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**COVER NOTE**

From:	European Commission
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To:	General Secretariat of the Council
No. Cion doc.:	D 108494/1 - Annex II
Subject:	Annex to COMMISSION DECISION of XXX establishing the EU Ecolabel criteria for decorative paints, varnishes, and related products, performance coatings and related products, and water-based aerosol spray paints and repealing Decision (EU) 2014/312

Delegations will find attached document D 108494/1 - Annex II.

Encl.: D 108494/1 - Annex II

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## **ANNEX II**

### **EU Ecolabel criteria for awarding the EU Ecolabel to performance coatings and related products**

The EU Ecolabel criteria target the best performance coatings and related products 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.

#### **Assessment and verification requirements**

For the EU Ecolabel to be awarded to a specific product, the product shall comply with each requirement. The applicant shall provide a written confirmation stating that all the criteria are fulfilled.

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 or site inspections to check compliance with these criteria.

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

As pre-requisite, the product shall meet all respective legal requirements of the country or 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 following information shall be provided together with the application for the EU Ecolabel:

- (a) A list of all individual paint and varnish products covered by the EU Ecolabel application, grouped into product families and indicating any relevant product characteristics that affect which specific requirements from the EU Ecolabel criteria would apply. A family of products will all have the same base formulation and product subcategory, but may differ in terms of shade and/or packaging format.
- (b) A description of the product formulation(s), with a % composition of the ingredients used and the specific function of each ingredient (the composition information may be subject to a non-disclosure agreement between the applicant and the competent body or, in some cases, directly between the supplier and the competent body). Ingredient functions shall be either: accelerator; additive; anti-blocking agent; anti-foaming agent; anti-settling agent; anti-skinning agent; binder; coalescing agent; colourant-dyestuff; colourant-pigment; crosslinking agent; curing agent/hardener; diluent; dispersing

agent; drier; filler; dry-film preservative; in-can preservative; matting agent; neutralising agent; optical brightener; plasticiser; polymer dispersion; preservative stabiliser; resin; retarder; rheological modifier; silicone resin; solvent; surfactant; UV stabiliser; water; water-repelling agent or, in case none of these apply, “other”.

- (c) Safety data sheets for the ingredients used in the paint and varnish formulations.
- (d) Any other information associated with the production of ingredients and materials that is necessary for demonstrating compliance with the EU Ecolabel criteria shall be provided by the suppliers or producers of those ingredients and materials.
- (e) In order to help determine the number of products within any given family of products, a description of the packaging format(s) used, the volume(s) of product held and the packaging material(s) used for each of the paint and varnish products covered by the EU Ecolabel application.
- (f) In order to reduce the quantity of testing and documentation required for assessment and verification procedures, several criteria explicitly state that compliance of an entire family of products can be assumed if the worst-case product can be shown to comply. Each time data for a worst-case product is submitted, it shall be accompanied by an explanation of why this particular product represents the worst-case within its family of products for the property being tested.

### Criterion 1. Titanium dioxide production

If the final product contains more than 3,0 % w/w of titanium dioxide (TiO<sub>2</sub>) pigment, the emissions to air and water from the production of any titanium dioxide pigment used shall meet the relevant requirements listed below for the respective production processes:

*Table 1. Requirements for Titanium Dioxide production*

Parameter and analytical method	Sulphate process	Chloride process
Emissions of dust to air <sup>(1)</sup> (measured with the relevant European or international standards)	≤ 0,40 kg/t TiO <sub>2</sub> pigment	≤ 0,66 kg/t TiO <sub>2</sub> pigment
Emissions of SO <sub>2</sub> to air <sup>(1)</sup> (measured with the relevant European or international standards)	≤ 4,5 kg/t TiO <sub>2</sub> pigment	n/a
Emissions of HCl to air <sup>(1)</sup> (measured with the relevant European or international standards)	n/a	≤ 0,70 kg/t TiO <sub>2</sub> pigment
Emissions of SO <sub>4</sub> <sup>2-</sup> to water (measured with the relevant European or international standards)	≤ 300 kg SO <sub>4</sub> <sup>2-</sup> /t TiO <sub>2</sub> pigment	n/a
Emissions of Cl <sup>-</sup> to water (measured using the mass balance method or with the relevant European or international standards)	n/a	≤ 103 kg Cl <sup>-</sup> /t TiO <sub>2</sub> pigment <sup>(2)</sup> ≤ 179 kg Cl <sup>-</sup> /t TiO <sub>2</sub> pigment <sup>(3)</sup> ≤ 329 kg Cl <sup>-</sup> /t TiO <sub>2</sub> pigment <sup>(4)</sup>

Low dust working environment	To be demonstrated	To be demonstrated
<p>(1) Point sources for emissions of dust to air from the chloride process are considered as: milling, chlorination, oxidation and micronisation stages. Point sources for emissions of HCl to air from the chloride process are considered as: chlorination, acid scrubber from solid separation and metal chloride treatment processes. Point sources for emissions of dust to air from the sulphate process are considered as: milling, digestion, calcination and micronisation stages. Point sources for emissions of SO<sub>2</sub> to air from the sulphate process are considered as: digestion and calcination processes.</p> <p>(2) When ore used is &gt;95% TiO<sub>2</sub> content.</p> <p>(3) When ore used is 90-95% TiO<sub>2</sub> content.</p> <p>(4) When ore used is &lt;90% TiO<sub>2</sub> content.</p>		

Emissions to air shall be counted from the relevant point source(s) stated in point (1) above where emissions can be continuously or periodically monitored from a fixed sampling point after any exhaust gas abatement system(s).

Emissions to water shall be considered as sulphate or chloride present in any treated wastewater effluent that is discharged into any rivers, lakes, transitional waters, coastal waters or seawaters.

The relevant limit for chloride emissions to water shall be based on the weighted average % TiO<sub>2</sub> content of ore(s) used during the calculation period.

A low dust working environment shall, as a minimum, include the follows aspects:

- A risk assessment for the workplace that identifies all the main areas of potential dust emission and worker exposure to dust.
- The need to have in place an occupational hygiene workplace monitoring program.
- Provision of appropriate training to employees about good practice for dust control.
- Provision of adequate personal protective equipment to employees and visitors.

### Assessment and verification

The applicant shall declare the content of TiO<sub>2</sub> used in each of the product formulations subject to the EU Ecolabel license application. For any products with more than 3,0 % w/w TiO<sub>2</sub> pigment content, the applicant shall also declare the supplier or suppliers of the TiO<sub>2</sub> used in those products.

