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

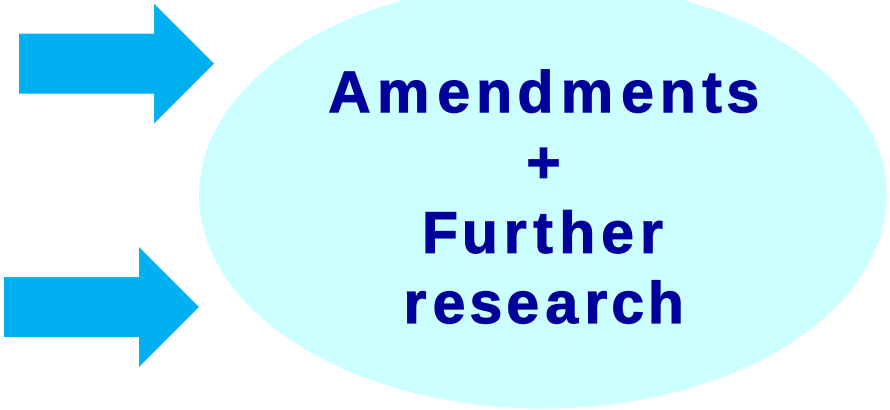
Session 2 and 3: EU Ecolabel criteria Background information on the project development; Aim of the criteria and framework, Product group definition and scope revision.

2nd Ad-hoc Working Group Meeting
24th September 2012, Brussels
Joint Research Centre, Institute for Prospective Technological Studies

Background

Preliminary study

Discussion at the 1st AHWG meeting



Streamlined LCAs

- **Assessment of the impact of paint durability**
- **Assessment of the impact of paint at end of life**

Non LCA areas

- **Indoor air quality, nanomaterials**

Economic analysis: Life cycle costing

Key environmental considerations

Conclusion	Significance	Addressable in the EU Ecolabel
In-use durability plays a key role in determining the environmental impact of paints as do periods between repaints. However, directly mandating paint durability is difficult.	Very High	Yes, indirectly through performance criteria
The manufacture of unused paint corresponds to over 10% of the total amount of paint manufactured. Reducing this is an important goal.	Very High	Possible through a take-back scheme for reuse and/or recycling
Additives have a wide range of health and environmental implications. No studies have quantified this effect but they are of concern. The new hazardous substances criterion tries to address this problem.	High	Yes, encouraging manufacturers to use alternatives is possible.
TiO_2 manufacture is an important environmental impact of paint production, but further reductions from the current Ecolabel were not supported by stakeholders.	Medium	Yes, reducing TiO_2 use can be achieved
Binder manufacture is an important environmental impact of paint production. Stakeholders were divided over the most appropriate action to mitigate this.	Medium	No, dictating the conditions for binder use may stifle innovation

Key environmental considerations

Conclusion	Significance	Addressable in the EU Ecolabel
Disposal (via incineration) of unused paint has a high cost and has some moderate environmental impact.	Medium	Somewhat, through a take-back scheme for reuse and/or recycling
Solvent-based paints have a higher environmental impact than water-based paints. However, the complete exclusion of solvent-based paints is not possible (as concluded in 1st AHWG).	Medium	Yes, indirectly by controlling the amount of VOC present in the paint
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. Stakeholders consider that the Ecolabel is not the correct policy tool for CO_2 abatement.	Medium	No, paint manufacturers cannot easily control their supply chain emissions making any criterion impractical.
The impacts of transportation are very low and any criteria would have low environmental savings.	Low	No, would require specification for local sourcing

