



EUROPEAN COMMISSION  
DIRECTORATE-GENERAL JRC  
JOINT RESEARCH CENTRE  
Institute for Prospective Technological Studies (Seville)  
**Sustainable Production and Consumption**

# **1<sup>st</sup> Meeting of the AHWG for the revision of the Commission Decision establishing the Ecological Criteria for the Award of the Community Ecolabel for Indoor and Outdoor Paints and Varnishes**

**21 February 2012- (9:30 – 17:30)**  
**Room A30, 1<sup>st</sup> Floor**  
**Institute for Prospective Technological Studies (IPTS), Edificio Expo**  
**Calle Inca Garcilaso, 3**  
**41 092 Seville**  
**SPAIN**

## **Draft Agenda**

<b>1.</b>	Opening and welcome Political objectives and the process description of the Ecolabel and Green Public Procurement
<b>2.</b>	Background information on the project development Outcome of the technical analysis and product environmental performance
	Coffee break
<b>3.</b>	Product group definition and scope revision Discussion on creating the joint criteria document for indoor and outdoor products
<b>4.</b>	Potential new criteria areas 1. Residual paint 2. Product performance related to repaints
<b>5.</b>	Revision proposals for existing criteria <b>Production</b> 1. Revision of criterion on white pigments 2. Revision of criterion on titanium dioxide

	Lunch break
<b>6.</b>	<p>Revision proposals for existing criteria – cont.</p> <p><b>Use phase</b></p> <p>3. Revision of criterion for efficiency in use</p> <p>4. Revision of criterion for emissions during use</p>
<b>7.</b>	<p>Revision of criterion related to <b>hazardous substances</b> in the final product</p> <p>5. Revision of criteria for emissions during use (cont.) and overlapping issues due to hazardous substances criterion</p>
	Coffee break
<b>8.</b>	<p>Other issues of relevance related to <b>substances</b> in the final product</p> <p>1. Discussion related to biocides</p> <p>2. Discussion related to nano-materials</p> <p>3. Other discussion points</p>
<b>9.</b>	Revision of current criteria related to the <b>end-of-life</b>
<b>10.</b>	Corporate criteria (user information)
<b>11.</b>	Questions related to GPP
<b>12.</b>	Conclusions and close of the workshop



Joint Research Centre (JRC)

# Paints and Varnishes

1<sup>st</sup> AHWG on EU Ecolabel and Green Public Procurement Criteria - Process Description



**IE** – Petten, The Netherlands  
*Institute for Energy*



**IRMM** – Geel, Belgium  
*Institute for Reference Materials and Measurements*



**ITU** – Karlsruhe, Germany  
*Institute for Transuranium Elements*



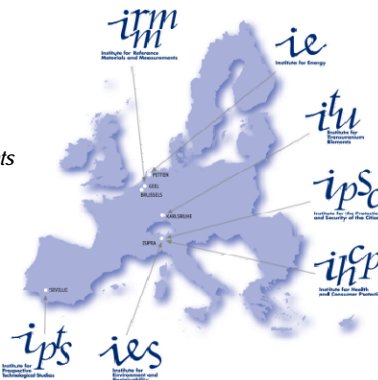
**IES/IHCP/IPSC** – Ispra, Italy  
*Institute for Environment and Sustainability*

*Institute for Health and Consumer Protection*

*Institute for the Protection and Security of the Citizen*

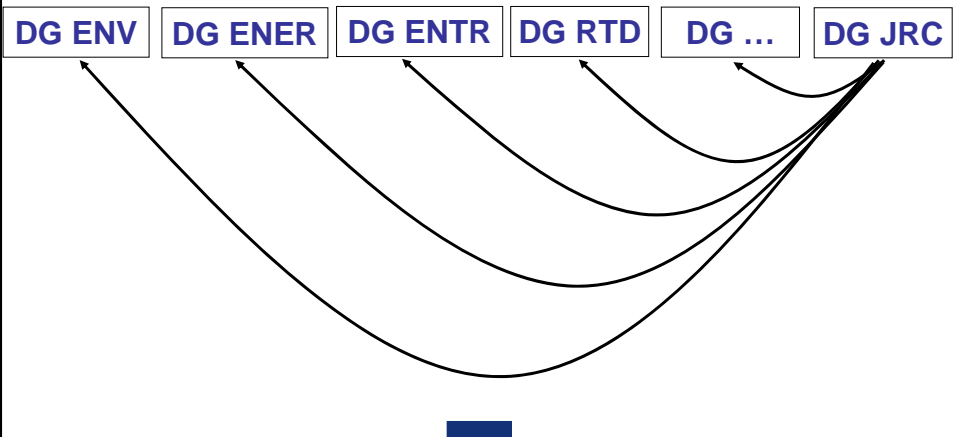


**IPTS** – Sevilla, Spain  
*Institute for Prospective Technological Studies*





*Joint Research Centre in the context of the European Commission:*



## Activities in support of Product Policy

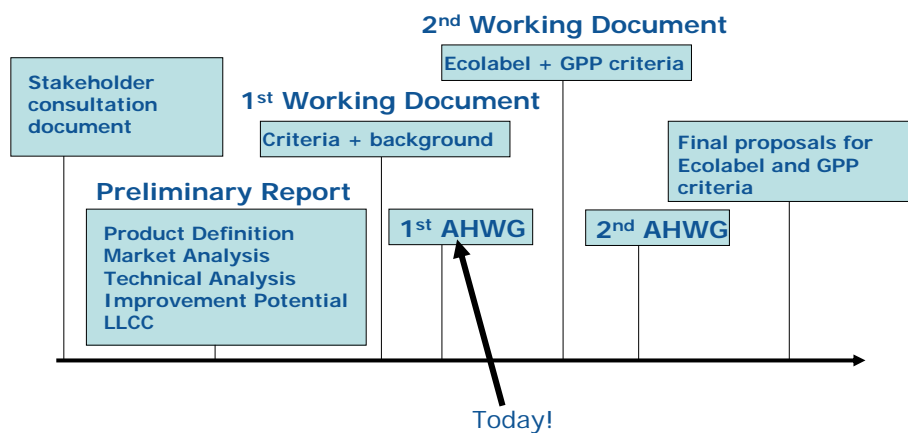
*IPTS supports the **development and implementation of environmental product policies**, amongst them the EU Ecolabel Regulation and the Green Public Procurement Communication.*

*Analysis of each product group with focus on **techno economic** and **environmental** aspects*

*Develop **criteria and implementing measures until the stage of voting** in committee*



## Criteria development process



## Criteria Development for Paints and Varnishes

1. **Stakeholders can provide comments** on working document up to 4 weeks after the meeting (**mid/end March 2012**)
2. **Separate draft criteria proposals for EU Ecolabel and GPP** will be prepared and published 4 weeks ahead of next AHWG
3. Second AHWG to take place in **June 2012 (Brussels)**
4. Again **4 weeks to comment** on draft criteria proposals
5. **After summer break 2012 final draft criteria available**



# Today's 1<sup>st</sup> AHWG

Overview:

*Technical background to the criteria development*

*Discussion on new and revised criteria*



# Thank you



# Revision of European Ecolabel Criteria for Indoor and Outdoor Paints and Varnishes

## Session 1: Overview

1st Ad-hoc Working Group Meeting  
21<sup>st</sup> February 2012, Seville

Joint Research Centre, Institute for Prospective Technological Studies

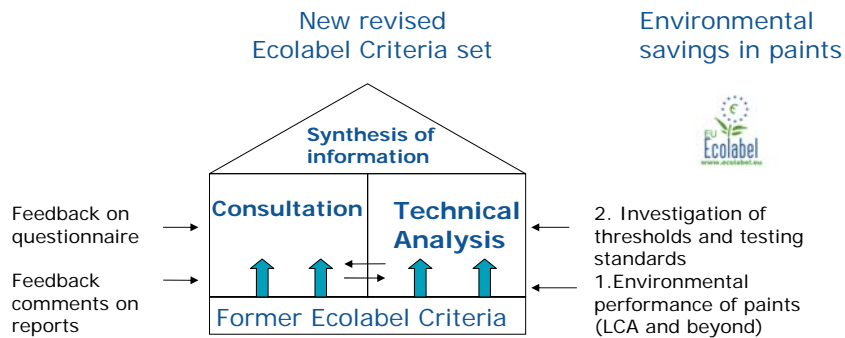


## Content

1. Background information on product group and on current Ecolabelled products
2. Market analysis -update
3. Technical Analysis
  - 3.1 Environmental performance of the product group (general analysis of average products)
  - 3.2 Performance of the Ecolabelled products (e.g. thresholds of current EU Ecolabel criteria) and investigation of testing standards and their appropriateness for Ecolabel criteria



## Revision approach



## Background information

- Relevant changes in legislation
  - Ecolabel Regulation 66/2010 (e.g. article 6.6)
  - CLP and REACH Regulation
  - upcoming Biocides Directive revision and introduction on Indoor Air Quality tests, paint take-back system in France
- Information regarding the current Ecolabelled products
  - over 80 companies, over 1100 licences
  - over 77 stakeholders supported us with feedback
- One CB requested to revise the criteria later than 2013. Manufacturers requested longer transition period between criteria revision to enable to take the respective changes





## Background information

### Market information update

-Overall production of EU27 sold volume: **7,024 thousand tonnes**

#### -Market structure

-The **paints market** is dominated by several **large companies** (in 2008 that the **top 10** producers accounted for **1/3 of total** global output)

-**over 1,000 SMEs** –a few specialised to **“green”** products

-**Geographical** dimension: The **top 5 producing** countries account for **69% of the total** value of production.

#### -Market trends:

-The production shows a **downward trend** after 2005

-Medium/long term forecasts for EU market as whole are **more positive**

Germany (20%)  
Italy (17%)  
France, (13%)  
UK (11%)  
Spain (8%).



## Technical Analysis

1. **Environmental performance** of the product group (general analysis of average products) along its **lifecycle**

2. **Performance of the Ecolabelled products** (e.g. **thresholds** of Current criteria, investigation of criteria testing **standards**, assessment and **verification**, impact categories **beyond LCA**)

-Part 2 will be presented in the criteria session-

#### **Paints performance** from an **LCA perspective**:

-available LCA studies on paints and varnishes

-LCA findings for 2 representative products.

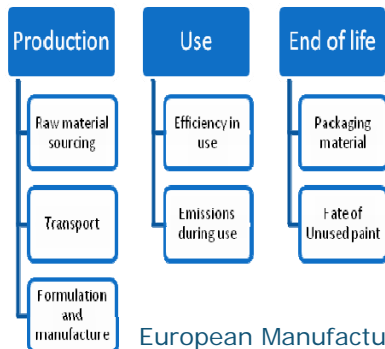
**Capture environmental savings potential related to:  
“paints residuals” and “paints durability”**





## Technical Analysis

### Life Cycle Assessment



- 7 independent Life Cycle Assessment

Several investigate numerous case studies e.g. one input compares 11 paints

- Two LCA case studies are analysed

European Manufacturers Association was asked for input regarding:

- selection of case studies relevant for EU
- bill of material for case studies (average & top performing)



## Technical Analysis

Preliminary work

1. Selection of case studies:

- Water-based vinyl emulsions which can be used for a diverse range of paint applications from wall paints and trim paints
- Water-based Alkyd emulsions that are largely used in varnishes.

2. System boundaries:

- cradle-to-gate LCA covering production phase. Aspects related to unused paint, paint durability and environmental impacts of substances which are restricted in Ecolabel but found in paints are separately addressed

3. Limitation regarding coverage of environmental impact categories.

Relevant categories not covered within LCA e.g. indoor air emissions.