The applicant declaration shall be supported by declarations from their TiO<sub>2</sub> supplier(s) (or TiO<sub>2</sub> producer(s), if different) stating:

- The type of TiO<sub>2</sub> production process used (chloride or sulphate).
- The applicable TiO<sub>2</sub> content range of the weighted average ore in case of the chloride process.
- Annual average emissions data of dust to air, SO<sub>2</sub> to air, and SO<sub>4</sub><sup>2-</sup> to water for TiO<sub>2</sub> produced through the sulphate process. Alternatively, average emission data of dust to air, HCl to air, and Cl<sup>-</sup> to water for TiO<sub>2</sub> produced through the chloride process.
- The declarations from TiO<sub>2</sub> supplier(s) (or TiO<sub>2</sub> producer(s), if different) should include the relevant European or international standards used to measure the relevant parameters listed in the Table 1.

— The measures in place to ensure a low dust working environment.

The declaration from the TiO<sub>2</sub> supplier(s) (or TiO<sub>2</sub> producer(s), if different) shall include a basic calculation about how the annual average emissions were obtained. If the production of the supplied TiO<sub>2</sub> pigment is non-continuous, then emission data calculations covering a shorter period than 12 months may be accepted. In cases of continuous monitoring, the annual average emission concentrations shall be derived from daily average concentrations. For periodically monitored emissions, at least 3 samples must be taken to derive the average results. Any periodic sampling must be taken during periods of stable operation that are representative of normal plant conditions for the production of the TiO<sub>2</sub> pigments used in the EU Ecolabel paint products.

The emission calculations shall only be required to be submitted at the date of application for the EU Ecolabel. If the EU Ecolabel is awarded, the applicant can simply request updated declarations each year from their TiO<sub>2</sub> supplier(s) of continuing compliance with the emission limits.

For emissions to air, concentrations shall be expressed in units of mg/Nm<sup>3</sup> and multiplied by a specific emission air flow rate in units of Nm<sup>3</sup>/tonne TiO<sub>2</sub> pigment production for the same time period that the data was collected. If there is more than one exhaust gas abatement system for major point sources of emissions to air, emissions from the clean air from each abatement system shall be counted and added.

For emissions to water, either a direct measurement or a mass balance approach shall be used. The mass balance approach shall be based on the balance between inputs of raw sulphate/chloride and outputs of sulphate/chloride in by-products, in emissions to air and in solid waste that is disposed of to landfill or incinerated. The difference in the masses of the inputs and outputs shall be considered as the mass of sulphate/chloride that is emitted to water during the calculation period and shall be divided by the estimated quantity of TiO<sub>2</sub> pigment produced during the same period to calculate specific emissions to water in units of kg sulphate or chloride/t TiO<sub>2</sub> pigment.

With the direct measurement approach for emissions to water, measured concentrations in units of g/m<sup>3</sup> shall be multiplied by a specific treated wastewater effluent flow rate in units of m<sup>3</sup>/tonne TiO<sub>2</sub> pigment production for the same time period that the sulphate/chloride data was collected.

## Criterion 2. Efficiency in use requirements

In order to demonstrate the efficiency in use of performance coatings and related products, the following tests per type of product, as indicated in Table 2 and detailed in the criterion text later, shall be undertaken.

*Table 2. Performance requirements for different kinds of performance coatings and related products*

Criteria	Performance coating categories (with their subcategories identified according to the Directive 2004/42/EC)					
	Floor covering paints (i, j)	Floor covering varnishes (i, j)	Anti-corrosion products (i, j)	Primers (within i) and j) systems)	Binding primers	Waterproofing coatings (i, j)

					(within i) and j) systems)	
2(a) Spreading rate	Yes	No	If opaque	If opaque	If opaque	If opaque, report only
2(b) White pigment content	Yes	No	If opaque	No	No	If opaque, report only
2(c) Resistance to water	Yes	Yes	Yes	No	No	Yes + ETA
2(d) Adhesion	If opaque and no undercoat or primer	If opaque and no undercoat or primer	If opaque and no undercoat or primer	If opaque	If opaque	If opaque and no undercoat or primer
2(e) Abrasion	Yes	Yes	If for metal flooring	No	No	If for trafficked floors
2(f) Weathering	If outdoors	If outdoors	If outdoors	No	No	If outdoors
2(g) Corrosion resistance	If claimed	No	Yes	If claimed	If claimed	If claimed
2(h) Ecotoxicity	No	No	Yes	No	No	If outdoors

### 2(a) Spreading rate

*Note 1: This requirement does not apply to transparent or semi-transparent coatings.*

*Note 2. For tinting systems, this criterion applies only to the tinting base containing the most TiO<sub>2</sub>. In cases where this tinting base is unable to achieve this requirement, the criterion shall be met after tinting the base to produce the standard colour RAL 9010.*

*Note 3. This requirement applies to all white paints. For families of paint products available only in preset shades, the spreading rate shall apply to the lightest colour.*

Spreading rates shall be calculated while ensuring a hiding power of at least 98 % according to relevant European or international standards or an equivalent method that can be validated against them. The following minimum spreading rate limits apply:

- Indoor performance coatings shall have a spreading rate of at least 8 m<sup>2</sup> per litre of product.
- Outdoor performance coatings shall have a spreading rate of at least 6 m<sup>2</sup> per litre of product.
- Performance coatings marketed for both indoor and outdoor application shall meet the higher spreading rate requirement of at least 8 m<sup>2</sup> per litre.
- Any opaque primers used in performance coating systems shall have a spreading rate of at least 8 m<sup>2</sup> per litre of product. A lower spreading rate of 6 m<sup>2</sup> per litre of product applies to opaque primers with specific blocking, sealing, penetrating, binding or special adhesion properties.

### **Assessment and verification:**

The applicant shall provide a declaration of compliance with the relevant spreading rate limits or a justification of non-applicability of the spreading rate requirement for each of the products covered by the EU Ecolabel application. The declaration shall be supported by test results according to relevant European or international standards or an equivalent method that can be validated against them. It shall be clearly indicated which spreading rate results correspond to which families of products covered by the EU Ecolabel license application.

## 2(b) White pigment content

*Note: This criterion only applies to paint products and white pigment content shall be calculated with the same products for which spreading rate is measured as per the notes in criterion 2(a). For the purposes of this criterion, the term “white pigment”, shall be considered to refer only to pigments with a refractive index higher than 1.8.*

The white pigment content shall not exceed:

- 36 g/m<sup>2</sup> for performance coatings marketed for indoor use only.
- 38 g/m<sup>2</sup> for performance coatings marketed for outdoor use only.
- 36 g/m<sup>2</sup> for performance coatings marketed for both indoor and outdoor use. Any EU Ecolabel paint products that claim wet scrub resistance must meet the requirements for class 1 or class 2 according to the procedure defined in relevant European or international standards and classification systems and comply with the respective upper limits for white pigment content.