Possible new criteria and current ones against the life cycle of paint

Life cycle stage	Impact	Criteria	
		For consideration in new proposal	Current criteria
Production	Raw material sourcing	1. White pigments 2. TiO_2 3. New criterion "Hazardous Substances"	1. White pigments 2. TiO_2 6. Dangerous substances
Use	Efficiency in use	4. Fitness for use	7. Fitness for use
	Emissions during use	5. Volatile organic compounds (VOCs) and Indoor air quality (potentially to be covered together) 6. New criterion on "Hazardous Substances"covers previous criteria on: dangerous substances, VAHs, and Metals and could also cover requirements on biocides and nanomaterials 7. Consumer information	3. Volatile organic compounds (VOCs) 4. Volatile aromatic hydrocarbons (VAHs) 5. Metals 6. Dangerous substances 8. Consumer information
End of life	Unused paint disposal	9. Take-back for unused paint	---
	Packaging material	10. Packaging material	---

Life Cycle Costing

e.g. 20% price increase would be justified if the paint finish lasted 8.5 years or more compared with the baseline 7 years.

- The life cycle cost considered the purchase cost, the influence of the parameters: spreading rate, longevity of the finish and the paint wastage, which included the disposal cost.

- It was found that all investigated factors had a large impact on the life cycle cost, with the exception of the disposal cost of waste paint. The majority of the cost from paint wastage occurred due to the additional paint that needed to be procured.

- The analysis shows that the procurement cost cannot be considered in isolation and that even moderate improvements in performance can outweigh the additional cost of purchasing more expensive paint.

Criteria presentation structure

1. ***Aim***
   - Products which are targeted
   - Assessment and verification
   - Measurement thresholds and functional unit

2. ***Scope***
   - Merging Indoor and Outdoor Paints
   - Criterion Article 1 (Indoor And Outdoor)
   - Definitions

Criteria Aim

The criteria aim, in particular at promoting:

-products that have a lower environmental impact along their life cycle,
-products which contain a limited amount of hazardous substances
-products which emit a reduced amount of volatile organic compounds
-indoor products which ensure a higher indoor air quality
-the efficient use of the product and the minimization of waste

➡ Manufacturers Input: Paints with high performance and long durability

Criteria Aim

Criteria are set for each of the following aspects:

1. Production phase -Raw material sourcing
2. Use phase
    - i) Efficiency in use
    - ii) Emissions during use
3. End of life phase
    - i) Unused paint disposal
    - ii) Packaging material
4. Consumer information- Information appearing on the Ecolabel

...in criteria text follows a description of :

- (1) Assessment and verification
    - (a) Requirements
    - (b) Measurement thresholds
- (2) Functional unit and reference flow

Keep one common structure in EU Ecolabel criteria for different products.

Criteria scope

2. Scope

- Merging Indoor and Outdoor Paints ✓ **1st AHWG**
- Criterion Article 1 (Indoor And Outdoor)
- Definitions

Points discussed in 1st AHWG and proposal regarding scope

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Product	Stakeholder feedback	Recommendation
Wood oils	Mixed views	Exclude but propose to investigate in next revision
UV curable paints	Unanimous exclude	Exclude
Powder coatings/paints	Unanimous exclude	Exclude
Non film forming coatings (e.g. stone protection materials)	Mixed views	Exclude but final resolution to be made at the next AHWG
Preparation products (like filling putties for holes, cracks)	Mixed views	Exclude but propose to include in the next criteria revision
Thick waterproofing and insulation coatings for outdoor uses	No or weak responses	Exclude but guidance is needed from the 2nd AHWG
Parquet and floor waxes	Mixed views. Weak positive responses.	Exclude but propose to include in the next criteria revision

Points discussed in 1st AHWG and proposal regarding scope

Product	Discussion	Stakeholder feedback	Recommendation
Anti corrosive metal primers and topcoats	Stakeholders indicate that many of these products are specialised for industrial uses and would generally fail EU Ecolabel standards. The less active water-based products should be included.	Mixed views	Include but final resolution 2nd AHWG. In case of inclusion we propose an additional fitness for use criterion.
Façade coatings	Façade coatings are currently excluded from the criteria of paints for indoor use but are included in the outdoor.	re	ance the
Paints used for street marking	Road markings are in GPP scope.	Unanimous exclude	Exclude