The results of part 1 of the Technical Analysis could indicate significant hot spots which currently have not been addressed in many LCAs or reflected in Ecolabel criteria



## Technical Analysis

### Some environmental hot-spots on process and substance level

Table 19: The major environmental impacts of the components of a model vinyl and alkyd emulsion

	Single Score (Pt x 10 <sup>-7</sup> )	Human Health (Daly x 10 <sup>-7</sup> )	Ecosystem (PDF x 10 <sup>-7</sup> )	Global warming (CO <sub>2</sub> e, Kg)
<b>Vinyl emulsion</b>				
Butyl acrylate	20.7	2.98	5.37	0.584
Methylmethacrylate	21.6	3.45	1.32	0.696
TiO <sub>2</sub> (Cl process)	8.3	1.45	3.15	0.239
TiO <sub>2</sub> (SO <sub>2</sub> process)	9.7	2.38	2.74	0.278
Plant energy	15.6	2.21	9.18	0.571
<b>Alkyd emulsion</b>				
TiO <sub>2</sub> (SO <sub>2</sub> process)	20.1	4.95	5.71	0.578
TiO <sub>2</sub> (Cl process)	17.4	3.01	6.56	0.498
Penta erythritol	9.95	1.29	TRACE	0.260
Phthalic anhydride	8.87	1.37	TRACE	0.206
Soya oil (linoleic acid)	9.96	1.83	63	0.158
Plant energy	15.6	2.21	9.18	0.571

Table 18: Results from a simplified impact assessment for two model paint systems.

Human Health (DALY)		Ecosystems / POP (kg yr)		Resources / Air Primary		Single Score / Pt					
Vinyl emulsion wall paint	Alkyd emulsion paint	Vinyl emulsion wall paint	Alkyd emulsion paint	Vinyl emulsion wall paint	Alkyd emulsion paint	Vinyl emulsion wall paint	Alkyd emulsion paint				
Carcinogens	1.07E-07	8.20E-08	Aquatic ecotoxicity	8.20E-08	6.90E-03	Non-renewable energy	5.10E-02	4.12E-02	Human Health	1.83E-06	2.33E-06
Non-carcinogens	5.09E-08	8.60E-08	Terrestrial ecotoxicity	1.80E-08	3.31E-01	Mineral extraction	3.22E-02	4.2E-02	Ecotoxicity	1.72E-05	6.79E-05
Respiratory inorganic	1.13E-06	1.33E-06	Terrestrial acidification	3.72E-08	4.80E-02	Climate change	5.98E-01	4.93E-01	Climate change	2.45E-04	2.34E-04
Strontium radiation	3.81E-09	2.08E-08	Land occupation	9.10E-08	3.66E-01	Resources	3.39E-04	3.24E-04	Resources	3.39E-04	3.24E-04
Ozone layer depletion	2.09E-10	3.20E-10	<b>Total</b>	<b>2.98E-08</b>	<b>9.30E-01</b>				<b>Total</b>	<b>7.86E-04</b>	<b>9.31E-04</b>
Respiratory organics	3.47E-09	2.33E-09									
<b>Total</b>	<b>1.80E-06</b>	<b>3.58E-06</b>									



## Technical Analysis Outcomes

### LCA assessment of Paint durability and environmental consequences

A performance of paint can be investigated based on the following:

1. The overall amount that is necessary to use for painting a certain surface (and reach a predefined painting quality) and
2. The time that is needed until the next repaint.

A paint with good performance characteristics will use a small amount of paint and require less frequent repaints.

As a consequence, using a smaller amount of paint results in a lower environmental impact related to the paint production, along with the release of air pollutants during application and the treatment of waste.

Both factors are important but to simplify, periods between repaints are discussed in depth below although the argument is equally valid for amount of paint used at application.

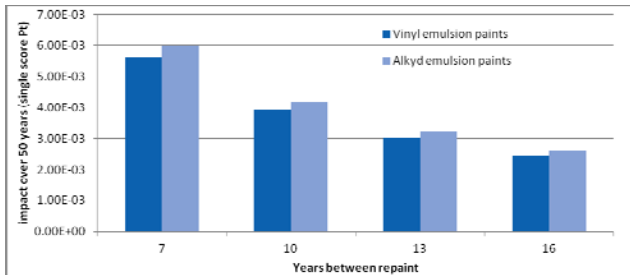


## Technical Analysis Outcomes

### LCA assessment of Paint durability and environmental consequences

Determining the functional unit in LCA in order to assess "paint durability"

Figure 12: The effect on the environmental impact of improving performance and increasing time between repaints.



The figure above calculates the impact of covering 5m<sup>2</sup> of wall with 1 kg of paint over a 50 year timeframe.



## Technical Analysis Outcomes

### LCA assessment of Paint residuals and environmental savings potential in this area

Unwanted or unused paint results in a similar increase in environmental impact experienced with increase frequency of repaints.

The combined environmental impact of left over paint (including the impact

of production) must be accounted for when assessing the environmental impact of painting

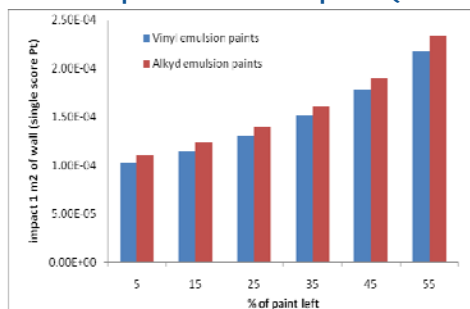


Figure 13: The effect of unused paint on the environmental impact of painting 1m<sup>2</sup>.

Figure 13 indicates the effect of wasting paint based on painting 1m<sup>2</sup> of wall (assumes that 1 litre of paint will cover 8m<sup>2</sup> of wall based on a density of 1g per cm<sup>3</sup>).



## Technical Analysis Outcomes

### Indication of environmental impacts of specific hazardous substances found in paints

One way to assess the risk of these chemicals is to determine their impact based on the release of a standard amount into the environment.

Based on this analysis, Table 20 models the environmental impact of a release of 50 g these chemicals into the environment.

This is equivalent to the maximum amount of chemical used in ap. 2 litres of paint over 16m<sup>2</sup> of wall. The data for the impact of these chemicals is based on the Ecoinvent database

	Proxy	Human Health (DALY)		Ecosystems (PDF m2 yr)	
		Air	Water	Air	Water
Alkylphenolethoxylates (APEOs)	Alkyl phenols	Not defined in IMPACT			
Perfluorinated alkyl sulfonates (PFAS)	None	Not defined in IMPACT			
Formaldehyde	Formaldehyde	6.40E-07	2.90E-09	1.01E-03	1.64E-03
Halogenated Organic Solvents	Hydrocarbons, halogenated	1.75E-08	N/A	0.00E+00	N/A
Phthalates	Phthalate, dioctyl-	8.90E-07	4.63E-08	1.14E-04	2.85E-02
Heavy Metals	Mercury	5.35E-05	1.12E-04	1.52E+03	3.97E+01
Volatile Aromatic Hydrocarbons	Aromatic hydrocarbons	4.96E-04	2.18E-05	7.20E-03	4.29E-01
Volatile Organic solvents	Volatile Organic Compounds	3.23E-08	0.00E+00	0.00E+00	0.00E+00
	non-methane volatile organic compounds	6.40E-08	0.00E+00	0.00E+00	0.00E+00
	VOC as C	6.45E-08	0.00E+00	0.00E+00	0.00E+00
Isothiazolinone compounds	2-n-Octyl-4-isothiazolin-3-one	0.00E+00	0.00E+00	3.36E-01	1.18E+00
	1,2-Benzisothiazolin-3-one	0.00E+00	0.00E+00	3.43E-01	4.24E-02



## Technical Analysis Outcomes

In total based on lifecycle investigations undertaken, specific analysis of product environmental performance aspects as well as reviewed available LCA case studies the following conclusions can be made:

- **Product durability** contributed most to the environmental benefits
- Post consumption phase is often modelled with limitations. **Paints residuals** are up to 15-25 %. **High environmental savings** potential
- **Solvent-based paints** have a **higher environmental** impact than corresponding **water-based paints**
- The **lack** of inventory **data** on **paint fillers, pigments** and **additives** meant that the assessment of the environmental impact of these components is largely incomplete in LCA.
- **Solvent-based** paints can lead to a **10 fold increase** in the release of **VOCs** compared to water based paints
- Where greater than 10% TiO<sub>2</sub> is used, it is the **most significant** contributor to the environmental **impact**.
- **Manufacturing impacts** where vague within all examined studies, **energy use** is more relevant to **raw material extraction**
- The impact of specific hazardous is high but is not reflected to the proper extend in found LCAs (missing input in bill of materials)



Conclusion	Significance	Addressable in the Ecolabel?
In-use durability plays a key role in determining the environmental impact of paints as do periods between repaints.	Very High	Yes, through performance criteria
Unwanted paint has a significant environmental impact	High	Possibly, though the requirement of take-back schemes
Solvent based paints have a higher environmental impact than water based paints	High	Yes, by controlling the amount of VOC present in the paint
The impacts of transportation are very low	Low	No, would require specification for local sourcing
Binder manufacture is an important environmental impact of paint production	Medium	No, dictating the conditions for binder use may stifle innovation
TiO <sub>2</sub> manufacture is an important environmental impact of paint production	Medium	Yes, reducing TiO <sub>2</sub> use can be achieved
Only ¼ of the carbon footprint is due to energy in production at the paint manufacturer, meaning that the majority of greenhouse gas emissions are emitted from the supply chain	Medium	No, paint manufacturers cannot easily control their supply chain emissions making any criterion impractical.
Additives have a wide range of health and environmental implications. No studies have quantified this effect but they are of concern.	Medium	Yes, encouraging manufacturers to use alternatives is possible.



Table x: A map of the current (blue) and possible new (red) criteria against the lifecycle of paint

Life cycle stage	Impact	Criteria
<b>Production</b>	Raw material sourcing	1. White pigments 2. Titanium Dioxide 6. Dangerous substances
	Formulation and manufacture	<i>Green house gas emissions</i> <i>Water use</i>
<b>Use</b>	Efficiency in use	7. Fitness for use Paint durability
	Emissions during use	3. Volatile organic compounds 4. Volatile aromatic hydrocarbons 5. Heavy metals 6. Dangerous substances 8. Consumer information <i>Biocides</i> <i>Nanomaterials/particles</i> <i>Indoor air quality</i>
<b>End of life</b>	Packaging material	Packaging material
	Unused paint disposal	User Information

Note: Criteria areas mentioned in the accompanied note from the current Ecolabel decisions of indoor and outdoor paints for consideration in the revision process are in italics.



**Thank you**



# Revision of European Ecolabel Criteria for Indoor and Outdoor Paints and Varnishes

## Session 2: Issues regarding revision of existing criteria

1st Ad-hoc Working Group Meeting  
21<sup>st</sup> February 2012, Seville

Joint Research Centre, Institute for Prospective Technological Studies



## Criteria presentation structure

1. **Scope**
    - Merging Indoor and Outdoor Paints or Changing the Scope
    - Current Criterion Article 1 (Indoor And Outdoor)
  2. Revision proposals - Potential **new criteria areas**
    1. **Residual paint**
    2. Product performance related to **Paint durability**
  3. Revision proposals for existing criteria:
    - "Production phase"**
      1. Revision of criterion on white pigments
      2. Revision of criterion on titanium dioxide
    - "Use phase"**
      3. Revision of criterion for efficiency in use
      4. Revision of criterion for emissions during use
- **Significant changes**  
● **Moderate changes**  
● **Minor/no changes**





## Criteria presentation structure

### 3. Revision proposals for existing criteria (cont.):

#### *"Use phase"*

5. Revision of criterion related to **hazardous substances** in the final product

6. Revision of criteria for emissions during use (cont.) and overlapping issues due to hazardous substances criterion

Other issues of relevance related to substances in the final product

1. Discussion related to biocides
2. Discussion related to nano-materials
3. Discussion related to indoor air quality
4. Discussion related to GHG and water use

### 4. Criteria related to the *post consumption phase*

### 5. **Corporate criteria** (e.g. user information) and **GPP** related aspects



## Scope

● **Moderate changes**

### Current Criterion article 1 (indoor and outdoor)

1. The product group 'indoor paints and varnishes' shall comprise indoor decorative paints and varnishes, woodstains and related products, as defined in paragraph 2, intended for use by do-it-yourself and professional users and primarily developed for indoor use and marketed as such.

This includes, inter alia, floor coatings and floor paints; products which are tinted by distributors at the request of amateur or professional decorators; tinting systems; decorative paints in liquid or paste formulas which may have been pre-conditioned, tinted or prepared by the manufacturer to meet consumer's needs, including primers and undercoats of such product systems.