## **Assessment and verification:**

The applicant shall provide a declaration of compliance with the relevant requirement or a justification of the non-applicability of the requirements for each of the products covered by the EU Ecolabel application. In cases of relevant products, the applicant shall declare the total content of white pigments with a refractive index >1,8 in the final product, relevant tinting base or white base paint formulations that are subject to the EU Ecolabel license application. This information shall be provided in terms of the chemical name and CAS number of the white pigment, its declared refractive index, its concentration in g/l of paint product and the density of the paint, in g/l

## 2(c) Resistance to water

*Note: This requirement applies to all performance coatings. In coating systems with a primer or undercoat(s), either the full coating system or just the finishing layer may be tested.*

All performance coatings shall have resistance to water, as determined by relevant European or international standards, such that after 24 hours of exposure and 16 hours of recovery, no change in gloss or colour is observed in transparent or semi-transparent coatings and no change in gloss or of colour occurs in any opaque coatings.

No change of gloss or colour in exposed samples shall be considered as a visual rating of 0 when measured for quantity of defects, size of defects and intensity of changes according to the classification system of relevant European or international standards.

Additionally for waterproofing coatings, compliance with any relevant European Assessment Document (EAD) stipulations shall also be demonstrated.

**Assessment and verification:**

The applicant shall provide a declaration of compliance with the requirement or a justification of the non-applicability of the requirement for each of the products covered by the EU Ecolabel license application.

For any applicable products included in their license application, the applicant declaration shall be supported by copies of test report(s) following relevant European or international standards that cover the licensed product or family of products, including reported results for change of colour and change of gloss according to relevant European or international standards.

For waterproofing coatings, the applicant shall additionally provide a European Technical Approval (ETA) certificate that has been issued by an approved Technical Assessment Body (for example a certificate according to EAD when the product is a liquid applied roof waterproofing kit). In cases where there is no relevant EAD to follow, the applicant shall declare this and provide a technical description of the product, including compliance with any relevant European or international standards and a description of the intended uses of the product and how it should be used correctly.

2(d) Adhesion

*Note: This criterion applies to opaque primers or undercoats for performance coatings. The adhesion test may be conducted on any opaque primer or undercoat alone, or on the primer/undercoat and finishing coat together, so long as the combination is opaque. In cases of different colour shades within a family of products, only the light-coloured or white base paint or tinting base(s), need to be tested.*

Primers for exterior masonry uses shall score a pass in the pull-off test of relevant European or international standards where the cohesive strength of the substrate is less than the adhesive strength of the primer coating, otherwise the adhesion of the primer coating must be in excess of a pass value of 1,5 MPa.

Floor primers or floor undercoats shall score 2 or less in the test for adhesion of relevant European or international standards.

**Assessment and verification:**

The applicant shall provide a declaration of compliance with the relevant requirement or a justification of the non-applicability of the requirements for each of the products covered by the EU Ecolabel application. For any opaque masonry primer, binding primer or undercoat products included in their license application, the applicant shall provide copies of test reports following relevant European or international standards, as applicable.

2(e) Abrasion

*Note: This criterion applies to floor coatings. In cases of different colour shades within a family of products, only the light-coloured or white base paint or tinting base(s), need to be tested.*



A weight loss of  $\leq 70$  mg shall be observed when floor coatings are exposed to 1000 test cycles with a 1000 g load and a CS10 wheel according to relevant European or international standards.

#### **Assessment and verification:**

The applicant shall provide a declaration of compliance with the requirement for floor coating products included in their license application. The declaration shall be supported by copies of test reports following relevant European or international standards.

#### **2(f) Weathering**

*Note: This criterion applies to outdoor performance coatings. In the case of different colour shades within a family of products, only the light-coloured or white base paint or tinting base(s) need to be tested.*

All outdoor performance coatings shall be exposed to artificial weathering in apparatus including fluorescent UV lamps and condensation or water spray according to relevant European or international standards. They shall be exposed to test conditions for 1000 hours with cycling conditions of: UVA 4 h/60 °C + humidity 4 h/50 °C.

Alternatively, outdoor performance coatings for wooden substrates may be exposed to weathering for 1000 hours in the QUV accelerated weathering apparatus with cyclic exposure with UV(A) radiation and spraying according to relevant European or international standards.

After weathering, the exposed films shall comply with the requirements specified in Table 3 below.

*Table 3. Overview of weathering requirements for performance coatings and related products according to relevant European or international standards*

<b>Property</b>	<b>Requirement (after weathering)</b>	<b>Scope of products covered/not covered</b>
Colour change	Colour change, $\Delta E \leq 4$	Not applicable to primers or intermediate coats in performance coating systems nor to transparent or semi-transparent performance coating systems
Decrease of gloss	$\leq 30\%$ decrease compared to initial value	Not applicable to performance coatings with initial gloss value of $<60\%$ at $60^\circ$ angle of incidence
Chalking	A score of $\leq 2$	Only applicable to finishing coats or the full performance coating system used on outdoor masonry, wood and metal substrates.
Flaking	Flake density: $\leq 2$ Flake size: $\leq 2$	
Cracking	Crack quantity: $\leq 2$ Crack size: $\leq 3$	
Blistering	Blister density: $\leq 3$	

	Blister size: $\leq 3$	
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**Assessment and verification:**

The applicant shall provide a declaration of compliance with the relevant requirement or a justification of the non-applicability of the requirements for each of the products covered by the EU Ecolabel application. For any outdoor performance coatings included in their license application, the applicant shall provide copies of test reports that detail the weathering test method used (being in compliance with relevant European or international standards) and provide results of changes in properties after weathering, as applicable.

**2(g) Corrosion resistance**

*Note: This criterion only applies to anti-corrosion performance coatings and related products.*

Anti-corrosion primers or coating systems shall be exposed to simulated corrosion stresses on the metallic substrates and use environments (for example C2, C3, C4 or C5 as per relevant European or international standards) for which their use is recommended. Corrosion stresses applied in testing shall correspond to the “high” level for each category, which is as follows:

*Table 4. Requirements for corrosion resistance testing for anti-corrosion primers and performance coating systems according to relevant European or international standards*

Corrosivity category	Test regime 1		Test regime 2
	Water condensation, hours	Neutral salt spray, hours	Annex B (cyclic ageing test, hours)
C2 (high)	120	-	-
C3 (high)	240	480	-
C4 (high)	480	720	-
C5 (high)	720	1440	1680

After exposure, the coated surfaces shall be examined and be found to comply with the following requirements:

- A rating of 3 or better (i.e. 0, 1 or 2) for size of blisters according to relevant European or international standards.
- A rating of 3 or better (i.e. 0, 1 or 2) for quantity of blisters according to relevant European or international standards.
- A rating of Ri2 or better (i.e. Ri0 or Ri1) for degree of rusting according to relevant European or international standards.