Include – relevant for outdoor paints

Criteria scope

2. Scope

- Merging Indoor and Outdoor Paints
- Criterion Article 1 (Indoor And Outdoor)
- Definitions

✓ Feedback received on this section: respectively amend definitions

THANK YOU VERY MUCH

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

Session 4: Revision of existing criteria
Criteria on production (white pigment and TiO2)
Criteria on use (wet scrub resistance)

2nd Ad-hoc Working Group Meeting
24th September 2012, Brussels
Joint Research Centre, Institute for Prospective Technological Studies

Criteria presentation structure

- Criteria presentation:
  1. Criterion on Production
     Criterion on “White pigment”

  2 Criterion on use phase – efficiency in use
     Criterion on “Wet scrub resistance”

  3. Criterion on Production
     Criterion on “Titanium Dioxide”

White pigment

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 that described in the table below per m2 of dry film, with 98 % opacity.

Received comment: To use also "hiding power"

clarification ⇨

Wet scrub resistance	Indoor limit (g/m2)	Outdoor limit (g/m2)
Class 1	40	42
Class 2	36	38
Class 4 **and class 3**	25	27

~~This requirement does not apply to varnishes and woodstains.~~

⇨ Proposed amendment

Limed paints, Silicate paints, Primers, Anti-rust paints, Wood stains and Facade paints shall comply with the above "white pigment" limits of Class 2

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

Wet scrub resistance

amendment

<u>All paints</u> shall have a wet scrub resistance as measured by EN 13300 and EN ISO 11998 of class 4 (not exceeding 70 microns after 40 cycles)

Received

<u>Comment 1</u>

For discussion shall the class 3 be the minimum (exclude class 4?). Then give also specific exemptions

Paints (according to EN 13300) for which claims are made (whether on the product or in related marketing material) that they are brushable shall have a wet scrub resistance as measured by EN 13300 and EN ISO 11998 of class 2 (not exceeding 20 microns after 200 cycles).

Paints (according to EN 13300) for which claims are made (whether on the product or in related marketing material) that they are hard wearing, shall have a wet scrub resistance as measured by EN 13300 and EN ISO 11998 of class 1 (not exceeding 5 microns after 200 cycles).

<u>Comment 2</u>

For discussion shall the test be on finish product

Due to the large potential range of possible tinting colours, this criterion will be restricted to the testing of tinting bases.

Proposed amendment

Limed paints, Silicate paints, Primers, Anti-rust paints, Wood stains and Facade paints are exempted

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).

Titanium dioxide

New ⇨ **If the product contains more than 3.0 weight % of titanium dioxide**, 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)):

The sulphate process:

- SOx calculated as SO2: 7.0 **kg/ton TiO2** ⇦ New
- Sulphate waste: 500 **kg/ton TiO2**.

⇩

The chloride process:

- If natural ore is used, 103 kg chloride **waste/ton TiO2**
- If synthetic ore is used: 179 kg chloride **waste /ton TiO2**
- If rutile ore is used: 329 kg chloride **waste /ton TiO2**.

If more than one type of ore is used, the values will apply in proportion to the quantity of the individual ore types used.

Comment 1.
To use:
kg/ton TiO2 pigment

Note:
SOx emissions only apply to the sulphate process.
For the avoidance of doubt, the Waste Framework Directive 2008/98/EC, article 3 defines waste. If the TiO2 producer can satisfy article 5 (by-product production) of the Waste Framework Directive for its solid wastes then, the wastes shall be exempt.

Titanium dioxide (cont.)

Remove wording

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.