## Scope

### Current Criterion

2. 'Paint' means a pigmented coating material, in liquid or in paste or powder form, which when applied to a substrate, forms an opaque film having protective, decorative or specific technical properties.

'Varnish' means a clear coating material which when applied to a substrate forms a solid transparent film having protective, decorative or specific technical properties.

After application, the paint or varnish dries to a solid, adherent and protective coating.

'Decorative paints and varnishes' means paints and varnishes that are applied to buildings, their trim and fittings, for decorative and protective purposes. They are applied in-situ. While their main function is decorative in nature, they also have a protective role.



## Scope

### Current Criterion

Woodstains' (lasures) means coatings producing a transparent or semi-transparent film for decoration and protection of wood against weathering, which enables maintenance to be carried out easily.

'Tinting systems' is a method of preparing coloured paints by mixing a 'base' with coloured tints.

(Outdoor only): Masonry coatings are coatings that produce a decorative and protective film for use on concrete, (paintable) brickwork, blockwork, rendering, calcium silicate or fibre-reinforced cement. They are intended principally for exterior use, but may also be used internally, or on soffits and balcony ceilings.





## Scope

### Current Criterion

3. The product group shall not comprise:

- (a) anti-corrosion coatings;
- (b) anti-fouling coatings;
- (c) wood preservation products;
- (d) coatings for particular industrial and professional uses, including heavy-duty coatings;
- (e) facade coatings; **(indoor only)**
- (f) any product primarily developed for outdoor use and marketed as such. **(indoor only)**
- (g) any product primarily developed for indoor use and marketed as such. **(outdoor only)**



## Scope – issues and points to discuss

Product	Discussion	Recommendation
Wood oils	These treatments are arguably different to varnishes. Wood oils are mainly solvent-based and require a significant variation on the amount of allowable VOC to be permitted. These products penetrate the wood rather than forming a solid surface. Previous AHWG for revision of this criteria in 2007 excluded them	Exclude
UV curable paints	Specialist paints, are in wide use but less addressing to the domestic market. They require specialist equipment during application	Exclude
Powder coating/paint	Currently specified within scope. They face similar concerns over availability to, and use by, the amateur market. They are technical paints usually applied in an industrial setting requiring ovens to cure the paints.	Discussion point: Keep within the scope?
Anti corrosive metal primers and topcoats	Stakeholders argue the less active water-based products should be included. Others indicate that many of these products are specialised for industrial uses (would generally fail EU Ecolabel standards)	Discussion point: Include anti-corrosive metal primers in the scope?





## Scope – issues and points to discuss

Product	Discussion	Recommendation
<b>Non film forming coatings (e.g. stone protection materials)</b>	These class of products do not form a film and are therefore excluded under the criterion selection.	<b>Exclude</b>
<b>Preparation products (like filling putties for holes,</b>	The explicit exclusion of facade coating from the current criteria suggests that similar products such as filling putties should also be excluded.	<b>Exclude</b>
<b>Thick waterproofing and insulation coatings for outdoor uses</b>	A lack of suitable spreading-rate criterion currently prevents their inclusion, and, therefore, the development of an appropriate clause under spreading rates is required.	<b>Proposal to include</b>



## Scope – issues and points to discuss

Product	Discussion	Recommendation
<b>Parquet and floor waxes</b>	These form solid transparent films on wood floors. Although scope exists for inclusion within the current document, (through articles 1, 2) and could be considered as a varnish, the Competent Body Forum on June 2011 excluded these products due to their not being considered during development of the current criteria.	<b>Proposal to include</b>
<b>Façade coatings</b>	Façade coatings are currently excluded from the criteria of paints for indoor use but are included in the outdoor.	<b>Proposal to include</b>

### Ecolabel and GPP

<b>Paints used for street marking</b>	It is not a typical product purchased from private consumers. However, as it is considered very relevant for the scope of Green Public Procurement for terms of consistency it could be considered to include also in Ecolabel. Comments for a definition proposal from stakeholders are welcome	<b>Discussion Point: Include façade coatings?</b>
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## Scope - Suggested amendments

● Minor/no changes

**Merging indoor and outdoor paints**

The product group 'paints and varnishes' shall comprise **both indoor and outdoor** decorative paints and varnishes, woodstains and related products, as defined in paragraph 2, intended for use by do-it-yourself and professional users (**please note that these are not industrial users**).

**Clarification to the text has been suggested to differentiate between undercoats and primers.**

er alia, floor coatings and floor paints; products by distributors at the request of amateur or operators; tinting systems; decorative paints in formulas which may have been pre-conditioned, ed by the manufacturer to meet consumer's needs, including **wood paints, wood and decking stains, masonry coatings and metal finishes** primers and undercoats of such product systems as defined within **Directive 2004/42/CE Annex I 1.1.d and 1.1.g**.



## Scope - Suggested amendments

● Minor/no changes

**'Paint'** means a pigmented coating material, in liquid or in paste or powder form, which when applied to a substrate, forms an opaque film having protective, decorative or specific technical properties.

**A recommended amendment to the criterion to clearly define the terms transparent and semitransparent has been amended in the text below**

**'Varnish'** means a clear coating material which when applied to a transparent film having protective, decorative or ties.

int or varnish dries to a solid, adherent and

**'Woodstains'** (lasures) means coatings producing a transparent or semi-transparent (**using substantially non-white pigment**) film for decoration and protection of wood against weathering, which enables maintenance to be carried out easily.





## Scope - Suggested amendments

● **Moderate changes**

'Tinting systems' is a method of preparing coloured paints by mixing a 'base' with coloured tints

### Discussion Points on scope

Masonry coatings are coatings that produce a decorative and protective film for use on concrete, (paintable) brickwork, blockwork, rendering, calcium silicate or fibre-reinforced cement. They are intended principally for exterior use, but may also be used internally, or on soffits and balcony ceilings.

3. The product group shall not comprise:

- DISCUSSION POINT on a) anti-corrosion coatings;**
- (b) anti-fouling coatings;**
- (c) wood preservation products;**
- (d) coatings for particular industrial and professional uses, including heavy-duty coatings;**
- DISCUSSION POINT (e) facade coatings;**
- DISCUSSION POINT on (f) Powder coatings**
- (g) UV curable paint systems**
- (h) paints primarily intended for vehicles**
- (i) products that do not form film over the substrate, such as wood oils**

## Revision proposals - Potential new criteria areas

### A. Paint Residuals

● **Significant changes**

Significant environmental impacts are related to the amount of unused paints

- an estimated up to 25% of all paint goes unused
- Scaling up to Europe, this equates to approximately 900,000 te of unused paint wasted every year,
- even with lower % of unused paint the environmental savings potential is very high

#### Discussion point: New Criterion "Paint Residuals"

1. Take-back system ?
2. Collection centre ?
3. Paints recycling ?
4. Paint Recycled content?

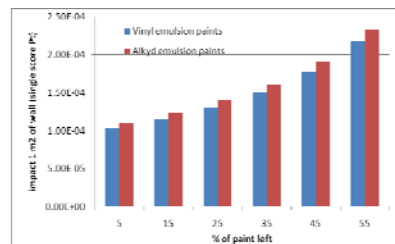


Figure 13: The effect of unused paint on the environmental impact of painting 1m².



## Revision proposals - Potential new criteria areas

### B. Product performance related to repaints

A performance of paint can be investigated based on the following:

1. The overall amount that is necessary to use for painting a certain surface (and reach a predefined painting quality) and
2. The time that is needed until the next repaint.

● **Significant changes**

**Is it applicable?**  
**Ratio= (perform.)/(weight)**

**Discussion point:**  
**New Criterion**  
**Paint Durability**  
**Key parameters:**

- amount of paint used,
- number of Repaints,
- time,
- performance

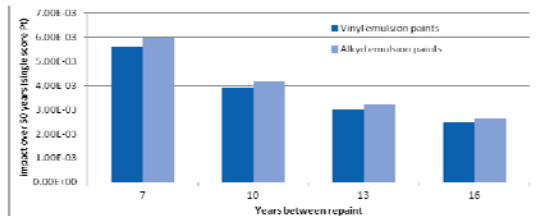


Figure 12: The effect on the environmental impact of improving performance and increasing time between repaints.



## Revision proposals - Potential new criteria areas

### Summary and way forward

● **Significant changes**

#### A. Paint Residuals

Refer to take-back systems of MS  
 Take into account local infrastructure  
 Criterion feasible and practical-flexible

- Discussion point:**  
**New Criterion: "Paint residuals"**
1. Take-back system ?
  2. Collection centre ?
  3. Paints recycling ?
  4. Paint Recycled content ?
  5. User information –reduce residuals

#### B. Product performance related to repaints.

Is a verification feasible?  
 Workout ratio limit based on  
 (perform.)/(paint weight)

- Discussion point:**  
**New Criterion**  
**Paint durability**  
**Key parameters:**
1. Amount of paint used
  2. Number of Repaints
  3. Time
  4. Performance



## Revision proposals - Potential new criteria areas

● Significant changes

### Summary and way forward

#### A. Criterion Paint Residuals

Work out a criterion which is applicable to EU 27 and have high environmental savings as this aspect has not been addressed yet in current Ecolabel

“Criterion with high Environmental savings potential”

#### B. Criterion Paint Durability

Give incentive to manufacturers to design high performing products and consumers to choose them as:

“Good Performance, with reduced paint amount, has environmental benefits”



## Production – Raw material sourcing

### Criterion 1: White Pigments (Indoor And Outdoor)

#### Background

Reduction in the use of pigment ( $\text{TiO}_2$ )



Environmental Savings  
 $\text{TiO}_2 \rightarrow$  Env. Impacts  
(also related to prod. process)

Pigment has an effect on the opacity of paint, therefore any reduction in use must be balanced against a reduction in the performance.

Criterion 1 White pigments affects criterion 7 (a)  
Both criteria should be considered in parallel

Discussion Point



**Proposed approach:**  
Changes in criterion 1 but the thresholds for spread-rate (criterion 7(a)) are held at their current levels





## Production – Raw material sourcing

### Criterion 1: White Pigments (Indoor And Outdoor)

Table 4: Amount of  $TiO_2$  per  $m^2$  of EU Ecolabelled paints

Type	Number of paints	Average white pigment ( $g/m^2$ )	Standard deviation ( $g/m^2$ )	Current threshold ( $g/m^2$ )
Indoor	58	23.5	8.6	36
Outdoor	12	18.1	13.3	38

EU Ecolabelled products perform significantly better than that defined by the criteria for both indoor and outdoor paints

**Lower thresholds for both indoor and outdoor paint**

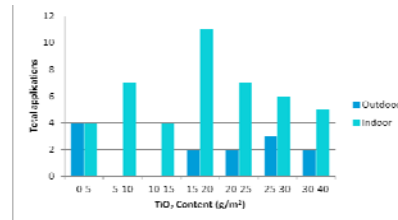


Figure 2:  $TiO_2$  content in EU Ecolabelled paints



## Production – Raw material sourcing

### Criterion 1: White Pigments (Indoor And Outdoor)

#### Current Criterion

White pigment content (white inorganic pigments with a refractive index higher than 1,8): Paints shall have a white pigment content lower or equal to (36 g – indoor and 38g outdoor) per  $m^2$  of dry film, with 98 % opacity.

This requirement does not apply to varnishes and woodstains.

Assessment and verification: The applicant shall either provide a declaration of non-use or provide documentation showing the content of white pigments and the spreading rate, together with the detailed calculation showing compliance with this criterion.



## Production – Raw material sourcing

### Criterion 1: White Pigments (Indoor And Outdoor)

**Other issues:** A competent body raised a concern that *certain woodstains and varnishes contain small quantities of titanium dioxide*. This led to *confusion* over the need for these products to undergo spread-rate tests and the need to audit the emissions from titanium dioxide manufacture (this criterion along with criterion 2 and 7a). This is confirmed by the data.

Problem is analysed in the Working Document – Amendments to tackle this are proposed

● **Moderate changes**

#### Possible proposal of new Criterion

White pigment content (white inorganic pigments with a refractive index higher than 1,8): Paints shall have a white pigment content lower or equal to (**to REDUCED threshold- g – indoor and -to REDUCED threshold- g- outdoor**) per m<sup>2</sup> of dry film, with 98 % opacity.