**Assessment and verification:**

The applicant shall provide a declaration of compliance with the relevant requirement or a justification of the non-applicability of the requirements for each of the products covered by the EU Ecolabel application. Any declaration of compliance shall be supported by copies of test reports according to relevant European or international standards.

## 2(h) Ecotoxicity

Note, this criterion only applies to anti-corrosion or waterproofing performance coating systems that are marketed for use in outdoor environments. In the case of a family of products, only the worst-case product needs to be tested. The worst-case product should be chosen based on the total estimated quantity of H400 and H410/H411/H412 classified ingredients present.

Ecotoxicity shall be measured by testing the ecotoxicity of the eluate obtained from the contact with water of the two glass plates that have been coated with the complete coating system, including any primer coats, undercoats, intermediate coats and finishing coat. The test procedure is:

- Prepare two glass plates with roughened surfaces and apply the coating to the plates in accordance with manufacturer instructions. Each plate shall present a coated surface area of between 250 and 500 cm<sup>2</sup>. Make sure that the primer layer does not protrude from beyond the finishing layer.
- In parallel, prepare a blind test where the roughened glass plates are not coated at all but are treated and then tested in an identical way exact for the coating procedure.
- Allow the coating to cure and be pre-conditioned for a period of 72 hours at a temperature of 19 to 25°C and a relative humidity of 40 to 60 %.
- Elute the coating on the glass plates (and blind control samples) in accordance with relevant European or international standards for 24 hours (if the primer does not stick to the surface or the coating becomes detached from the surface during the leaching test, the manufacturer and the testing institution should agree on another environmentally safe surface instead of glass plates with a roughened surface).
- The ratio of water volume to coated surface area of the test specimen shall be between 25 and 30 l/m<sup>2</sup>. A suitable vessel shall be used that the water level can always remain at least 20mm above the upper surface of the test specimen.
- Measure the pH, conductivity and, optionally, dissolved organic carbon prior to starting the ecotoxicity tests, which are defined in the Table 5 below together with their pass requirements.

*Table 5. Ecotoxicity testing and requirements*

Test species	Endpoint	Requirement
Luminescent bacteria ( <i>Vibrio fischeri</i> )	Light	$G_L \leq 8$
Algae ( <i>Raphidocelis subcapitata</i> / <i>Desmodesmus subspicatus</i> )	Growth	$G_A \leq 4$
umu test	Genotoxicity	$G_{EU} \leq 1,5$

### Assessment and verification:

The applicant shall provide a declaration of compliance with the relevant requirement or a justification of the non-applicability of the requirements for each of the products covered by the EU Ecolabel application. Any declaration of compliance shall be supported by copies of test reports according to relevant European or international standards.

## Criterion 3. Content of Volatile and Semi-volatile Organic Compounds (VOCs, SVOCs)

The maximum content of Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs) shall not exceed the limits given in Table 6.

The content of VOCs and SVOCs shall be determined for the ready to use product and shall include any recommended additions prior to application such as colourants and/or thinners.

*Table 6. VOC and SVOC content limit*

<b>VOC and SVOC content limits</b>		
<b>Product description (with subcategory denotation according to Directive 2004/42/EC)</b>	<b>VOC limits (g/l of ready to use product)</b>	<b>SVOC limits (g/l of ready to use product)</b>
i. One-pack performance coating products mentioned in Article 2(1), including waterproofing coatings but excluding anti-corrosion coatings	65	45 <sup>(1)</sup> / 55 <sup>(2)</sup>
j. Multi-pack reactive performance coating products mentioned in Article 2(1), including waterproofing coatings but excluding anti-corrosion coatings	65	45
(part of i or j) Anti-corrosion coating products and primers	65	50
<p><sup>(1)</sup> SVOC limit applies to indoor white paints and varnishes</p> <p><sup>(2)</sup> SVOC limit applies to indoor tinted paints/outdoor paints and varnishes</p> <p><sup>(3)</sup> ‘Volatile organic compounds’ (VOC) means any organic compounds having an initial boiling point less than or equal to 250 °C measured at a standard pressure of 101.3 kPa</p> <p><sup>(4)</sup> ‘Semi volatile organic compounds’ (SVOCs) means any organic compound having a boiling point greater than 250 °C and less than 370 °C measured at a standard pressure of 101.3 kPa</p>		

The VOC content shall be determined either by calculation based on the ingredients and raw materials or by using the methods given in relevant European or international standards. The SVOC content shall be determined using the method given in relevant European or international standards. In the case of products used both indoors and outdoors the strictest SVOC limit value for indoor paints and varnishes shall prevail.

#### **Assessment and verification:**

The applicant shall provide a declaration of compliance supported by calculations of VOC and SVOC contents based on the ingredients and raw materials used in the ready to use product. Alternatively, the VOC and SVOC contents of the ready to use product shall be communicated via a representative test report or reports using the methods given in relevant European or international standards and results shall demonstrate compliance with the relevant limits.

## **Criterion 4. Restriction of hazardous substances and mixtures**

*Note: These sub-criteria apply to the final product formulation and any supplied ingredients therein.*

### **4.1. Restrictions on Substances of Very High Concern (SVHCs)**

The final product formulation and any supplied ingredients therein shall not contain any ingoing substances that meet the criteria referred to in Article 57 of Regulation (EC) No 1907/2006 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.

#### **Assessment and verification:**

The applicant shall provide a signed declaration that the final product formulation and any supplied ingredients therein do not contain any SVHCs as ingoing substances. The applicant declaration shall be supported by safety data sheets of all supplied ingredients used to produce the final product and declarations from the chemical 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 can be found here:

<https://www.echa.europa.eu/candidate-list-table>

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

For any level of known impurities identified as SVHCs in ingredients, the concentration of the impurity and an assumed retention factor of 100% shall be used to estimate the quantity of the SVHC impurity remaining in the final product formulation. Impurities that are SVHCs cannot be present in the paint or varnish product formulation above 0,0100% w/w or in any individual ingredient in concentrations exceeding 0,100% w/w. Any deviation from a retention factor of 100% for an SVHC impurity (for example due to solvent evaporation) or in case of chemical modification, must be supported by adequate justifications.