THANK YOU VERY MUCH

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

Session 4: Revision of existing criteria
Criteria on use – Hazardous substances

2nd Ad-hoc Working Group Meeting
24th September 2012, Brussels
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Criterion on hazardous substances -Background information

-New Ecolabel Regulation 66/2010 sets requirements on the use of substances and mixtures with hazardous properties

-A standard criteria text is now used as reference in all EU Ecolabel criteria which are under development or revision for different product groups

-Several criteria of the current Ecolabel are integrated in the new hazardous substances criterion

-After 1st AHWG a sub-AHWG on substances was formed. Stakeholders provided request for derogation and consultation was conducted

New Ecolabel Regulations (EC) No 66/2010)

***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.

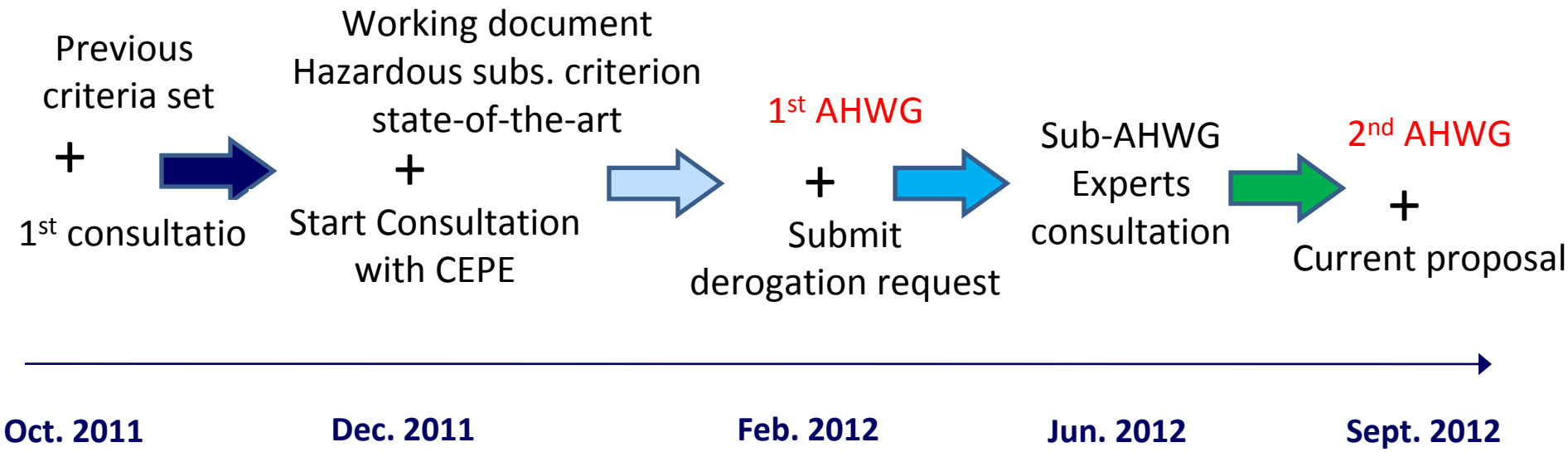
Criterion: Hazardous substances and mixtures

Important issues:

- **EU Ecolabel must follow the Ecolabel Regulation 66/2010.**
- The difficulties to develop this criterion for the paints product group have been expressed by many stakeholders (e.g. high number of derogation requests)
- The stakeholders were asked to provide **specific requests 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.
- After 1st AHWG the **sub-AHWG on substances** was formed and was regularly consulted
- **No derogation** shall be given to substances classified as substances of very high concern (**SVHC**) –Article 6.7 Ecolabel Regulation 66/2010

Criterion on hazardous substances -Background information

Criterion on hazardous substances timeline of development



Request for derogation overview

Derogated substances serve different functions:

1. In can preservative
2. Dry film preservative
3. Neutralising agent pH corrector
4. Cobalt, Zinc and other dryers
5. Anti skinning agent
6. UV protection filter (Light stabilizer)
7. Anticorrosive pigment (solid corrosive inhibitor).
8. Substrate Wetting agent / surface tension modifier
9. Silicon Resin Emulsion
10. Solvent (in composition of some ingredients)
11. Pigment
12. Unreacted impurity

In total 73 substances are proposed for derogation…. … but stakeholders submitted additional substances' derogation requests after 1st criteria proposal release.