## Production – Raw material sourcing

### Criterion 1: White Pigments (Indoor And Outdoor)

#### Proposal with changes of Criterion 1 (cont.)

● **Moderate changes**

**Discussion point (inserted text):** *High wet scrub resistance paints (Class 1 in wet scrub resistance EN 13300) shall have a white pigment content lower or equal to -to a different threshold than the one above- g per m<sup>2</sup> of dry film with 98% opacity.*

This requirement does not apply to paints and varnishes that are exempt from criterion 7(a), namely varnishes, woodstains, floor coatings, floor paints, undercoats, adhesion primers or any other transparent coatings.

Assessment and verification: The applicant shall either provide a declaration of non-use or provide documentation showing the content of white pigments and the spreading rate, together with the detailed calculation showing compliance with this criterion. **A test report showing compliance with EN 13300 should be provided if applicable.**





## Production – Raw material sourcing

### Criterion 2: Titanium Dioxide (Indoor And Outdoor)

#### Current criterion

The emissions and discharges of wastes from the production of any titanium dioxide pigment used shall not exceed the following (as derived from the Reference Document on Best Available Technology for the Manufacture of Large Volume Inorganic Chemicals (BREF) (August 2007)):

Indoor:

- SO<sub>x</sub> emissions (expressed as SO<sub>2</sub>): 252 mg per m<sup>2</sup> of dry film (98 % opacity),
- sulphate wastes: 18 g per m<sup>2</sup> of dry film (98 % opacity),
- chloride wastes: 3,7, 6,4 and 11,9 g per m<sup>2</sup> of dry film (98 % opacity) respectively, for natural rutile, synthetic rutile and slag ores.

Outdoor

- SO<sub>x</sub> emissions (expressed as SO<sub>2</sub>): 266 mg per m<sup>2</sup> of dry film (98 % opacity),
- sulphate wastes: 19 g per m<sup>2</sup> of dry film (98 % opacity),
- chloride wastes: 3.9, 6.8 and 12.5 g per m<sup>2</sup> of dry film (98 % opacity) respectively, for natural rutile, synthetic rutile and slag ores.

Assessment and verification: The applicant shall either provide a declaration of non-use or provide the supporting documentation indicating the respective levels of emissions and discharges of wastes for these parameters, the titanium dioxide content of the product, the spreading rate, together with the detailed calculations showing compliance with this criterion.



## Production – Raw material sourcing

### Criterion 2: Titanium Dioxide (Indoor And Outdoor)

#### Issues in current criterion

**A) It is considered that the limits can be reduced as the data used in the BREF calculations are old.**

**B) It is advantageous to shift to a calculation based on the emissions per gram of TiO<sub>2</sub>**

**Changes may over-complicate the criterion:**

**Emissions are referring to Ti<sub>2</sub>O produced by:**

- 1. Sulfate processes**
- 2. Chloride processes**
- 3. Sulfate and Chloride processes**

**Verification based on SDS has complications that way**

**Possible simplification: propose only chloride processes?**

**Additional feedback from stakeholders is needed**

**Minor changes: use definitions of Waste Framework Directive 2008/98/EC**



## Production – Raw material sourcing

### Criterion 2: Titanium Dioxide (Indoor And Outdoor)

#### Proposal for amendments to criterion text ● **Moderate changes**

The emissions and discharges of wastes from the production of any titanium dioxide pigment used shall not exceed the following (as derived from the Reference Document on Best Available Technology for the Manufacture of Large Volume Inorganic Chemicals (BREF) (August 2007)):

- SO<sub>x</sub> emissions (expressed as SO<sub>2</sub>): **(to be discussed)** mg per g
- sulphate wastes: **(to be discussed)** g per g
- chloride wastes: **(to be discussed)** g per g respectively, for natural rutile, synthetic rutile and slag ores.

Note:

That SO<sub>x</sub> emissions apply to both the sulphate and chloride process. For the avoidance of doubt, the Waste Framework Directive 2008/98/EC, article 3 defines waste. If the TiO<sub>2</sub> producer can satisfy article 5 (by-product production) of the Waste Framework Directive for its solid wastes then, the wastes shall be exempt.



## Production – Raw material sourcing

### Criterion 2: Titanium Dioxide (Indoor And Outdoor)

#### Proposal for amendments to criterion text (cont.)

**No change in this part of the text** Assessment and verification: The applicant shall either provide a -use or provide the supporting documentation  
ative levels of emissions and discharges of wastes for  
the titanium dioxide content of the product, the  
spreading rate, together with the detailed calculations showing  
compliance with this criterion.



## Use – Efficiency in use

### Criterion 7(a): Spreading rate (indoor and outdoor)

● Minor/no changes

Most stakeholders suggest that the indoor criteria can be applied similarly to outdoor products

**Proposal:** Apply spreading performance for indoor thick decorative coatings to outdoor coatings.

Other amendments proposed due to: **Consistency** and inclusion in **scope** of thick water proof coatings



## Use – Efficiency in use

### Criterion 7(a): Spreading rate (indoor and outdoor)

#### Suggested amendments to the criterion

White paints and light-coloured paints (including finishes, primers, undercoats and/or intermediates) shall have a spreading rate (at a hiding power of 98 %) of at least –**[for discussion, should these thresholds remain at 8 m<sup>2</sup>per litre of product for indoor paints and 6m<sup>2</sup> for outdoor paints]**. For tinting systems, this criterion applies only to the white base (the base containing the most TiO<sub>2</sub>). In cases where the white base is unable to achieve this requirement, the criterion shall be met after tinting the white base to produce the standard colour RAL 9010.





## Use – Efficiency in use

### Criterion 7(a): Spreading rate (indoor and outdoor)

#### Suggested amendments to the criterion

**No change in this part of the text** s used to produce tinted products – these are able contain less TiO<sub>2</sub>, which are unable to achieve the requirement of at least 8 m<sup>2</sup> per litre of product at a hiding power of 98 % – the criterion shall not apply. For paints that are a part of a tinting system, the applicant must advise the end-user on the product packaging and/or POS which shade or primer/undercoat (if possible bearing the Community Eco-label) should be used as a basecoat before applying the darker shade.

Primers with specific blocking/sealing, penetrating/binding properties and primers with special adhesion properties for aluminium and galvanised surfaces shall have a spreading rate (at a hiding power of 98 %) of at least 6 m<sup>2</sup> per litre of product.



## Use – Efficiency in use

### Criterion 7(a): Spreading rate (indoor and outdoor)

#### Suggested amendments to the criterion

Thick decorative coatings (paints that are specially designed to give a three-dimensional decorative effect and are therefore characterised by a very thick coat) shall alternatively have a spreading power of 1 m<sup>2</sup> per kg of product.

**only change in this part of the text** have a spreading rate (at a hiding power of per litre of product.

This requirement does not apply to varnishes, woodstains, floor coatings, floor paints, ~~undercoats, adhesion~~ primers or any other transparent coatings.



## Use – Efficiency in use

### Criterion 7(a): Spreading rate (indoor and outdoor)

#### Suggested amendments to the criterion

**Assessment and verification:** The applicant shall provide a test report using the method ISO 6504/1 (Paints and varnishes – determination of spreading rate: Kubelka-Munk method for white and light-colored paints) or for light-colored paints at a fixed spreading rate), or for paints specially designed to give a three-dimensional decorative effect and characterised by a very thick coat the method NF T 30 073 (or equivalent). For bases used to produce tinted products not evaluated according to the abovementioned requirements, the applicant shall produce evidence of how the end-user will be advised to use a primer and/or grey (or other relevant shade) of undercoat before application of the product.

**No change in this part of the text**



## Use – Efficiency in use

### Criterion 7(b): Wet scrub resistance (indoor)

#### Issues in current criterion

**Scope** of this criterion should cover all the paints or only paints claiming wet scrub resistance?

#### Different positions on this among stakeholders

This criterion is related to:

**New Criterion Area  
"Paint Durability"**

Stakeholders are asked for feedback in order to cover all paints (broader the scope).

If the scope is kept: ● **Minor/no changes**



## Use – Efficiency in use

### Criterion 7(b): Wet scrub resistance (indoor)

#### Discussion for amendments to current criterion:

● Minor/no changes

Wall paints (according to EN 13300) (**DISCUSSION POINT: could this also include other paint types**) for which claims are made (whether on the product or in related marketing material) that they are washable, cleanable or brushable shall have a wet scrub resistance as measured by EN 13300 and EN ISO 11998 of class 2 or better ( $\leq 2$ ) (not exceeding 20 microns after 200 cycles). Due to the large potential range of possible tinting colours, this criterion will be restricted to the testing of tinting bases.

Assessment and verification: The applicant shall provide a test report according to EN 13300 using the method EN ISO 11998 (Test for cleanability and scrub resistance) and evidence (on the product packaging or related marketing material) that the end-user is informed that the product has not been tested for wet scrub resistance in the case of ceiling paints.



## Use – Efficiency in use

### Current Criterion 7b (outdoor) & 7c (indoor): Resistance to water

● Minor/no changes

#### Suggested amendments to the criterion

**All varnishes, floor coatings and floor paints shall have a resistance to water, as determined by ISO 2812-3 such that after 24 hours' exposure and 16 hours' recovery no change of gloss or**

#### Update of standard and minor amendment

**tion: The applicant shall provide a test report using the method ISO 2812-3 (Paints and varnishes – determination of resistance to liquids – Part 3: Method using an absorbent medium).\***

**\* this test procedure is due for revision during the lifetime of this criterion. If there is a substantive change to this procedure, a decision by the Competent Body Forum shall be taken on the appropriate test standard used.**





## Use – Efficiency in use

### Current Criterion 7c (outdoor): Adhesion

#### Current Criterion

● Minor/no changes

Adhesion: Masonry paints (excluding transparent primers) shall score a pass in the EN 24624 (ISO 4624) pull-off test for adhesion and floor coatings, floor paints and undercoats for concrete, wood and metal. **No change is proposed** 2 in the EN 2409 cross-cut method for adhesion. When carrying out EN 24624 where the cohesive strength of the substrate is less than the adhesive strength of the paint then this is considered a pass, otherwise the adhesion of the paint must be in excess of a pass value of 1,5MPa.

The applicant shall evaluate the primer and/or finish alone or both as part of a system (the system when tested shall concern products if possible labelled with the European Eco-label (with the exception of systems designed for metal surfaces)). When testing the finish alone this shall be considered the worst case scenario concerning adhesion.

Assessment and verification: The applicant shall provide a test report using the method EN ISO 2409 or EN 24624 (ISO 4624) as applicable.



## Use – Efficiency in use

### Current Criterion 7d (indoor): Adhesion

#### Current Criterion

● Minor/no changes

Adhesion: Floor coatings, floor paints and floor undercoats, metal primers shall score at least 2 in the EN 2409 test for adhesion. **No change is proposed** 2 in the EN 2409 test for adhesion. When carrying out EN 24624 (ISO 4624) pull-off test where the cohesive strength of the substrate is less than the adhesive strength of the paint, otherwise the adhesion of the paint must be in excess of a pass value of 1,5MPa.

Transparent primers are not included in this requirement

Assessment and verification: The applicant shall provide a test report using the method EN ISO 2409 or EN 24624 (ISO 4624) as applicable



## Use – Efficiency in use

### Current Criterion 7d (outdoor) & 7e (indoor): Abrasion

● Minor/no changes

#### Current Criterion

**No change is proposed** Products shall have an abrasion resistance not less than 1000 test cycles with a 1000 g load and a CS10 wheel according to EN ISO 7784-2:2006.

Assessment and verification: The applicant shall provide a test report showing compliance with this criterion using the method EN ISO 7784-2:2006.



## Use – Efficiency in use

### Current Criterion 7e (outdoor): Weathering

● Moderate changes

#### Issues in current criterion

Criterion does not cover **colour change**: **Proposal is to cover**

**Relevant standard: ISO 7724-3:1984 or ISO 11664 (if available)**

**Other issues.** Further stakeholder engagement is recommended to clarify if an **additional test is appropriate** using an inert substrate and white primer for **woodstains**.

A **minor change** to the text is required to **clarify** that the gloss finishing tests only apply to gloss and satin paints and varnishes and is inappropriate for matt paints.