### **4.2. General restrictions based on classifications according to specific hazard classifications defined in Regulation (EC) No 1272/2008.**

#### **(a) Final product formulation**

The final product formulation shall not be classified as being carcinogenic, mutagenic, toxic for reproduction, acutely toxic, an aspiration hazard, a specific target organ toxicant, a respiratory or skin sensitiser, hazardous to the aquatic environment, hazardous to the ozone layer, an endocrine disruptor, persistent, bioaccumulative and toxic (PBT) or persistent, mobile and toxic (PMT) in accordance with Regulation (EC) No 1272/2008 and specifically in terms of the hazard statement codes stated in Table 7. The only exception permitted to this rule shall be the H412 and H413 classification, and only if due to levels of dry-film preservatives in the case of outdoor paints or varnishes.

#### **(b) Ingoing substances**

Unless derogated in Table 8, the final product formulation shall not contain any ingoing substances in concentrations at or above 0,010 % weight by weight of the final product formulation that are classified, in accordance with Regulation (EC) No 1272/2008, with any of the hazard classes, categories and associated hazard statement codes stated in Table 7.

*Table 7. Restricted hazard classes, categories, codes and associated hazard statements*

Carcinogenic, mutagenic or toxic for reproduction (CMR)	
Categories 1A and 1B	Category 2
H340: May cause genetic defects	H341: Suspected of causing genetic defects
H350: May cause cancer	H351: Suspected of causing cancer
H350i: May cause cancer by inhalation	
H360: May damage fertility or the unborn child	H361: Suspected of damaging fertility or the unborn child
H360F: May damage fertility	H361f: Suspected of damaging fertility
H360D: May damage the unborn child	H361d: Suspected of damaging the unborn child
H360FD: May damage fertility. May damage the unborn child	H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child
H360Fd: May damage fertility. Suspected of damaging the unborn child.	H362: May cause harm to breast fed children
H360Df: May damage the unborn child. Suspected of damaging fertility.	
Acute toxicity	
Categories 1 and 2	Category 3
H300: Fatal if swallowed	H301: Toxic if swallowed
H310: Fatal in contact with skin	H311: Toxic in contact with skin
H330: Fatal if inhaled	H331: Toxic if inhaled
	EUH070: Toxic by eye contact
Aspiration hazard	
Category 1	
H304: May be fatal if swallowed and enters airways	
Specific target organ toxicity	
Category 1	Category 2
H370: Causes damage to organs	H371: May cause damage to organs
H372: Causes damage to organs through prolonged or repeated exposure	H373: May cause damage to organs through prolonged or repeated exposure
Respiratory and skin sensitization	
Category 1, 1A and 1B	
H317: May cause an allergic skin reaction	

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	
Hazardous to the aquatic environment	
Categories 1 and 2	Categories 3 and 4
H400: Very toxic to aquatic life	H412: Harmful to aquatic life with long-lasting effects
H410: Very toxic to aquatic life with long-lasting effects	H413: May cause long-lasting effects to aquatic life
H411: Toxic to aquatic life with long-lasting effects	
Hazardous to the ozone layer	
H420: Harms public health and the environment by destroying ozone in the upper atmosphere	
Endocrine disruptors (EDs) for human health and the environment	
Category 1	Category 2
EUH380: May cause endocrine disruption in humans	EUH381: Suspected of causing endocrine disruption in humans
EUH430: May cause endocrine disruption in the environment	EUH431: Suspected of causing endocrine disruption in the environment.
Persistent, Bioaccumulative and Toxic (PBT)	
PBT	very Persistent and very Bioaccumulative (vPvB)
EUH440: Accumulates in the environment and living organisms including in humans	EUH441: Strongly accumulates in the environment and living organisms including in humans
Persistent, Mobile and Toxic (PMT)	
PMT	very Persistent and very Mobile (vPvM)
EUH450: Can cause long-lasting and diffuse contamination of water resources	EUH451: Can cause very long-lasting and diffuse contamination of water resources

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

This criterion shall not apply to ingoing substances covered by points (a) and (b) of Article 2(7) of Regulation (EC) No 1907/2006, which set out criteria for exempting substances within Annexes IV and V to that Regulation from the registration, downstream user and evaluation requirements.

*Table 8. Derogations to restrictions on ingoing substances that are classified with one or more of the restricted hazards listed in Table 7 and are present in concentrations at or above 0,010% (weight by weight) of the final product formulation.*

Substance type, substance name and CAS number	Derogated hazard code(s)	Derogation conditions
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Preservatives and preservative stabilisers

Note on preservatives: all preservatives added to ingredients must be declared by suppliers and all preservatives added directly to the final product formulation must be declared by the paint or varnish producer. The only types of preservatives permitted in ingredients and the final product shall be those that are compliant with Regulation (EU) No 528/2012. For final products originating in the Union, it is reminded that it is not sufficient that the active substances contained in the preservative product are approved under Regulation (EU) No 528/2012 for product type 6 (PT6) (in-can preservative) or for product type 7 (PT7) (dry-film preservative), but the preservative product must be authorised under Regulation (EU) No 528/2012 for PT6 or PT7 or made available on the market according to the transitional measures set out in Article 89(2) of that Regulation. The combined total limits for PT6 and PT7 preservatives shall apply to these following product categories:

- For indoor products: up to 0,080 % weight by weight of PT6 in the final product.
- For colour tints used in tinting systems: up to 0,20 % weight by weight of PT6 in the colour tint.
- For indoor products marketed for use in high humidity areas: up to 0,080 % weight by weight of PT6 and up to 0,10 % weight by weight of PT7 in the final product.
- For outdoor products: up to 0,080 % weight by weight of PT6 and up to 0,50 % weight by weight of PT7 in the final product.

Except for colour tints, all references to concentrations/limits/levels of preservatives in the section 'Preservatives and preservative stabilisers', shall be understood as referring to the preservative active substances contained in the final product formulation.

Any preservatives which cannot be present in the final product formulation at concentrations exceeding 0,010 %, due to specific concentration limits (SCLs) lower than 0,010 % that would classify the final product with a restricted CLP hazard, are not mentioned in the derogation table below because they cannot be used in concentrations exceeding 0,010 % in the first place and thus do not need a derogation. This does not imply that they cannot be used as ingoing substances in EU Ecolabel products at any level. If not explicitly excluded in sub-criterion 4.3, such preservatives may be used so long as it is at levels below any SCLs that would trigger a restricted CLP classification of the final product formulation.