Hazardous substances

According to Article 6(6) of the regulation No 66/2010 on EU Ecolabel, the product or any part of it thereof shall not contain substances or mixtures meeting the criteria for classification with the hazard classes or categories in accordance with Regulation (EC) no 1227/2008 specified below nor shall it contain substances referred to in Article 57 of REACH Regulation (EC) no 1907/2006. The risk phrases below generally refer to substances. However, for mixtures of substances where information on the substances is difficult to obtain, classification for rules of mixtures may be applied. The term mixture and substance are used as defined within the CLP Regulation (EC) No 1272/2008.

Hazard Statement[1]	Risk Phrase[2]
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	R27

Hazardous substances (cont.)

Hazard Statement[1]	Risk Phrase[2]
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R23; R26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
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

Hazardous substances (cont.)

Hazard Statement[1]	Risk Phrase[2]
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
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

Hazardous substances (cont.)

Hazard Statement[1]	Risk Phrase[2]
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

Hazardous substances (cont.)

Hazard Statement[1]	Risk Phrase[2]
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

[1]Regulation (EC) no 1272/2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) no 1907/2006

[2]Directive 67/548/EEC with adjustment to REACH according to Directive 2006/12/EC and Directive 1999/45/EC as amended

Derogations: Following substances are exempt from this criterion

Derogation number a/a	USE	Chemical Composition Ingredient	CAS nr/ EINECS Nr / REACH registration Nr *	Classification	Requirement	Maximum allowed concentration % w/w	Only for a transition period of 2 years	Type of paint
1	In can preservative	2-Methyl-2H-isothizol-3-one	2682-20-4	R 22-23-34-43-50	1, 5, 8, 9	0,1%	X	

Derogations: Following substances are exempt from this criterion

Derogation number a/a	USE	Chemical Composition Ingredient	CAS nr/ EINECS Nr / REACH registration Nr *	Classification	Requirement	Maximum allowed concentration % w/w	Only for a transition period of 2 years	Type of paint
1	In can preservative	2-Methyl-2H-isothizol-3-one	2682-20-4	R 22-23-34-43-50	1, 5, 8, 9	0,1%	X	
72			000067-63-0	R11, 36, 67	9	0.020%	X	
73	Unreacted i		Various	Various	7			

First columns:
Information on the substance

Last columns:
Requirements and/or restrictions of derogations are indicated

In the notes:
Requirements are specified for each derogation

Notes:
1.The sum of the total allowable co ...efore or after tinting (if applicable). For outdoor wood coatings the total allowable concentration shall not exceed 0.2 % (w/w).
2.The sum of the total allowable concentration of these compounds is 0.1% w/w).
3.The sum of the total allowable concentration of these compounds is 0.0015 % (w/w).
4.These compounds can only be used in alkyd paints and varnishes and up to a concentration not exceeding 0,05 % (w/w), measured as % of cobalt metal in the end product.
5.Substances or mixtures can have an allowable maximum concentration of 2% (w/ww/w) in the final paint formulation.
6.May be used in alkyd paints up to a limit of 0.3 % (w/w) in the final paint formulation.
7.Ingredients containing VAH may be added up to such a limit that the VAH content in the end product will not exceed 0,1 % (w/w). 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.
8.The product may include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. These biocides shall be registered in the Biocide Product Regulation (BPD) scheme. Further, 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, H410, H411, H412 and H413 are permitted but only if their bioaccumulation potentials are characterised by log Kow (log octanol/water partition coefficient) < 3,0 or an experimentally determined bioconcentration factor (BCF) ≤ **100.**
9.After a transition period of two years the paint formulation shall not contain any hazardous substances, or combinations thereof, that result in the formulation being greater than 0.7 of the limits defined within PART A of directive 1999/45/EC and as required by the CLP regulation for marking dangerous substances.
10.Derogation is granted provided that the user before and during the paint use cannot come in contact with the substance in a dry form (e.g. the substance is within the liquid paint).