## Use – Efficiency in use

### Current Criterion 7e (outdoor): Weathering

#### Suggested amendments to the criterion

Masonry finish paints and wood and metal finishes including varnishes shall be exposed to artificial weathering in apparatus including fluorescent UV lamps and condensation or water spray

#### No change in this part

Masonry paints shall be exposed to test conditions for 1 000 hours, wood and metal finishes (including varnishes) shall be exposed to test conditions for 500 hours. Test conditions are: UVA 4h/60degC + humidity 4h/50degC.

Alternatively, wood finishes and wood varnishes may be exposed to weathering for 500 hours in the QUV accelerated weathering apparatus with cyclic exposure with UV(A) radiation and spraying according to EN 927-6.



## Use – Efficiency in use

### Current Criterion 7e (outdoor): Weathering

#### Suggested amendments to the criterion

According to ISO 7724-3:1984, the colour change of samples exposed to weathering shall not be greater than  $\Delta E^* = 4$  and is not applicable to transparent varnishes and bases. To determine colour change of woodstains, a separate sample shall be prepared using an inert substrate and undergo weathering using a standard protocol outlined above.

Decrease samples in gloss for paints and varnishes exposed to weathering shall not be greater than 30 % of its initial value and shall be measured using ISO 2813. This is not applicable to matt-finish paints.

Chalking shall be tested using method EN ISO 4628-6:2007 on masonry finish coats and wood and metal finishes (where applicable) after the samples have been exposed to weathering. Coatings shall achieve a score of 1,5 or better (0,5 or 1,0) in this test. In the standard there are illustrated references.



## Use – Efficiency in use

### Current Criterion 7e (outdoor): Weathering

#### Suggested amendments to the criterion

The following parameters shall also be evaluated on masonry finish coats and wood and metal finishes after the samples have been exposed to weathering:

**No change in this part** 4628-5:2003; flake density 2 or less,

- Cracking according to ISO 4628-4:2003; crack quantity 2 or less, crack size 3 or less,
- Blistering according to ISO 4628-2:2003; blister density 3 or less, blister size 3 or less.

Due to the large number of possible tinting colours, these tests will be restricted to the base paint used.



## Use – Efficiency in use

### Current Criterion 7e (outdoor): Weathering

#### Suggested amendments to the criterion

Assessment and verification: The applicant shall provide test reports using either ISO11507:2007 according to the specified parameters or EN 927-6, or both (if relevant). The applicant shall provide test reports using EN ISO 4628-2, 4, 5, 6 where applicable. **Additionally, the applicant shall provide a test report in conformance to ISO 7724-3:1984\* (where applicable).**

**\* this test procedure is due to be superseded by ISO 11664 during the lifetime of this criteria. If substantial changes to this procedure have been made a decision by the Competent Body Forum shall be taken on the appropriate test standard to be used.**



## Use – Efficiency in use

### Current Criterion 7(f): Water vapour permeability (outdoor)

● Minor/no changes

#### Current Criterion

Where **No change** claims are made that exterior masonry and concrete paints are water repellent or elastomeric, the paint shall be classified as Class II (medium vapour permeability) or better according to the test method EN ISO 7783-2. Due to the large number of potential tinting colours, this criterion will be restricted to testing of the base paint; this requirement is not applicable to transparent primers.

Assessment and verification: The applicant shall provide a test report using methodology EN ISO 7783-2.



## Use – Efficiency in use

### Current Criterion 7(g) (outdoor): Liquid water permeability

● Minor/no changes

#### Current Criterion

Where **Minor change** claims are made that exterior masonry and concrete paints are water repellent or elastomeric, the coating shall be classified as Class III (low liquid permeability) according to method DIN EN 1062- 3:1999. Due to the large number of potential tinting colours, this criterion will be restricted to the testing of the base paint. All other masonry paints shall be classified as Class II (medium liquid permeability) or better according to the test method ~~DIN~~ EN 1062-3:1999.

Assessment and verification: The applicant shall provide a test report using methodology ~~DIN~~ EN 1062-3:1999.





## Use – Efficiency in use

### Current Criterion 7(h) (outdoor): Fungal resistance

● Minor/no changes

#### Current Criterion

Where claims are made that masonry finish coatings have anti-fungal properties, the coating shall have a score of 2 or better (less than 10 % fungal coverage), as determined by method BS 3900:G6. Due to the large number of possible tinting colours, this criterion will be restricted to the testing of the base paint.

Assessment and verification: The applicant shall provide a test report using methodology BS 3900:G6.



## Use – Efficiency in use

### Current Criterion 7(i) (outdoor): Crack bridging

● Minor/no changes

#### Current Criterion

Where claims are made that masonry (or concrete) paint has crack bridging properties, it shall be at least classified as A1 at 23 °C according to ~~DIN~~ EN 1062-7:2004. Due to the large number of potential tinting colours, this criterion will be restricted to the testing of the base paint.

Assessment and verification: The applicant shall provide a test report using methodology ~~DIN~~ EN 1062-7:2004.





## Use – Efficiency in use

### Current Criterion 7(j) (outdoor): Alkali resistance

● **Minor/no changes**

#### Current criterion

**No change** Paints and primers shall show no noticeable damage when is spotted for 24 hours with 10 % NaOH solution according to method ISO 2812-4:2007. The evaluation is done after 24 hours drying-recovery.

Assessment and verification: The applicant shall provide a test report using methodology ISO 2812-4:2007.



## Use – Emissions During Use

### Current Criterion 3: Volatile Organic Compounds (Indoor & Outdoor)

Current criterion - VOC (g/l incl. water) content shall not exceed:

Outdoor paints Product Classification	VOC limits (g/l incl. water)	Indoor paints Product Classification	VOC limits (g/l incl. water)
Coatings for exterior walls of mineral substrate	40	Interior Matt (walls/ceiling) (Gloss < 25@60 °)	15
Exterior trim and cladding paints for wood and metal including undercoats	90	Interior glossy (walls/ceiling) (Gloss > 25@60 °)	60
Exterior trim varnishes and wood-stains, including opaque woodstains	90	Interior trim and cladding paints for wood and metal including undercoats	90
Exterior minimum build woodstains	75	Interior trim varnishes and wood-stains, including opaque woodstains	75
Primers (for exterior use)	15	Interior minimum build woodstains	75
Binding Primers (for exterior use)	15	Primers	15
1 Pack performance coatings	100	Binding Primers	15
Two-pack reactive performance coatings for specific end use such as floors	100	1 Pack performance coatings	100
		Two-pack reactive performance coatings for specific end use such as floors	100
		Decorative effect coatings	90



## Use – Emissions During Use

### Current Criterion 3: Volatile Organic Compounds (Indoor and Outdoor)

#### Current criterion (cont.)

In this context 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 as defined in Directive 2004/42/EC. The subcategories for paints and varnishes of the Directive are used for defining VOC limits.

**Assessment and verification:** The applicant shall provide a declaration of compliance with this criterion. For all products the applicant shall indicate the VOC content.



## Use – Emissions During Use

### ● Moderate changes

#### Issues in this criterion

Proposal to cover under New Criterion “Indoor Air Quality”

The following aspects regarding VOC will then be incorporated

1. **VOC limits** are based on (reduced) 2010 limits from the **VOC Directive 2004/42/CE**

Analysis of EU Ecolabel files shows that a **reduction** of the limits is possible –current **EU Ecolabelled** products perform **better**

**Stakeholders** confirm this.

**Blue Angel** criteria for indoor matt paints are **lower** -**Discussion point:** Are these threshold appropriate for EU Ecolabel?

Rename in “Criterion: Indoor Air Quality”







## Use – Emissions During Use

Update based on Feedback received



### Proposed changes to the VOC levels for Ecolabelled paints

Description	EU Ecolabel (g/l)	Discussion point Proposed new levels range
Interior matt walls and ceilings (Gloss <25@60°)	15	1-7.5
Interior glossy walls and ceilings (Gloss >25@60°)	60	35-55
Exterior walls of mineral substrate	40	15-25
Interior/exterior trim and cladding paints for wood and metal	90	60-80
Interior/exterior trim varnishes and woodstains, including opaque woodstains	75 indoor 90 outdoor	45-55 indoor 50-70 outdoor
Interior and exterior minimal build woodstains	75	45-55
Primers	15	1-10
Binding primers	15	1-10
One-pack performance coatings	100	45-60
Two-pack reactive performance coatings for specific end use such as floors	100	45-60
Decorative effect coatings	90	65-85



## Use – Emissions During Use

● Moderate changes

### Issues in this criterion

2. **Calculation** for the VOC limits should apply to paint in a 'ready-to-use' state rather than 'in can' → **Criterion wording added**

3. There is the following effect detected: decline in the use of VOCs has led to increase in the use of **SVOCs**

Austrian Ecolabel & Blue Angel criteria limit the use of SVOCs  
Construction Products Directive CEN/TC 351 addresses this also.

It is recommended that an **additional clause** is added to this criterion based on **values provided by MS ecolabels**. **Input** from stakeholders is sought as to the level of restriction.



## Use – Emissions During Use

Proposed Criterion: Indoor Air Quality

● Moderate changes

Suggested amendments to the criterion  
VOC content shall not exceed :

Description	VOC limits (g/l including water)
Indoor matt walls and ceilings (Gloss <25@60°)	For discussion
Indoor glossy walls and ceilings (Gloss >25@60°)	For discussion
Outdoor walls of mineral substrate	For discussion
Indoor/Outdoor trim and cladding paints for wood and metal	For discussion
Indoor trim varnishes and woodstains, including opaque woodstains	For discussion



## Use – Emissions During Use

Proposed Criterion: Indoor Air Quality

● Moderate changes

Suggested amendments to the criterion (cont.)  
VOC content shall not exceed :

Description	VOC limits (g/l including water)
Outdoor trim varnishes and woodstains, including opaque woodstains	For discussion
Indoor and Outdoor minimal build woodstains	For discussion
Primers	For discussion
Binding primers	For discussion
One-pack performance coatings	For discussion
Two-pack reactive performance coatings for specific end use such as floors	For discussion
Decorative effect coatings	For discussion





## Use – Emissions During Use

**New Criterion: Indoor Air Quality**

● **Moderate changes**

### Suggested amendments to the criterion (cont.)

In this context 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 Directive 2004/42/EC. The subcategories for paints and varnishes of the Directive are used for defining VOC limits. **These values shall be measured at the point of application and must include any additional solvent added to the paint prior to application.**

Discussion point -limit

**The total Semi Volatile Organic Compound (SVOC) shall be limited to [for discussion]. SVOC are defined as organic substances or mixtures with a maximum boiling range of 380-400°C.**

**Assessment and verification: The applicant shall provide a declaration of compliance with this criterion. For all products the applicant shall indicate the VOC and SVOC content.**



## Use – Emissions During Use

**Current Criterion 4: Volatile Aromatic Hydrocarbons (Indoor and Outdoor)**

### **Issues in this criterion**

VAH's raise **environmental** and **health** concerns  
In Ecolabel scheme to mandate a **reduction** in their use is encouraged.

**Discussion point:** A reduction in the amount of VAH present (from impurities) from **0.1 % (m/m) to 0.01% (m/m)** similar to the **Austrian Ecolabel**.

In case of such a **low limit** some paints types e.g. PVC paints, paint with **large binder** amount may not comply (technical problems)

Further, **stakeholders** comment that the **reduction can be achieved** but concerns surround in the **verification**

**Discussion Point:** It is now proposed reduction of this limit



## Use – Emissions During Use

### Current Criterion 4: Volatile Aromatic Hydrocarbons (Indoor and Outdoor)

● Minor changes

#### Suggested amendments to the criterion

Volatile aromatic hydrocarbons shall not be directly added to the product before or during tinting (where applicable); however ingredients containing VAH may be added up to such a limit that the VAH content in the end product will not exceed

**[DISCUSSION POINT reduce limit from 0,1 % (m/m) (the MS Ecolabel limit is:0,01% m/m)].**

In this context volatile aromatic hydrocarbon (VAH) means any organic compound, as defined in Directive 2004/42/EC, having an initial boiling point less than or equal to 250 °C measured at a standard pressure of 101,3 kPa and having at least one aromatic nucleus in its developed structural formula.