In-can preservatives (PT6)	H301, H311, H317, H330, H331, H372,	*See horizontal derogation condition at foot of table
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in colour tints or final product:	H373, H400, H410, H411, H412, H413	<p>The sum total of all PT6 in-can preservatives (those derogated for use above 0,010% plus those that are non-derogated but used in levels &lt; 0,010%) must be within the relevant limits defined in the note above.</p> <p>When preservatives that are formaldehyde donors are used, the relevant limits for free formaldehyde in the final product formulation set out in sub-criterion 4.3(1) must be respected.</p> <p>Specific concentration limits (% weight by weight in the final product formulation) shall apply for the derogated substances listed below:</p> <ul style="list-style-type: none"> <li>- Bronopol (CAS No 52-51-7): up to 0,030 %.</li> <li>- DBNPA (CAS No 10222-01-2): up to 0,030 %.</li> <li>- Sodium pyrithione (CAS No 3811-73-2): up to 0,030 %.</li> <li>- BIT (CAS No 2634-33-5): up to 0,036 %.</li> <li>- Combined total isothiazolinones and isothiazolinone releasers (those derogated for use above 0,010% plus those that are non-derogated but used in levels &lt; 0,010%): up to 0,040 % in final product formulations.</li> <li>- Diamine (CAS No 2372-82-9): up to 0,050 %.</li> </ul>
Dry-film preservatives (PT7):	H311, H317, H330, H331, H372, H373, H400, H410, H411, H412 and H413	<p>*See horizontal derogation condition at foot of table</p> <p>Only applies to outdoor products and indoor products for use in high humidity areas.</p> <p>The sum total of all PT7 dry-film preservatives (those derogated for use above 0,010% plus those that are non-derogated but used in levels &lt; 0,010%) must be within the relevant limits defined in the note above.</p> <p>In the case of slow release, encapsulated forms of dry-film preservatives, the specific classification of the final product, or read-across formulations, should consider the absolute concentration of the</p>

		<p>hazardous components (i.e. without capsules). The final product or read-across formulation cannot be classified with any of the hazards listed in Table 7.</p> <p>Any dry-film preservatives classified as H400 or H410 must be non-bioaccumulative, demonstrated by having an octanol-water coefficient (Log Kow) of <math>\leq 3.2</math> or a bioconcentration factor (BCF) of <math>\leq 100</math>.</p>
<p>Preservative stabiliser:</p> <p>Zinc oxide (CAS No 1314-13-2)</p>	H400, H410	<p>*See horizontal derogation condition at foot of table</p> <p>Permitted to be used as a preservative stabiliser, up to 0,040 % weight by weight in the final product formulation, when used to stabilise in-can or dry-film preservative combinations that require 1,2-Benzisothiazol-3(2H)-one (BIT).</p>

## Drying and anti-skinning agents

Anti-skinning agents	H317, H412, H413	<p>*See horizontal derogation condition at foot of table</p> <p>The sum total anti-skinning agent content shall not exceed 0,40 % weight by weight in the final product formulation.</p>
Driers (siccatives)	H301, H317, H373, H400†, H410†, H412, H413	<p>*See horizontal derogation condition at foot of table</p> <p>The sum total drier content shall not exceed 0,10 % weight by weight in the final product formulation.</p> <p>† The derogation for H400 and H410 only applies to cobalt-based drier compounds and such compounds can only be used up to 0,050 % weight by weight in the final product formulation.</p>

## Pigments and pigments additives

Trimethylolpropane (CAS No 77-99-6)	H361fd	*See horizontal derogation condition at foot of table
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		Only when used as an additive in supplied pigments and only up to 0,50 % weight by weight in the supplied pigment.
Binders and polymer dispersions		
Binders and crosslinking agents:  Adipic acid dihydrazide (CAS No 1071-93-8)	H317, H411	*See horizontal derogation condition at foot of table  Only allowed up to 1,0 % weight by weight in the binder or polymer dispersion ingredient and when used as an adhesion promoter or as a crosslinking agent.
Unreacted monomers (in binders)	H301, H304, H311, H317, H331, H334, H372, H400, H410, H411, H412	*See horizontal derogation condition at foot of table  The sum total concentration of unreacted monomers needing this derogation shall not exceed 0,050 % weight by weight in the final product formulation.
Other, miscellaneous		
Methanol (CAS No 67-56-1)	H301, H311, H331, H370	*See horizontal derogation condition at foot of table  Only permitted as a residual reaction product of other substances in the product formulation. Allowable residual concentration increases as a function of binder content in the following manner:  - Binder content of 10-20%: allowable residual methanol is 0,020 % weight by weight in the final product formulation.  - Binder content of 20-40%: allowable residual methanol is 0,030 % weight by weight in the final product formulation.  - Binder content of >40%: allowable residual methanol is 0,050 % weight by weight in the final product formulation.
Mineral raw materials, including fillers, anti-sagging	H372, H373	*See horizontal derogation condition at foot of table

agents and matting agents		<p>Only applies to mineral raw materials and leucophyllite minerals that naturally contain crystalline silica.</p> <p>Only permitted in contents up to 1.0% weight by weight in the final product formulation for H372 materials or up to 10% for H373 materials.</p> <p>In cases where the material is supplied in dry powder form, the applicant shall demonstrate that they have systems in place to minimise worker exposure to dry powder in the workplace (for example closed dosing systems, ventilated dosing and mixing areas and personal protective equipment).</p>
Neutralising agents	H301, H311, H331, H400, H410, H411, H412, H413	<p>*See horizontal derogation condition at foot of table</p> <p>Only allowed up to 1,0 % weight by weight in varnish formulations, and up to 0,50 % in all other products.</p>
Optical brighteners	H413	<p>*See horizontal derogation condition at foot of table</p> <p>Only allowed up to 0,10 % weight by weight in the final product formulation.</p>
Silicone resin	H412, H413	<p>*See horizontal derogation condition at foot of table</p> <p>Only allowed up to 2,0 % weight by weight in the final product formulation.</p>
Solvents	H304	<p>*See horizontal derogation condition at foot of table</p> <p>Only allowed up to 2,0 % weight by weight in the final product formulation.</p>
Surfactants	H411, H412, H413	<p>*See horizontal derogation condition at foot of table</p> <p>Only allowed up to 1,0 % weight by weight in transparent, semi-transparent, white or light-</p>

		coloured product formulations or up to 3,0 % weight by weight in all other colours.
UV stabilisers	H317, H411, H412, H413	*See horizontal derogation condition at foot of table  Only applicable to outdoor products and only up to 0,60 % weight by weight in the final product formulation.

\*Horizontal derogation condition: none of the derogations above, either individually or in combination, shall be permitted if they result in the final product formulation being classified with any of the hazards defined in Table 7, with the notable exception of H412 and H413 for outdoor products due to the presence of dry-film preservatives.

### Assessment and verification:

The applicant shall provide a signed declaration of compliance with sub-criterion 4.2, including compliance with any relevant derogation conditions, supported by declarations from suppliers and any other relevant documentation.