Hazardous substances (cont.)

The final product must not be labelled according to the hazard statements above.
Concentration limits for substances or mixtures which may be or have been assigned the hazard statements or risk phrase listed above, or which meet the criteria for classification in the hazard classes or categories listed in the table above, and concentration limits for substances meeting the criteria set out in Article 57(a), (b) or (c) of Regulation (EC) No 1907/2006, shall not exceed the generic or specific concentration limits determined in accordance with the Article 10 of Regulation (EC) No 1272/2008. Where specific concentration limits are determined, they shall prevail over the generic ones.
Concentration limits for substances meeting the criteria set out in Article 57(d), (e) or (f) of Regulation (EC) No 1907/2006 shall not exceed 0.1% weight by weight.

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 and the quantity, in % (w/w), for all chemicals where derogations are sought. 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

Apply the standard criterion for Restriction on Hazardous substances in EU Ecolabel Scheme following Regulation 66/2010

Investigate Derogation Requests

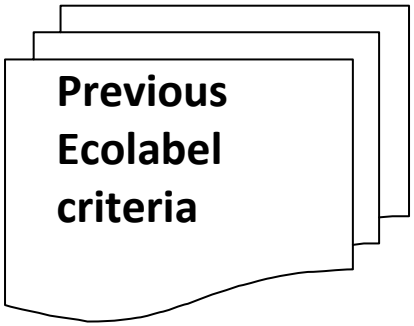
Consultation with experts of sub-AHWG

Grant derogation	**Flagged substances**	**Exclude substances**
No alternatives are in place or risk is limited	Flagged substances. Stakeholders have confirmed that can be avoided -at least in specific applications. Mixed views among stakeholders	These substances have been identified since long time as dangerous and alternatives are in place. Their use is and can be avoided.

Give time to industry to change paint formula. Allow the use of substances which are widely used (and found in many Ecolabelled products) but only for limited time (proposal for 2 years).

Granted derogations + **Flagged substances**

Comply with additional requirements.
(given in the proposal in the notes)



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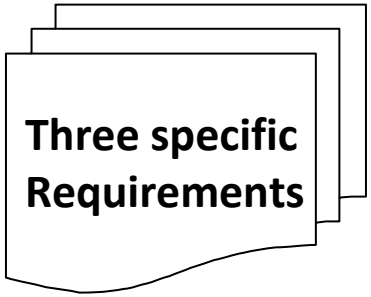

Requirements of previous Ecolabel criteria set are now applied on derogations

Requirements on a) biocides, b) on CLP calculation of final paint and c) on STOT RE 1 and STOT RE 2

Important: in the notes the requirements refer to the substance or to substance group or to the final product formula

Biocides are additionally restricted by the proposed requirement:

~~The product may include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. These biocides shall be registered in the Biocide.~~

~~Product Regulation (BPD) sch~~eme. Further, 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, H410, H411, H412 and H413 are permitted but only if their bioaccumulation potentials are characterised by log Kow (log octanol/water partition coefficient) < 3,0 or an experimentally determined bioconcentration factor (BCF) ≤ 100.

Comment 1

Remove part of text which is self evident e.g. Comply wit BPD

Comment 2

BCF ≤ 100 corresponds to log Kow (log octanol/water partition coefficient) < 3,2

Change in order to ensure consistancy

This requirement is found in criteria proposal under note 8

Calculation of CLP threshold of the final paint formula:

A transition period of two years will allow industry to set up the necessary monitoring and IT systems

After a transition period of two years the paint formulation shall not contain any hazardous substances, or combinations thereof, that result in the formulation being greater than 0.7 of the limits defined within PART A of directive 1999/45/EC and as required by the CLP regulation for marking dangerous substances.