## Use – Emissions During Use

### Current Criterion 4: Volatile Aromatic Hydrocarbons (Indoor and Outdoor)

● Minor changes

#### Suggested amendments to the criterion

**No change**

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion stating that VAH has not been added other than in prefabricated ingredients and where applicable declarations from the suppliers of the ingredient confirming their VAH content.



## Use – Emissions During Use

### Current Criterion 5: Heavy Metals

Issues in criterion

● Moderate changes

**Clarify:** Appropriate wording has been suggested to **clarify** that this criterion is focused on **a per metal basis** and the agreed wording change has been made.

Stakeholders are asked for comments on the **threshold**

Discussion point regarding the **exemptions**

Discussion point regarding the **verification**. Proposal to use **EN 71-3 protocol** and measure the heavy metals in the final product and not rely on SDS from suppliers

Manufacturers are asked to comment about the feasibility to apply EN 71-3



## Use – Emissions During Use

### Current Criterion 5: Heavy Metals

Suggested amendments to the criterion

● Moderate changes

The following heavy metals or their compounds shall not be used as an ingredient of the product or tint (if applicable) (whether as a substance or as part of any preparation used): cadmium, lead, chromium VI, mercury, arsenic, barium (excluding barium sulphate), selenium, antimony **and cobalt**.

It is accepted that ingredients may contain traces of these metals up to **[Discussion point: further reduction from 0.01 deriving from impurities in the raw materials and can be present at these quantities for each metal for each ingredient]**



## Use – Emissions During Use

### Current Criterion 5: Heavy Metals

#### Suggested amendments to the criterion (cont.)

#### ● Moderate changes

Exceptions for cobalt:

- 1) Cobalt salts as a siccativie may be used, only in alkyd paints and varnishes, up to a concentration not exceeding 0,05 % (m/m), measured as % of cobalt metal in the end product.
- 2) Cobalt pigments may be used in all paints and varnishes without any limitation.

Assessment and verification: **[Discussion point: to refer to EN-71-3 Protocol and change asesment]**

The applicant shall provide a declaration of compliance with this criterion as well as declarations from ingredient suppliers (where applicable).



## Use – Emissions During Use

### Current Criterion 6(a): Dangerous substances: the products (indoor and outdoor)

#### Current criterion

#### ● Significant changes

The product shall not be classified as hazardous due to the presence of ingredients labeled with R15) in accordance with Directive 1999/45/EC of the European Parliament and of the Council before or after tinting (where applicable).

**Criterion will be covered by:**

**Criterion on: "Hazardous substances and mixtures"**

presence of ingredients labeled with R15) in accordance with Directive 1999/45/EC of the European Parliament and of the Council before or after tinting (where applicable).

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion, together with a product material safety data sheet meeting the requirements of Annex II to the REACH Regulation.



## Use – Emissions During Use

### Current Criterion 6(b): Ingredients (very toxic, toxic, carcinogenic, mutagenic, toxic for reproduction)

#### Current criterion

#### ● Significant changes

No ingredient including those used in tinting (if applicable) shall

**Criterion will be covered by:**  
**Criterion on: "Hazardous substances and mixtures"**

risk phrases (or combinations thereof):

as laid down in Council Directive 67/548/EEC or in Directive 1999/45/EC. Active ingredients used as preservatives in the formula and that are assigned any of the risk phrases R23, R24, R25, R26, R27, R28, R39, R40 or R48 (or combinations thereof) may nevertheless be used up to a limit of 0,1 % (m/m) of the total paint formulation.

– R23 (toxic by inhalation), – R24 (toxic in contact with skin),	– R45 (may cause cancer), – R46 (may cause heritable genetic defects),
– R27 (very toxic in contact with skin), – R28 (very toxic if swallowed), – R33 (danger of cumulative effects), – R39 (danger of very serious irreversible effects), – R40 (limited evidence of carcinogenic effect), – R42 (may cause sensitisation by inhalation),	– R49 (may cause cancer by inhalation), – R60 (may impair fertility), – R61 (may cause harm to the unborn child), – R62 (possible risk of impaired fertility), – R63 (possible risk of harm to the unborn child), – R68 (possible risk of irreversible effects),



## Use – Emissions During Use

### Current Criterion 6(b): Ingredients (very toxic, toxic, carcinogenic, mutagenic, toxic for reproduction)

#### Current criterion

#### ● Significant changes

Alternatively, the Globally Harmonised System (GHS) of classification may be considered. In this case the ingredients, including those used in tinting (if applicable), classified as the following (or combinations thereof) shall not be

**Criterion will be covered by:**  
**Criterion on: "Hazardous substances and mixtures"**

- Acute Toxicity (inhalation) – Category I, II, III,
  - Respiratory Sensitisation – Category I,
  - Mutagenic Substances – Category I, II,
  - Carcinogenic Substances – Category I, II,
  - Substances Toxic for Reproduction – Category I, II,
  - Specific Target Organ Systemic Toxicity (single exposure) – Category I, II,
  - Specific Target Organ Systemic Toxicity (repeated exposure) – Category I, II,
- as laid down in ST/SG/AC.10/30 and revised in ST/SG/AC.10/34/Add.3 on the Globally Harmonized System of Classification and Labelling of Chemicals.



## Use – Emissions During Use

### Current Criterion 6(b): Ingredients (very toxic, toxic, carcinogenic, mutagenic, toxic for reproduction)

#### Current criterion

● **Significant changes**

Active ingredients used as preservers in the formula and that are assigned any of the following GHS categories may nevertheless be used up to a limit

#### Criterion will be covered by:

#### Criterion on: "Hazardous substances and mixtures"

- I, II (or combinations thereof) and,
  - Carcinogenicity category II,
- Methyl Ethyl Ketoxime may be used in alkyd paints up to a limit of 0,3 % (m/m).

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion, together with a product material safety data sheet meeting the requirements of Annex II to the REACH Regulation.



## Use – Emissions During Use

### Current Criterion 6(c): Dangerous to the environment (indoor and outdoor)

#### Current criterion

● **Significant changes**

No ingredient shall exceed 2 % (m/m), including those used in tinting (if applicable), that at the time of application fulfil the classification criteria of

#### Criterion will be covered by:

#### Criterion on: "Hazardous substances and mixtures"

- N R51/53 (toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment),
- N R52/53 (harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment),
- R51 (toxic to aquatic organisms),
- R52 (harmful to aquatic organisms),
- R53 (may cause long-term adverse effects in the aquatic environment),

as laid down in Directive 67/548/EEC or Directive 1999/45/EC.







## Use – Emissions During Use

### Current Criterion 6(c): Dangerous to the environment (indoor and outdoor)

#### Current criterion

● **Significant changes**

Alternatively, the Globally Harmonised System (GHS) of classification may be considered. In this case no ingredient shall exceed 2 %

**Criterion will be covered by:**  
**Criterion on: "Hazardous substances and mixtures"**

Aquatic Toxicity categories (and combinations thereof):

- Acute I, II, III,
- Chronic I, II, III, IV,

as laid down in ST/SG/AC.10/30 and revised in ST/SG/AC.10/34/Add.3 on the Globally Harmonized System of Classification and Labelling of Chemicals.

In either case, the sum total of all ingredients that are assigned or may be assigned at the time of application any of these risk phrases (or combinations thereof) or GHS classifications shall not exceed 4 % (m/m).



## Use – Emissions During Use

### Current Criterion 6(c): Dangerous to the environment (indoor and outdoor)

#### Current criterion

● **Significant changes**

This requirement does not apply to ammonia or aqyl ammonia.

**Criterion will be covered by:**  
**Criterion on: "Hazardous substances and mixtures"**

the

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion, together with a list of ingredients and material safety data sheets of each ingredient meeting the requirements of Annex II to the REACH Regulation.





## Use – Emissions During Use

### Criterion: Hazardous substances and mixtures

Criterion 6(a), 6(b) and 6(c) has been superseded by new Ecolabel Regulations ((EC) No 66/2010). Other criteria may be also affected (find overlaps). This should be resolved in the final criteria document.

The aim is to *prevent the use of all chemicals classified as toxic, hazardous to the environment, carcinogenic, mutagenic or toxic for reproduction, and substances that are restricted under REACH regulations.* The regulation stipulates:

*Article 6.6: The EU Ecolabel may not be awarded to goods containing substances or preparations/mixtures meeting the criteria for classification as toxic, hazardous to the environment, carcinogenic, mutagenic or toxic for reproduction (CMR), in accordance with 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, nor to goods containing substances referred to in Article 57 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency.*



## Use – Emissions During Use

### Criterion: Hazardous substances and mixtures

New Ecolabel Regulations ((EC) No 66/2010) (reference cont.)

*Article 6.7: For specific categories of goods containing substances referred to in paragraph 6, and only in the event that it is not technically feasible to substitute them as such, or via the use of alternative materials or designs, or in the case of products which have a significantly higher overall environment performance compared with other goods of the same category, the Commission may adopt measures to grant derogations from paragraph 6. No derogation shall be given concerning substances that meet the criteria of Article 57 of Regulation (EC) No 1907/2006 and that are identified according to the procedure described in Article 59(1) of that Regulation, present in mixtures, in an article or in any homogeneous part of a complex article in concentrations higher than 0,1 % (weight by weight).*

**Based on Article 6.6 and 6.7 a restriction is made to:**

Substances and mixtures found in the final product that are classified with a certain list of Hazardous and Risk phrases (presentation follows) in concentration limits 0.1% w/w\*

\*but if available the specific limit determined in accordance with the Article 10 of Regulation(EC) No1272/2008.





## Criterion: Hazardous substances and mixtures

<i>Hazard statement according to CLP 1272/2008/EEC</i>	<i>Associated risk phrases according to Directive 67/548/EEC</i>
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R65
H311 Toxic in contact with skin	R65
H330 Fatal if inhaled	R23; R26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R23
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60-63
H360Df May damage the unborn child. Suspected of damaging fertility	R61-62
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child	R62-63
H362 May cause harm to breast-fed children	R64



## Criterion: Hazardous substances and mixtures

<i>Hazard statement according to CLP 1272/2008/EEC</i>	<i>Associated risk phrases according to Directive 67/548/EEC</i>
H370 Causes damage to organs	R39/23; R39/24; R39/25; R39/26; R39/27; R39/28
H371 May cause damage to organs	R68/20; R68/21; R68/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25; R48/24; R48/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20; R48/21; R48/22
H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R53
EUH059 Hazardous to the ozone layer	R59
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317 May cause allergic skin reaction	R43



### **Criterion: Hazardous substances and mixtures**

#### **Possible Assessment and verification based on recent Ecolabel criteria developments on other product groups**

For each article and/or homogeneous part of complex articles with weight over 25g the applicant shall provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the suppliers of substances and copies of relevant Safety Data Sheets in accordance with Annex II to Regulation (EC) No 1907/2006 for substances or mixtures. Concentration limits shall be specified in the Safety Data Sheets in accordance with Article 31 of Regulation (EC) No 1907/2006 for substances and mixtures.

## **Use – Emissions During Use**

### **Criterion: Hazardous substances and mixtures**

#### **Based on 1<sup>st</sup> consultation and preliminary work:**

- **EU Ecolabel must follow the Ecolabel Regulation 66/2010.** Stakeholders suggest that then it is likely to decrease significantly the number of paints which are currently Ecolabelled.
- The stakeholders are asked to provide **specific request for derogations for certain substances** together with the supportive scientific and technical information which could substantiate this decision. Without this evidence, a derogation cannot be made.
- Unlike in the current Ecolabel criteria decision for paints and varnishes a **derogation of one or more R-phrases is not possible.**
- In case of **high number of derogation** requests a **grouping** of these substances **could** be investigated.
- **No derogation** shall be given to substances classified as substances of very high concern (**SVHC**) –Article 6.7 Ecolabel Regulation 66/2010



## Use – Emissions During Use

### Criterion: Hazardous substances and mixtures

#### More detail points of consultation:

The following were explicitly requested by stakeholders as derogations from the new criterion:

- **Preservatives** and **biocides**, in particular **in-can** and **in-film biocides** generally possess **R43** classification. The isothiazolinones compounds were singled out along with IPBC and methyl ethyl ketoxime. These systems also have risk phrases associated with damage to aquatic systems (R50, R51, R52 and R53), along with isothiazolinones, bronopol and IPBC were singled out. In general, **it was claimed that chemical preservatives need a derogation.**
- **pH correctors** such as **ammonia** and **ammonium salts** will need derogations against **R50**.
- Most **fillers** contain **silica** which is classified as with **R48/20**
- **Many substances** used in paint have an **R41** classification
- **Cobalt-salt dryers** are used as **siccatives**, they are heavy metals and are also classified as **R43**
- **Colorants, dispersants, surfactants** and **wetting agents** may have **R50, R51, R52** and **R53**.