A list of all ingoing substances with one or more of the restricted CLP hazards calculated to be present in the final product formulation in concentrations greater than 0,010 % weight by weight shall be presented, together with their CAS numbers, CLP classification status (i.e. harmonised, joint entry or self-entries only) the relevant function of the ingoing substance (for example in-can preservative, drier, pigment, neutralising agents, surfactants, UV stabiliser etc.), Calculations for ingoing substance concentrations in the final product formulation shall be based on:

- a list of all ingredients, chemicals or raw materials used to make the final product formulation;
- the screening of ingredients, chemicals or raw materials for those ingoing substances and known impurities with any of the EU Ecolabel-restricted CLP hazards;
- the concentrations of any screened ingoing substances and known impurities with EU Ecolabel-restricted CLP hazards in the ingredients, chemicals or raw materials used in the format supplied;
- the weight of each of the ingredients, chemicals or raw materials added to make a known weight of final product formulation.

Known impurities shall be treated as ingoing substances only if the screening exercise reveals that their content in the final product formulation shall exceed 0,010% weight by weight or their content in an ingredient shall exceed 0,100% weight by weight. Known impurities below these thresholds shall not be counted in calculations.

Any screened ingoing substances shall be assumed by default to be 100 % retained in the final product. Justifications for any deviation from a retention factor of 100 % during processing (for example solvent evaporation) or for chemical modification of a screened ingoing substance shall be provided. Substances known to be released or to degrade from ingoing substances are considered ingoing substances and not impurities.

For any screened ingoing substances remaining in the final product formulation in concentrations greater than 0,010 % weight by weight, but which are exempted from sub-criterion 4.2 (see Annexes IV and V to Regulation (EC) No 1907/2006), a declaration to this effect by the applicant shall suffice for those substances.

Since multiple products or potential products (for example customised shades from a tinting system) using the same ingredients, chemicals or raw materials may be covered by one EU Ecolabel license, a worst-case calculation may be acceptable for each screened ingoing substance within a common family of products covered by the same license.

Regarding information requested from suppliers that may be commercially sensitive, evidence from suppliers can also be provided directly to competent bodies without necessarily providing certain details to the applicant.

### **4.3. Specific hazardous substance restrictions for ingoing substances.**

Unless derogated in sub-criterion 4.2, the substances indicated below shall not be included as ingoing substances in the final product formulation or as ingoing substances to the ingredients used to make the final product formulation:

- (a) Preservatives or driers classified as carcinogenic, mutagenic or toxic for reproduction.
- (b) Substances classified as category 1 or category 2 endocrine disruption for human health or the environment in accordance with CLP Regulation (EC) 1272/2008, substances included in the candidate list referred to in Article 59(1) of REACH Regulation (EC) 1907/2006 as having endocrine-disrupting properties for human health or the environment, substances identified as having endocrine-disrupting properties in accordance with Regulation (EU) No 528/2012 or Regulation (EC) No 1107/2009, except for DBNPA (CAS No 10222-01-2) when used as an in-can preservative.
- (c) Substances classified as Persistent, Bioaccumulative and Toxic (PBT) or very Persistent and very Bioaccumulative (vPvB) for the environment and living organisms including in humans in accordance with CLP Regulation (EC) 1272/2008, substances included in the candidate list referred to in Article 59(1) of REACH Regulation (EC) 1907/2006 as having PBT or vPvB properties for the environment and living organisms including in humans, substances identified as having PBT or vPvB properties for the environment and living organisms including in humans in accordance with Regulation (EU) No 528/2012 or Regulation (EC) No 1107/2009.
- (d) Substances classified as Persistent, Mobile and Toxic (PMT) or very Persistent and very Mobile (vPvM) in accordance with CLP Regulation (EC) 1272/2008, substances included in the candidate list referred to in Article 59(1) of REACH Regulation (EC) 1907/2006 as having PMT or vPvM properties.
- (e) Alkylphenols, alkylphenol ethoxylates (APEOs) and their derivatives, as referred to in entry 43 to Annex XIV or entry 46 to Annex XVII of the Regulation (EC) 1907/2006.
- (f) Perfluorinated and polyfluorinated compounds (PFAS), as defined in Article 4(42).
- (g) Phthalates.
- (h) Organotin compounds.
- (i) Fragrance substances which are prohibited or restricted in cosmetic products and listed in Annexes II or III to Regulation (EC) No 1223/2009.

(j) Bisphenols that have been identified by ECHA in their 2021 'Assessment of Regulatory Needs report on Bisphenols' for further EU regulatory risk management that are known or potential endocrine disruptors for the environment or for human health, or that can be identified as toxic for reproduction.

(k) Pigments used shall not be based on Cadmium, Lead, Chromium (VI), Mercury, Arsenic, Selenium, Antimony or Cobalt. The following impurities from any pigments used shall not be present in the final product formulation in quantities exceeding 0,010 % weight by weight (per metal): Cadmium, Lead, Chromium (VI), Mercury, Arsenic, Selenium, Antimony and Cobalt. The only exceptions to pigment use and to the 0,010 % limit for impurities shall be:

- Cobalt: due to the use of Cobalt aluminate blue spinel (CAS No 1345-16-0) and Cobalt chromite blue-green spinel pigments (CAS No 68187-11-1).
- Antimony: due to the use of pigments based on Antimony Nickel within an insoluble TiO<sub>2</sub> lattice.

(l) Free formaldehyde shall not be intentionally added to the final product formulation. The final product shall be tested in order to determine its free formaldehyde content. Worst-case samples for testing shall be selected for each family of products based on which product is predicted to have the highest theoretical amount of formaldehyde content. Under the conditions defined below, the following sum total limits of free formaldehyde shall be permitted:

- Up to 0,0010 % weight by weight permitted when bronopol or preservatives that are formaldehyde donors are required as an in-can preservative to protect a specific type of paint or varnish
- Up to 0,010 % weight by weight permitted when polymer dispersions (binders) provide, through residual levels of formaldehyde, the function of formaldehyde donors instead of in-can preservatives.
- Up to 0,010 % when both conditions listed above apply in the same product.

(m) Synthetic polymer microparticles (SPMs, commonly known as microplastics) as defined in entry 78 of Annex XVII to Regulation (EC) No 1907/2006 (REACH), shall not be used for non-film forming purposes in any product formulation unless their use and purpose is explicitly declared, together with a justification of why their use improves the overall environmental performance of the paint or varnish product.

#### **Assessment and verification:**

(a to j) The applicant shall declare the non-use of the relevant substances indicated in this sub-criterion, namely CMR preservatives, CMR driers, endocrine disruptors (except DBNPA), PBT and vPvB substances, PMT and vPvM substances, alkylphenols and APEOs, PFAS, phthalates, organotin compounds, fragrances and bisphenols as ingoing substances in their formulation, supported by declarations from their suppliers about the non-use of the same hazardous substance groups as ingoing substances in the ingredients supplied and that are used in formulations covered by the EU Ecolabel license application procedure.

