mulch totally composed by lignocellulosic components and mineral growing media.

Soil improvers and mulch for non-professional applications and growing media for all applications, shall meet one of the requirements presented in Table 7.

Table 7. Stability requirements of soil improvers intended for non-professional applications and growing media intended for all applications

Stability parameter	Requirement
Maximum Respirometric index	15 mmol O ₂ /kg organic matter/h
Minimum Rottegrad, where applicable	IV (self-heating test temperature rise of maximum 20 °C above ambient temperature)

Soil improvers for professional applications shall meet one of the requirements presented in Table 8.

Table 8. Stability requirements of soil improvers intended for professional applications

Stability parameter	Requirement
Maximum Respirometric index	25 mmol O ₂ /kg organic matter/h
Minimum Rottegrad, where applicable	III (self-heating test temperature rise of maximum 30 °C above ambient temperature)

Assessment and verification

The applicant shall provide the Competent Body with test reports conducted in accordance with the testing procedure indicated in Table 9.

Table 9. Standard test method for the determination of stability parameters

Parameter	Test method
Respirometric index	EN 16087-1

Rottegrad	EN 16087-2
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Criterion 5.2. - Physical Contaminants

This criterion applies to growing media and soil improvers, with the exemption of mineral growing media.

- (a) no more than 3 g/kg dry matter of macroscopic impurities above 2 mm in forms of glass and metal
- (b) no more than 2,5 g/kg dry matter of impurities in form of plastic
- (c) no more than 5 g/kg dry matter of the sum of the macroscopic impurities referred to in point (a) and point (b)

Assessment and verification

The applicant shall provide the Competent Body with test reports conducted in accordance with the testing procedure indicated in the Technical Specification CEN/TS 16202, or another equivalent testing procedure authorised by the Competent Body.

Criterion 5.3 - Organic matter and dry matter

This criterion applies to soil improvers.

The organic matter as loss on ignition of the product shall not be lower than 15% dry mass (% DM) or 8.5 % of organic carbon (Corg) content by mass.

The dry matter content of the product shall not be lower than 25% fresh weight (% FW).

Assessment and verification

The applicant shall provide the Competent Body with test reports conducted in accordance with the testing procedure presented in Table 10.

Where compliance is assessed based on organic matter the following conversion factor applies: organic carbon (Corg) = organic matter × 0,56

Table 10. Standard test methods for the determination of dry matter, organic matter and total organic carbon contents (TOC)

Parameter	Test method
Dry matter (% FW)	EN 13040
Organic matter as Loss on Ignition (% DM)	EN 13039
Total organic carbon (TOC) (% DM)	EN 15936

Criterion 5.4 - Viable weed seeds and plant propagules

This criterion applies to growing media and soil improvers, with the exemption of mineral growing media.

In the final product, the content of viable weed seeds and plant propagules shall not exceed two units per litre-

Assessment and verification

The applicant shall provide the Competent Body with a test report in accordance with the testing procedure indicated in the Technical Specification CEN/TS 16201, or another equivalent testing procedure authorised by the Competent Body.

Criterion 5.5 - Plant response

This criterion applies to growing media and soil improvers.

Products shall not adversely affect plant emergence or subsequent growth.

Assessment and verification

The applicant shall provide the Competent Body with a valid test conducted in accordance with the testing procedure indicated in EN 16086-1.

Criterion 6 Growing media features

This criterion only applies to growing media.

Criterion 6.1 - Electrical conductivity

The electrical conductivity of the final product shall be below 60 mS/m.

Assessment and verification

The applicant shall provide the Competent Body with a test report conducted in accordance with the testing procedure indicated in EN 13038.

Criterion 6.2 Sodium content

The sodium content in water extract of the final product shall not exceed 100 mg/l fresh product.

Assessment and verification

The applicant shall provide the Competent Body with a test report conducted in accordance with the testing procedure indicated in EN 13652.

Criterion 6.3 Chloride content

The chloride content in water extract of the final product shall not exceed 500 mg/l fresh product.

Assessment and verification

The applicant shall provide the Competent Body with a test report conducted in accordance with the testing procedure indicated in EN 16195.

Criterion 7 - Provision of information

This criterion applies to growing media and soil improvers

The information indicated under Criterion 7.1. or 7.2, as applicable, shall be provided.

The information shall be provided with the product either on the packaging or in accompanying fact sheets or in the technical documentation, which accompanies the product.

The EU Fertilising product falling within product function category soil improvers or growing media in the meaning of Regulation (EU) 2019/1009 of the European Parliament and of the Council shall be deemed to comply with the requirement.

For mineral growing media, the provision of information shall include a statement about the professional horticultural application.