### Criterion: Hazardous substances and mixtures

#### More detail points of consultation:

#### Feedback from CEPE - European Association for Paints

- Derogation request received for **four** specific substances

- general exemption requests for:

-Ingredients classified as **STOT RE 1-2** (reason: exposure path)

- **R43, R65** and **R41**

Feedback from manufacturer –data from Ecolabelled products.

-Indication for **13 substances** which are sorted in groups (table follows) and **will need derogation**

Further, **difficulties** regarding **verification and assessment** are presented.

-Three specific examples of **raw materials without R- phrase** in their MSDS but in the supplier's declaration of compliance refers that the above product contains substances-ingredients classified as **Dangerous for the environment (R50/51/52/53 or/and R24/25)** due to the **biocide**, even though the SDS doesn't refer dangerous for the environment substances



## Criterion: Hazardous substances and mixtures

More detail points of consultation (a potential approach for discussion)

AA	USE	Chemical Composition Ingredient	CAS nr / EINECS Nr	R23	R24	R25	R26, R27, R28, R32, R33, R34, R37, R38, R40, R41, R42, R43, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59	R50	R50/53	R51/53	R52/53	R51	R52	R53
1	In can preservative	3-Iodo-2-propynyl-butylcarbamate	55406-53-6	-	-	-		-	X	-	-	-	-	-
2	In can preservative	2-Methyl-2H-isothiazol-3-one	2662-20-4	X	-	-		X	-	-	-	-	-	-
		1,7-Heurusthiazol-3(2H)-one	2634-33-5	-	-	-		X	-	-	-	-	-	-
		Pyrrithione zinc	13143-41-7	-	-	-		X	-	-	-	-	-	-
3	In can preservative	2-Octyl-2H-isothiazol-3-one	26530-20-1	-	-	-		X	-	-	-	-	-	-
		3-Iodo-2-propynyl-butylcarbamate	55406-53-6	-	-	-		X	-	-	-	-	-	-
		zinc oxide	1314-13-2	-	-	-		-	X	-	-	-	-	-
4	Dry film preservative	Diazon (ISO)	320-54-1	-	-	-		-	X	-	-	-	-	-
		Pyrrithione zinc	13143-41-7	-	-	-		X	-	-	-	-	-	-
		2-Octyl-2H-isothiazol-3-one	26530-20-1	-	-	-		-	X	-	-	-	-	-
		zinc oxide	1314-13-2	-	-	-		-	-	X	-	-	-	-
5	Neutralising agent	2-Amino-2-methylpropanol	500124-85-5	-	-	-		-	-	-	X	-	-	-
6	In can preservative	Methyl-4-isothiazolyl-3-one	2662-20-4	X	-	-		X	-	-	-	-	-	-
7	Dispersion agent	Alkoxylated Alcohol	none	-	-	-		-	-	-	X	-	-	-
8	Biocidal agent	Heptanes (Naphtha)	653045-53-9	-	-	-		-	-	-	-	-	-	-
9	Wettable glycol	Cobalt carboxylate	65409-81-4	-	-	-		-	-	X	-	-	-	-
10	UV filter (light stabilizer)	Benzotriazole	3886-11-5	-	-	-		-	-	-	-	-	-	X
11	Wetting agent	2,4,7,9-tetraamino-1,4-diazabicyclo[4.2.1]nonane	129-95-3 / EINECS: 204-859-1	-	-	-		-	-	-	X	-	-	-
12	anticorrosive pigment (redist. corrosion inhibitor)	Zinc oxide	1314-13-2	-	-	-		-	-	X	-	-	-	-
13	Secondary amine in specific binders	DCA diethanolamine	111-42-2	-	-	-	R40	X	-	X	-	-	-	-

Possible approach:

1. Gather data of substances,

2. Group substances based on function provided

3. Check relevant R-/H- phrases

4. Workout thresholds



## Use – Emissions During Use

Criterion: Hazardous substances and mixtures

Discussion points:

1. Request for derogation

2. If the list of the requested substances is too long – not anymore manageable then substances shall may need to be grouped

3. General exemptions are not possible. This includes Risk phrases

4. Tighter stakeholder consultation. Formulation of a sub-AHWG?

5. Question on biocides – an option could be to regulate them separately in another criterion



## Use – Emissions During Use

### Current Criterion 6(d): Alkylphenoethoxylates (apeos)

● Minor/no changes

#### Current criterion

APEOS shall not be used in the product before or during tinting (if

**No change is proposed**

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion.

**Discussion point: Stakeholder asked to include in assessment and verification to request laboratory test**

**Is this test justified?**



## Use – Emissions During Use

### Current Criterion 6(e): Isothiazolinone compounds

● Moderate changes

#### Issues in this criterion

1. Further **reduction** in the levels of these compounds is desirable
2. There was **wide stakeholders consensus** that **isothiazolinone biocides are necessary** both for preserving the products in the can, and for their properties as a preservative while the product is in use (particularly in outdoor use).
3. It is important that the products are **compliant** with the **biocide framework directive** (discussed in next criterion)
4. One stakeholder asked to **include IPBC**
5. **Editing** the Criterion **text** structure to be more clear.



## Use – Emissions During Use

### Current Criterion 6(e): Isothiazolinone compounds

#### Suggested amendments to the criterion

● Moderate changes

The content of isothiazolinone compounds in the product shall not exceed **DISCUSSION POINT: 0,05 % (m/m)** before or after tinting (if applicable).

The content of the mixture of 5-chloro-2-methyl-2H-isothiazol-3-one (EC No 247-500-7) and 2-methyl-2H-isothiazol-3-one (EC No 220-239-6) (3:1) shall not exceed **DISCUSSION POINT: 0,0015 % (m/m)**.

For outdoor wood coatings isothiazolinone compounds shall not exceed **DISCUSSION POINT: 0,2 % (m/m)**.

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion, indicating the amounts (if used)



## Use – Emissions During Use

### Current Criterion 6(f): PFAS

● Minor/no changes

#### Current criterion

Perfluorinated alkyl sulfonates (PFAS), perfluorinated carboxylic acids (PFCA), perfluorooctanoic Acid (PFOA) and related compounds (PFOS, PFAS, PFOA, PFCA, related compounds and chemicals that may degrade to PFCA (as revised in 2007) are not permitted in the product. The OECD list is provided in the Annex to this criteria document.

**No change is proposed**

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion.





## Use – Emissions During Use

**Current Criterion 6(g): Formaldehyde (indoor and outdoor)**

● Moderate changes

### Issues in current criterion

1. Formaldehyde is toxic and **minimising** its use is important
2. Stakeholders agree to minimise but consider an elimination not possible at the moment
3. Stakeholders are asked to **provide feedback** regarding the **technical difficulties** which may occur if the limit is reduced.
4. Current test method seem not appropriate and related to unnecessary costs. **A change of the test is proposed**



## Use – Emissions During Use

**Current Criterion 6(g): Formaldehyde (indoor and outdoor)**

● Moderate changes

Three modifications have been suggested:

- Remove the requirement to **test solid ingredients**. This is the simplest option but does not provide any assurances of actual in-can formaldehyde testing.
- Remove the requirement to **test all ingredients** and perform an in-can test using **HPLC**. This reduces the administration burden on the paint suppliers and ensures that the amount of formaldehyde is accurate, however, it does mandate a potentially expensive test.
- Test indoor air quality. This option could be covered under a new criterion on indoor air quality (presented next).

**A discussion at the AHWG is necessary to determine the most appropriate amendment.**





## Use – Emissions During Use

### Current Criterion 6(g): Formaldehyde (indoor and outdoor)

#### Current criterion

Free formaldehydes shall not be added. Formaldehyde donors may only be added in such quantities as will ensure that the resulting total content after tinting (if applicable) of free formaldehyde will not exceed 0,001 % (m/m).

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion. In addition the applicant shall provide test results from raw materials suppliers using the VdL-RL 03 test method (VdL Guide-line03) 'In-can concentration of formaldehyde determined by the acetyl-acetone method' and calculations relating the data from these tests to the final product in order to indicate that the final maximum possible concentration of formaldehyde released by formaldehyde releasing substances is not higher than 0,001 % (m/m). Alternatively formaldehyde resulting from formaldehyde donors can be measured in the end product by using a standard based on High-performance liquid chromatography.



## Use – Emissions During Use

### Current Criterion 6(h): Halogenated Organic Solvents (indoor and outdoor)

#### Current criterion

**Notwithstanding criteria 6a, 6b and 6c, only halogenated compounds that at the time of application have been risk assessed and have not been classified with the risk phrases (or combinations thereof): R26/27, R45, R48/20/22, R50, R51, R52, R53, R50/53, R51/53, R52/53 and R59 in accordance with Directives 67/548/EEC and 1999/45/EC may be used in the product before or during tinting (if applicable).**

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion.



## Use – Emissions During Use

### Current Criterion 6(h): Halogenated Organic Solvents (indoor and outdoor)

#### Current criterion

1. Confusion on the title of the criterion. Criterion text refers to “halogenated organic compounds” and not only to “halogenated organic solvents”
2. It is considered that the introduction of criterion on hazardous substances and mixtures covers this criteria area. **Proposal to take out as it is covered –Discussion point**



## Use – Emissions During Use

### Current Criterion 6(i): Phthalates (indoor and outdoor)

● **Minor/no changes**

#### Current criterion

Notwithstanding criteria 6a, 6b and 6c, only phthalates that at the time of application have been risk assessed and have not been classified with the phrases (or combinations thereof): R60, R61, R62, R50, R51, R52, R53, R50/53, R51/53, R52/53, in accordance with Directive 67/548/EEC and its amendments, may be used in the product before or during tinting (if applicable). Additionally DNOP (di-n-octyl phthalate), DINP (di-isononyl phthalate), DIDP (di-isodecyl phthalate) are not permitted in the product.

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion.





## Use – Emissions During Use

### Current Criterion 6(i): Phthalates (indoor and outdoor)

#### Issues for discussion

Based on this analysis the following options are suggested for discussion within the AHWG:

1. A **total ban of Phthalates** is proposed within the new criteria document, it appears that **this would have limited effect** on the applicants
2. **Continue** with the current criterion
3. **Request of supportive information** for DNIP and DIDP because their ban is not associated with the given risk phrases



## Use – Emissions During Use

### Other issues

#### Discussion related to Biocides

1. Biocides are restricted in MS and non-MS Ecolabels
2. Recent revision of the Biocide Directive (due for release in 2013)
3. A criterion is relevant to be investigated only if biocides would be not covered by new criterion on “hazardous substances and mixtures”. The same goes if preservatives should be included
4. Scope of EU Ecolabel is wider from Blue Angel and Austrian Ecolabel. An uptake of requirements found in these labels should be investigated regarding suitability.





## Use – Emissions During Use

### Other issues

#### Potential new criterion

##### Biocides

(i) The product may include **biocides** in order to preserve the product, and in the **-Discussion point: appropriate dosage** for this purpose alone. These biocides shall be registered and authorized in the Biocide Product Directive (BPD) scheme.

**Assessment and verification:** the applicant shall provide copies of the material safety data sheets of any preservatives added, together with information on their exact concentration in the product. The manufacturer or supplier of the preservatives shall provide information on the dosage necessary to preserve the product.



## Use – Emissions During Use

### Other issues

#### Potential new criterion

(ii) In accordance with Directive 67/548/EEC, Directive 1999/45/EC of the European Parliament and of the Council or Regulation (EC) No 1272/2008 substances or mixtures used as **preservatives**, that are classified as:

- H400 Very toxic to aquatic life
- H410 Very toxic to aquatic life with long-lasting effects
- H411 Toxic to aquatic life with long-lasting effects
- H412 Harmful to aquatic life with long-lasting effects
- H413 May cause long-lasting harmful effects to aquatic life

**are permitted but only if their bioaccumulation potentials** are characterised by log K<sub>ow</sub> (log octanol/water partition coefficient) < 4,0 or an experimentally determined bioconcentration factor (BCF) ≤ 500.