This requirement is found in criteria proposal under note 9

Comment received

Industry asked for more time. In June 2015 paint suppliers will have to provide CLP markings. Further, this calculation should be tested –threshold of 70% may be very high in certain type of paints

Reasoning and background:

This requirement aims to ensure that:

Despite the fact that a number of derogated (but still inherent hazardous compounds) are/ may be used in the end the final product has lower health and environmental risk and is "distanced " from being classified.

Requirement for STOT RE 1 and STOT RE 2 :

Derogation is granted provided that the user before and during the paint use cannot come in contact with the substance in a dry form (e.g. the substance is within the liquid paint)

This requirement is found in criteria proposal under note 10

Reasoning and background:

The risk associated with this substance is present in dry form.
Under the condition that the user can only comes in contact with this substance in liquid form then the use of substance is allowed.

Structure of table for derogations –how to read and check

Derogations: Following substances are exempt from this criterion

1	2	3	4	5	6	7	8	9
Derogation number a/a	**USE**	**Chemical Composition Ingredient**	**CAS nr/ EINECS Nr / REACH registration Nr ***	**Classification**	**Requirement**	**Maximum allowed concentration % w/w**	**Only for a transition period of 2 years**	**Type of paint**
1	In can preservative	2-Methyl-2H-isothizol-3-one	2682-20-4	R 22-23-34-43-50	1, 5, 8, 9	0,1%	X	

First columns 1 - 5:
Information on the substance

Last columns 6 - 9:
Requirements and/or restrictions of derogations

Column 6: **the notes in which requirements are set are indicated**

Column 7: **maximum concentration is given. This is the upper limit. Often due to column 6 the actual concentration is lower.** **Comment received: Inconsistencies found- to clarify**

Column 8: **If a substance is flagged an X is indicated. Derogation is** valid for transition period**.**

Column 9: **the derogation is only for the certain type of paint indicated.** Necessary to complete table.

Discussion point: combine column 8 and 9 ?

Input received

1) New substances are asked for an evaluation for derogation

2) Transition period of flagged substances. For some stakeholders it is not possible to prevent the use of certain flagged substances hence this is not a final solution (after transition period these products will not get the Ecolabel). Another issue to clarify what are the consequences on this.

3) A limited number of substances are asked to be re-evaluated

4) Remove inconsistencies in the table, e.g.:
   - R-phrases which are not in the standard text e.g. R41
   - Maximum allowable concentrations versus stricter limits given in notes 1-6 etc

Next steps

1) Finalize the criterion (clarify inconsistencies)

2) New substances – Consultation will be needed if requests will be accepted for investigation

3) Flagged substances – more information on alternatives or non-use would allow to unflagging the derogation for specific uses

Challenges:

- Short time. Consultation steps need typically long time e.g. at least 2 weeks to collect responses
- Experts meeting of the Sub-AHWG on hazardous substances in the coming weeks? Proposal for 2 discussion rounds and final conclusion.

THANK YOU VERY MUCH

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

Session 5: Revision of existing criteria
Criteria on use phase – efficiency in use

2nd Ad-hoc Working Group Meeting
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Criteria presentation structure

- Criteria on efficiency in use:
  1. Requirement on “Spreading rate”
  2. Requirement on “Wet scrub resistance”
  3. Requirement on “Resistance to water”
  4. Requirement on “Adhesion”
  5. Requirement on “Abrasion”
  6. Requirement on “Weathering”
  7. Requirement on “Water vapour permeability”
  8. Requirement Liquid water permeability
  9. Requirement Fungal resistance
  10. Requirement Crack bridging
  11. Requirement Alkali resistance
  12. Requirement Corrosion resistance

Spreading rate

Received Comment
Common performance for indoor and outdoor paints

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 8m2per litre of product for indoor paints and 8 m2 for outdoor paints. For tinting systems, this criterion applies only to the white base (the base containing the most TiO2). 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.