(k) In the case of the heavy metal restrictions from pigments, the applicant or pigment supplier shall provide a declaration stating that neither the pigment itself nor any ingoing substances that may be incorporated into the pigment product are based on the listed heavy metals. The applicant or pigment supplier shall also provide a test report with the heavy metal impurity levels of representative samples of the pigment supplied. The applicant shall then use these results, together with the % of pigment(s) used in the final product, to calculate the

concentration of heavy metals from pigments remaining in the final product. In the case of exempted pigments, the pigment supplier shall declare which pigment(s) have the exemption (i.e. cobalt aluminate blue spinel, cobalt chromite blue-green spinel or antimony nickel in an insoluble TiO<sub>2</sub> lattice).

(l) The applicant shall declare which of their products should have the highest theoretical free formaldehyde content within each family of products' formulation. This declaration shall be based on the choice of the paint formulator to use formaldehyde donors as in-can preservatives and declarations from suppliers regarding the amounts of formaldehyde donors used to preserve supplied ingredients (especially binders). The addition of these substances (and any other ingredients that release formaldehyde) to the worst-case formulations shall not result in the content of free formaldehyde in the final product exceeding the relevant concentration limit, as measured with relevant European or international standards.

(m) The applicant shall provide either a declaration of the non-use of SPMs for non-film forming purposes or a declaration of their use in their product formulation. In cases where the use of SPMs for non-film forming purposes is declared, the type, quantity (% weight by weight) and purpose shall be stated in the declaration, together with a justification of how the use of SPMs for non-film forming purposes improves the overall environmental performance of the product. Such justifications should normally compare the environmental performance of the same product with and without the SPMs for non-film forming purposes.

### **Criterion 5. Volatile Organic Compounds (VOCs) emissions**

*Note: only applicable to indoor performance coatings and related products.*

Emissions of VOCs shall not exceed the limits defined in the table below.

*Table 9. VOC emission limits*

Parameter	3-day test results	28-day test results
TVOC*	$\leq 3000 \mu\text{g}/\text{m}^3$	$\leq 300 \mu\text{g}/\text{m}^3$
R value**	n/a	$\leq 1.0$
Formaldehyde	n/a	$\leq 10 \mu\text{g}/\text{m}^3$
Any other category 1A or 1B carcinogenic VOCs not covered by EU LCI values***	$\leq 10 \mu\text{g}/\text{m}^3$ per substance	$\leq 1 \mu\text{g}/\text{m}^3$ per substance

*\* TVOC shall be measured as defined in relevant European or international standards and including quantification of any non-target compounds*

*\*\* R value, as defined in relevant European or international standards. Results for the cumulative R value shall be rounded to one decimal place before determining compliance or non-compliance with the limit of 1.0.*



*\*\*\* Does not apply to formaldehyde, which is a VVOC and is covered by a specific individual limit. Does not apply to any other carcinogenic VVOCs or VOCs that have an EU-LCI value, since these are already covered by the R-value limit.*

### **Assessment and verification:**

The applicant shall submit a copy of test report according to relevant European or international standards for the worst-case product formulation within each of the relevant families of products being covered by the EU Ecolabel license application. Any changes to the formulations that would create a higher worst-case VOC content shall trigger the requirement to submit an updated VOC emission test report. When relevant, a clear explanation of the distinctions made between families of products (for example binder chemistry, product category etc.) shall be provided, together with a justification of the worst-case product within each family of products.

In cases where a coating system has multiple layers, the full system should be applied to the test substrate according to manufacturer instructions prior to emission testing.

For the calculation of the R value, reference should be made to the latest set of agreed EU LCI (Lowest Concentration of Interest) values available at the time of testing. These values can be consulted on the European Commission website (1).

If chamber air concentrations can be shown to comply with the 28-day limits before the 28-day period has been completed but after a period of at least 3 days, then those results can be accepted as proof of compliance and the test can be halted at that point.

(1) See [https://single-market-economy.ec.europa.eu/sectors/construction/eu-lci-subgroup/eu-lci-values\\_en](https://single-market-economy.ec.europa.eu/sectors/construction/eu-lci-subgroup/eu-lci-values_en)

### **Criterion 6. Consumer information**

#### **6(a) The following information shall appear on or be attached to the packaging:**

- Recommendation to minimise coating product wastage by estimating how much coating product is needed before purchase,
- How to recover unused coating product for reuse,
- How reuse of coating product can effectively minimise the products' life cycle environmental impact,
- Information requested in sub-criterion 6(b) or explanation of how to access such information.

#### **6(b) The following information shall appear on or be attached to the packaging or be available via a web-link or QR code:**

- How to estimate the amount of coating product needed prior to purchase in order to minimise coating product wastage and a recommended amount as a guideline (for example for 1 m<sup>2</sup> of wall, X litres of coating product is needed),
- Appropriate storage conditions of the product (before and after opening), including, where appropriate, safety advice,
- Safety measures for the user including basic recommendation on personal protective equipment that should be worn and additional measures that should be taken when using the product and if applicable when using spray equipment,
- The use of cleaning equipment and appropriate waste management of the ‘leftover coating product’ and packaging (in order to limit water and soil pollution). For example, text advising that the unused product requires specialist handling for safe environmental disposal and therefore it should not be thrown away with household or commercial waste.

#### **Assessment and verification:**

The applicant shall declare that the product complies with the requirement and provide the competent body with the artwork or samples of the user information and/or a link or QR code to a manufacturer's website containing this information as part of the application. The recommended amount of paint given as a guideline shall be provided.

#### **Criterion 7. Information appearing on the EU Ecolabel**

The optional label with text box shall contain three of the following statements, according to their relevance:

- Minimised content of hazardous substances,
- Reduced content of volatile organic compounds (VOCs): x g/l,
- Reduced emissions of volatile organic compounds to indoor air (for indoor products),
- Good performance for indoor use (for indoor products), or
- Good performance for outdoor use (for outdoor products), or
- Good performance for both indoor and outdoor use (for products suitable for indoor and outdoor use).

The guidelines for the use of the optional label with text box can be found in the ‘Guidelines for use of the Ecolabel logo’ on the website:

[http://ec.europa.eu/environment/ecolabel/documents/logo\\_guidelines.pdf](http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf)

#### **Assessment and verification:**

The applicant shall provide a sample of the product label or an artwork of the packaging where the EU Ecolabel is placed, together with a declaration of compliance with this criterion.