**Assessment and verification:** The applicant shall provide a declaration of compliance with this criterion.



## Use – Emissions During Use

### Other issues

### Discussion on potential new criterion: Indoor Air Quality

#### Points for discussion

- There were requests to change the testing procedure for VOCs and other materials (including formaldehyde) from in-can measurements to Indoor Air Quality (IAQ)
- Legislation:
  - The **French** regulations require mandatory testing and labelling of paints for Indoor Air Quality. They have a classification system (**C to A+**). The inclusion of additional test has an additional cost. Does the **cost** justify the inclusion?
  - **German** system: An extensive list of chemicals are regulated, with limits described as "Lowest Concentrations of Interest" (LCI). More stringent levels may be appropriate for use in Ecolabel.



## Use – Emissions During Use

### Discussion on potential new criterion: Indoor Air Quality

-ongoing EU harmonisation project (JRC/IHCP). Similar approach to the German system (with LCI). Limits for 170 chemicals will be published in 2012.

#### Question to stakeholders

- Should the current in-can ingredient criterion be replaced with an **IAQ criterion**?
- The inclusion of **additional test** could be prohibitively expensive, does the cost justify the inclusion?
- Should the **French** emissions standards be used (for example only paints achieving A+ emission ratings be used)?
- How can **outdoor** paints be accounted for (e.g. are more lenient criteria – classification B for outdoor paints justified)?





## Use – Emissions During Use

### Other issues: Regulation of the use of Nanoparticles

Issues for discussion.

1. **Austrian Ecolabel** has developed **criterion** for the regulation of the use of nanomaterials
2. The use of **nanoparticles** and other nanomaterials within a wide variety of consumer products can **enhance performance**
3. **Silver nanoparticles** as a **biocide** and antibacterial agents can be used in paints
4. The risk associated with the inclusion of nanoparticles within paints need careful assessment; **some evidence** suggests an inherent health risk posed by exposure to nanoparticles. However, **the scientific debate is still open**
5. A **greater understanding** of the benefits of the inclusion of nanomaterials is needed to develop an appropriate view on use within EU Ecolabelled paints and varnishes.



## Use – Emissions During Use

### Other issues: Regulation of the use of Nanoparticles

**Austrian Ecolabel** uses the **Swiss categorisation of risk** based on a **precautionary approach** to the application and use of nanomaterials.

In particular, the approach examines the **risk of exposure**, its **chemical activity** and its **human toxicity**; where the latter **is not known**, the **nanomaterial is assumed to be hazardous**.

Where risk is deemed as 'high', the nanomaterials are prohibited from the Ecolabelled paints.

Discussion Point: Precautionary principle



## Use – Emissions During Use

### Other issues: Regulation of the use of Nanomaterials

1. It is requested **more information and evidence** related to impacts as well to performance of nanomaterials in paints
2. It is recommended that **no additional criterion** is developed that control or exclude nanomaterials.
3. As a first approach **reporting of the use of nanomaterials**, their composition and concentration is proposed.
4. Consultation with stakeholders regarding the number of **currently Ecolabelled** products in which **nanomaterials are used** is requested.



## Use – Emissions During Use

### Other issues: Regulation of the use of Nanoparticles

In the most recent Ecolabel criteria developments for the following product groups: printed paper, automatic dishwashers detergents for professional use and laundry detergents for professional **nanomaterials are addressed in the same way like other substances.**

**A text is formulated** within the “**Assessment and Verification**” clause of the criterion “**Hazardous substances and mixtures**”.

The specific text follows.







## Use – Emissions During Use

### Other issues: Regulation of the use of Nanoparticles

*Assessment and verification: The applicant shall demonstrate compliance with this criterion by providing a declaration on the non-classification of each ingoing substance into any of the hazard classes associated to the hazard statements referred to in the above list in accordance with Regulation (EC) 1272/2008, as far as this can be determined, as a minimum, from the information meeting the requirements listed in Annex VII of Regulation (EC) 1907/2006. This declaration shall be supported by summarized information on the relevant characteristics associated to the hazard statements referred to in the above list, to the level of detail specified in section 10, 11 and 12 of Annex II of Regulation (EC) 1907/2006 (Requirements for the Compilation of Safety Data Sheets).*

*Information on intrinsic properties of substances may be generated by means other than tests, for instance through the use of alternative methods such as in vitro methods, by quantitative structure activity models or by the use of grouping or read-across in accordance with Annex XI of Regulation (EC) 1907/2006. The sharing of relevant data is strongly encouraged.*

*The information provided shall relate to the forms or physical states of the substance or mixtures as used in the final product.*

*For substances listed in Annexes IV and V of REACH, exempted from registration obligations under Article 2(7)(a) and (b) of Regulation 1907/2006 REACH, a declaration to this effect will suffice to comply with the requirements set out above.*



## Production - manufacture

### Other issues: Consideration Of Green House Gas Emissions

**No change in the assessment**

#### Relevant points.

**1.** The **LCA suggests** that the majority of the **impact** in paint production occurs within the **paint's supply chain**, not at the point of formulation. Based on this analysis, effective lowering of the GHG emissions from the production of paint will require the applicant to demand a carbon footprint from each of their suppliers and/or perform a full carbon footprint based on proxies. Both these solutions are **probably impractical** and is expected to add an **additional cost** burden to applicants.

**It is considered that setting requirements based on carbon footprint values is currently not relevant.** However, stakeholders are asked to comment on if a further discussion is needed on how reporting of these values could be relevant.



## Production – Manufacture

### Other issues: Consideration Of Green House Gas Emissions

**One possible area** where limits on carbon emissions could be mandated is with the production of TiO<sub>2</sub>.

#### Approach

1. To **set individual limits** for each production process, as a consequence, the **chloride process** will have a significantly **lower** threshold than TiO<sub>2</sub> derived from the **sulphate** route.
2. To **set a universal** threshold for the **production of TiO<sub>2</sub>**. Depending on the level set, this could in effectively **prohibit** the use of TiO<sub>2</sub> derived from the **sulphate process**.



## Production – Formulation and manufacture

### Other issues: Consideration Of Water Use

The consumption of water is one environmental aspect that is addressed within the paint LCA.

**Based on this data, addressing water use separately does not seem to be currently substantiated by the technical analysis outcomes.**

The evidence suggests that an additional criterion on water usage should be omitted from a revision of the Ecolabel because of complexities and variation in the product of paint, along with lack of data on water-use during paint formulation and poor information on the particular significance of such a requirement.

**Stakeholders are invited to comment.**





## Production – Formulation and manufacture

### Other issues: Criterion on Anticorrosive

#### One Stakeholder Suggested:

Refer to: EN ISO 12944 – 6 Corrosion protection of steel structures by protective paint systems, Part 6 Laboratory performance methods.

As Ecolabel is primarily intended for decorative paints and these will be primers rather than systems, one stakeholder recommended:

- **C3 – (low/rural) and the durability to be medium**
- **240 hours in the neutral salt spray and 96 hours humidity. The salt spray test is now numbered ISO 9227, not ISO 7253.**

The result should be rated to ISO 4628 – 2 blistering (blistering to be no worse than size 3 density 2) and ISO 4628 - 3 rusting (not worse than Ri1)

#### Ratings

For 240 hours salt spray ISO 4628 – 2 blistering (blistering to be not worse than size 3 density 3) and ISO 4628 - 3 rusting (to be not worse than Ri2)

For humidity 96 hours humidity ISO 4628 – 2 blistering (blistering to be not worse than size 3 density 2) and ISO 4628 - 3 rusting (to be not worse than Ri1)

**Stakeholders are invited to provide suggestion**



## Post consumption phase– Paints Recycling and recycled content

#### New area for discussion

1. Stakeholders commented that **recycling** of paint and/or use of **recycled content** is **not common practise**. Many technical difficulties can occur if the paint residuals are not handled properly (are uncontrolled).
2. **Further information** on recycling of paint is requested (related with the previous described criterion: **Paint Residual**)
3. Information that for some type of **paints recycling is possible** (up to 50 %) exist but this is considered niche market
4. Stakeholders are requested for comments related to how Ecolabel could address the area of "paint reuse" .



## Post consumption phase– Packaging material

### **New Criterion: Packaging**

#### **Proposed new criterion for discussion**

Recycled content of paint pots.

Plastic paint pots shall be made of 25% (m/m) post consumer recycled material, be made of one polymer or be of compatible polymers for recycling and have the relevant ISO11469 marking.

This criterion does not apply to paint systems that deliver greater than 25 litres.

Verification and assessment: The applicant shall provide a declaration of compliance with this criterion along with evidence of marking.



## Post consumption phase– Unused paint disposal

### **Proposed amendment on user information**

An additional clause in the criterion for consumer information giving guidance on how to preserve the paint residuals, where to find the take-back system and also information on "don'ts " e.g. no disposal in wastewater treatment etc.

Stakeholders are asked to provide their feedback





## Corporate criteria

### Current Criterion Number 9 (Indoor and Outdoor): Information Appearing On The Ecolabel

#### Current Criterion

Box 2 of the eco-label shall contain the following text:

- good performance for indoor use, (indoor only)
- good performance for outdoor use, (outdoor only)
- restricted hazardous substances,
- low solvent content.

Assessment and verification: The applicant shall provide a sample of the product packaging showing the label, together with a declaration of compliance with this criterion.



## Corporate criteria

### Current Criterion Number 9 (Indoor and Outdoor): Information Appearing On The Ecolabel

#### Suggested amendments to the criterion

Box 2 of the eco-label shall contain the following text:

- good performance for indoor use (where indoor criteria has been met),
- good performance for outdoor use (where outdoor criteria has been met),
- good performance for both indoor and outdoor use (where both indoor and outdoor criteria have been met),
- restricted hazardous substances,
- low solvent content.

Assessment and verification: The applicant shall provide a sample of the product packaging showing the label, together with a declaration of compliance with this criterion.



## Corporate criteria – User information

### Current Criterion 8: Consumer Information (Indoor and Outdoor)

#### Current criterion **Stakeholders are asked for amendments**

The following information shall appear on the packaging or attached to the packaging:

- the use, substrate and conditions of use for which the product is intended. This shall include advice on preparatory work, etc., such as correct substrate preparation, advice on indoor use (where appropriate), or temperature,
- recommendations for cleaning tools and appropriate waste management (in order to limit water pollution). These recommendations shall be adapted to the type of product in question and field of application in question and may make use of pictograms if appropriate;
- recommendations concerning product storage conditions after opening (in order to limit solid waste), including safety advice if appropriate,
- for darker coatings for which criterion 7(a) does not apply, advice is given concerning the use of the correct primer or base paint (if possible bearing the Community Eco-label), **(indoor only)**
- for thick decorative coatings a text informing that these are paints specially designed to give a three-dimensional decorative effect,



## Corporate criteria – User information

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- for darker coatings for which criterion 7(a) does not apply, advice is given concerning the use of the correct primer or base paint (if possible bearing the Community Eco-label), **(indoor only)**
- for thick decorative coatings a text informing that these are paints specially designed to give a three-dimensional decorative effect,



## Corporate criteria – User information

### **Current Criterion 8: Consumer Information (Indoor and Outdoor)**

#### **Current criterion**

- text advising that unused paint requires specialist handling for safe environmental disposal and that it should not therefore be thrown away with household refuse. Advice regarding disposal and collection should be sought from the local authority,
- recommendations on preventive protection measures for the painter. The following text (or equivalent text) shall appear on the packaging or attached to the packaging:

'For more information as to why this product has been awarded the Flower please visit the web-site:  
<http://ec.europa.eu/environment/ecolabel>.'

Assessment and verification: A sample of the product packaging shall be provided when submitting the application, together with a corresponding declaration of compliance with this criterion as appropriate.



## General comment

**Industry-based stakeholders have requested longer transition period between criteria to enable them to reformulate as necessary and ready new dossier packs.**

**One competent body requested longer validity of the current criteria.**



**Thank you**