Criterion 7.1. Soil improvers

- a) The name and address of the body responsible for marketing;
- b) A descriptor identifying the product by type, including the wording "SOIL IMPROVER";
- c) A batch identification code
- d) The quantity (indicated by mass or volume);
- e) Range of moisture content or the dry matter content expressed as % by mass;
- f) A list of all ingredients above 5 % by product weight in descending order of magnitude by dry weight; where the ingredient is a substance or a mixture, it shall be identified as specified in Article 18 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council.
- g) The recommended conditions of storage and the recommended 'use by' date;
- h) Guidelines for safe handling and use, including any relevant information on measures recommended to manage risks to human, animal or plant health, to safety or to the environment;;
- i) Instructions for intended use, including application rates, timing and frequency, and target plants or mushrooms;
- j) pH;
- k) Electrical conductivity given as mS/m, except for mineral wool;
- l) Organic matter content or Organic carbon (Corg) content, expressed as % by mass
- m) Minimum amount of organic nitrogen (Norg), expressed as % by mass, followed by a description of the origin of the organic matter used;
- n) The ratio of organic carbon to total nitrogen (Corg/N).

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).

Criterion 7.2 Growing media

- a) The name and address of the body responsible for marketing;
- b) A descriptor identifying the product by type, including the wording "GROWING MEDIUM";
- c) A batch identification code;
- d) The 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;
- e) Range of moisture content or the dry matter content expressed as % by mass;
 - f) A list of all ingredients above 5 % by product weight in descending order of magnitude by dry weight; where the ingredient is a substance or a mixture, it shall be identified as specified in Article 18 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council.
 - g) The recommended conditions of storage and the recommended ‘use by’ date and production date;
 - h) Guidelines for safe handling and use, including any relevant information on measures recommended to manage risks to human, animal or plant health, to safety or to the environment;
 - i) Instructions for intended use, including application rates, timing and frequency, and target plants or mushrooms;
 - j) pH;
 - k) Electrical Conductivity given as mS/m, except for mineral wool;
 - l) A statement about the stability of organic matter (stable or very stable);
 - m) Nitrogen (N) extractable by CaCl₂/DTPA (calcium chloride/diethylenetriaminepentaacetic acid; ‘CAT-soluble’), if above 150 mg/l;
 - n) Phosphorus pentoxide (P₂O₅) extractable by CaCl₂/DTPA (calcium chloride/diethylenetriaminepentaacetic acid; ‘CAT-soluble’), if above 20 mg/l;
 - o) Potassium oxide (K₂O) extractable by CaCl₂/DTPA (calcium chloride/diethylenetriaminepentaacetic acid; ‘CAT-soluble’), if above 150 mg/l;
 - p) A statement about the professional horticultural application, in case of mineral growing media.

Assessment and verification:

The applicant shall declare that the product complies with this criterion and provide the Competent Body with the text of the user information written on the packaging or on accompanying fact sheets.

For EU Fertilising product for a given product function category soil improvers or growing media, as defined in Regulation (EU) 2019/1009 of the European Parliament and of the Council - Annex I - Part I, the information on the product shall be provided in accordance with the labelling requirements specified in Annex III - Part I and II of to that Regulation.

Criterion 8 – Information appearing on the EU Ecolabel

If the optional label with text box is used, it shall contain the following three statements::

- promotes the recycling of materials;
- promotes the use of materials produced in a more sustainable manner, thus reducing environmental degradation

For soil improvers, the additional information shall be included:

- contributes to reducing soil and water pollution,

The applicant shall follow the instructions on how to properly use the EU Ecolabel logo provided in the EU Ecolabel Logo Guidelines:

<https://ec.europa.eu/environment/ecolabel/>

Assessment and verification:

The applicant shall provide a declaration of compliance with this criterion, supported by a high resolution image of the product packaging that clearly shows the label, the registration/licence number and, where relevant, the statements that can be displayed together with the label

Appendix 1

Sampling and test frequency for the application year

Type of plant	Criterion	Annual input / output	Test frequency
Waste/animal – by-product treatment plants	4.1 – Limits for heavy metals 4.5 - Pathogens 5.1 - Stability	Input (t) ≤ 3000	1 every 1000 tonnes input material rounded to the next integer
	5.2 - Physical contaminants 5.3- Organic matter and dry matter 5.4 - Viable seeds and plant propagules	3000 < input (t) < 20000	4 (one sample every season)
	5.5 - Plant response 6 - Growing media features	Input (t) ≥ 20000	number of analyses per year = amount of annual input material (in tonnes)/10000 tonne + 1
	4.2 - Limits for Polycyclic Aromatic Hydrocarbons PAHs	Input (t) ≤ 3000	1
		3001 < input (t) < 10000	2
		10001 < input (t) < - 20000	3
		20001 < input (t) < 40000	4
		40001 < input (t) < 60000	5
		60001 < input (t) < 80000	6
		80001 < input (t) < 100000	7
		100001 < input (t) < 120000	8

		120001 < input (t) < 140000	9
		140001 < input (t) < 160000	10
		160001 < input (t) < 180000	11
		Input (t) ≥ 180000	12
Product manufacture plants using waste/animal by-product-derived materials, except those that are waste treatment plants	4.1 – Limits for heavy metals 4.5 - Pathogens 5.1 - Stability 5.2 - Physical contaminants 5.3- Organic matter and dry matter 5.4 - Viable seeds and plant propagules 5.5 - Plant response 6 - Growing media features	Output (m ³) ≤ 5000	Representative combined samples from 2 different batches according EN 12579 ¹⁷
		Output (m ³) > 5000	Representative combined samples from 4 different batches according EN 12579
	4.2 - Limits for Polycyclic Aromatic Hydrocarbons PAHs	Output (m ³) ≤ 5000	Representative combined samples from 1 different batches according EN 12579.
		Output (m ³) > 5000	Representative combined samples from 2 different batches EN 12579

¹⁷ EN 12579 Soil improvers and growing media. Sampling

Product manufacture plants NOT using waste/animal by-product-derived materials	4.1 – Limits for heavy metals 4.5 - Pathogens 5.1 - Stability 5.2 - Physical contaminants 5.3- Organic matter and dry matter 5.4 - Viable seeds and plant propagules 5.5 - Plant response 6 - Growing media features	Output (m ³) ≤ 5000	Representative combined samples from 1 batch according EN 12579
		Output (m ³) > 5000	Representative combined samples from 2 different batches according EN 12579
	4.2 - Limits for Polycyclic Aromatic Hydrocarbons PAHs	Regardless the input / output	Representative combined samples from 1 batch according EN 12579

Appendix 2
Sampling and test frequency for the following years

Type of plant	Criteria	Annual input / output	Test frequency	
Waste/animal – by-product treatment plants	4.1 – Limits for heavy metals 4.5 - Pathogens 5.1 - Stability 5.2 - Physical contaminants 5.3- Organic matter and dry matter 5.4 - Viable seeds and plant propagules 5.5 - Plant response 6 - Growing media features	Input (t) ≤ 1000	1	
		Input (t) > 1000	number of analyses per year = amount of annual input material (in tonnes)/10000 tonne + 1 Minimum 2 and maximum 12	
	4.2 - Limits for Polycyclic Aromatic Hydrocarbons PAHs		Input (t) ≤ 10000	0.25 (once per 4 years)
			10001 < input (t) < 25000	0.5 (once per 2 years)
			25001 < input (t) < 50000	1
			50001 < input (t) < 100000	2
			100001 < input (t) < 150000	3
			150001 < input (t) < 200000	4
			200001 < input (t) < 250000	5
			250001 < input (t) < 300000	6
			300001 < input (t) < 350000	7
			350001 < input (t) < 400000	8
	400001 < input (t) < 450000	9		

Type of plant	Criteria	Annual input / output	Test frequency
		450001 < input (t) < 500000	10
		500001 < input (t) < 550000	11
		Input (t) ≥ 550000	12
Product manufacture plants using waste/animal by-product-derived materials, except those that are waste treatment plants	4.1 – Limits for heavy metals 4.5 - Pathogens 5.1 - Stability 5.2 - Physical contaminants 5.3- Organic matter and dry matter 5.4 - Viable seeds and plant propagules 5.5 - Plant response 6 - Growing media features	Output (m ³) ≤ 5000	Representative combined samples from 1 different batches according EN 12579
		Output (m ³) > 5000	Representative combined samples from 2 different batches according EN 12579
	4.2 - Limits for Polycyclic Aromatic Hydrocarbons PAHs	Output (m ³) ≤ 15000	Representative combined samples from 1 batch according EN 12579, once each 4 years
		15000 < Output (m ³) < 40000	Representative combined samples from 1 batch according EN 12579, each two years
		Output (m ³) ≥ 40000	Representative combined samples from 1 batch according EN 12579, each year
	Product manufacture plants NOT using waste/animal by-product-derived materials	4.1 – Limits for heavy metals 4.5 - Pathogens 5.1 - Stability 5.2 - Physical contaminants 5.3- Organic matter and dry matter 5.4 - Viable seeds and plant propagules 5.5 - Plant response 6 - Growing media features	Regardless the input / output

Type of plant	Criteria	Annual input / output	Test frequency
	4.2 - Limits for Polycyclic Aromatic Hydrocarbons PAHs	Regardless the input / output	Representative combined samples from 1 batch according EN 12579, once each 4 years

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