For all other bases used to produce tinted products — these are bases which as a rule contain less TiO2, which are unable to achieve the requirement of at least 8m2 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 6m2 per litre of product.

Spreading rate (cont.)

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 1m2 per kg of product. Elastomeric paints shall have a spreading rate (at a hiding power of 98 %) of at least 4m2 per litre of product.

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

Assessment and verification: The applicant shall provide a test report using the method ISO 6504/1 (Paints and varnishes — determination of hiding power — Part 1: Kubelka-Munk method for white and light-coloured paints) or 6504/3 (Part 3: determination of contrast ratio (opacity) of light-coloured 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.

Received Comment:
Include Floor paints and coatings? Specific primers comply with 6m2/l limit

Wet scrub resistance

<u>All paints</u> shall have a wet scrub resistance as measured by EN 13300 and EN ISO 11998 of class 4 (not exceeding 70 microns after 40 cycles)

<u>Comment 1</u>

For discussion shall the class 3 be the minimum (exclude class 4?). Then give also specific exemptions

Paints (according to EN 13300) for which claims a… hether on the product or in related marketing mate… shable shall have a wet scrub resistance… d EN ISO 11998 of class 2 (not exc… cycles).

Paints (accordin… aims are made (whether on the pro… ing material) that they are hard … ub resistance as measured by EN 13300 and … 1 (not exceeding 5 microns after 200 cycles).

Please see also previous presentation section

<u>Comment 2</u>

For discussio… shall the test be on finish product

… to the large potential range of possible tinting colours, this criterion will be restricted to the testing of tinting bases.

Proposed amendment

Limed paints, Silicate paints, Primers, Anti-rust paints, Wood stains and Facade paints are exempted

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).

Resistance to water

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 of colour occurs.

Assessment and verification: 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.

Adhesion

Pigmented masonry primers shall score a pass in the 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.

Floor coatings, floor paints, floor undercoats, metal undercoats and wood undercoats shall score **<=** 2 in the EN 2409 test for adhesion.
Transparent primers are not included in this requirement

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 Ecolabel (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

Abrasion

Floor coatings and floor paints shall have an abrasion resistance not exceeding 70 mg weight loss after 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.

Weathering

Received comment :
The weathering test should be applied on finish colour and not on the tinting bases without colorants.
The applicant shall choose the more representative colour

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 according to 11507:2007.

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.

According to ISO 7724-3:1984, the colour change of samples exposed to weathering shall not be greater than ΔE^* = 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.

Weathering

New amendment
The gloss finishing tests only apply to gloss and satin paints and varnishes and they are inappropriate for matt paints.

Comment
50% decrease is proposed otherwise it is difficult for alkyd based products.

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

- Flaking according to ISO 4628-5:2003; flake density 2 or less, flake size 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.

Weathering (cont.)

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

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.

Water vapour permeability

Where claims are made that exterior masonry and concrete paints are breathable 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~~.

Liquid water permeability

Where 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 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 EN 1062-3:1999.

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

Fungal resistance

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.

Crack bridging

Where claims are made that masonry (or concrete) paint has elastomeric properties, it shall be at least classified as A1 at 23°C according to 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~~.

Alkali resistance

Masonry paints and primers shall show no noticeable damage when the coating 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.

Corrosion resistance -to be determined-

Scope: criterion will cover only anti-rust coatings
Standards: EN ISO 12944 and ISO 4628.
Comment: use ISO 4628 as it is more appropriate combined with ISO 9227 for preparation and condition testing of samples.

THANK YOU VERY MUCH

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

Session 5: Revision of existing criteria
Criteria on use phase – efficiency in use

2nd Ad-hoc Working Group Meeting
24th September 2012, Brussels
Joint Research Centre, Institute for Prospective Technological Studies

Volatile Organic Compounds (VOC)

New limits ⇩ Old limits ⇩

Volatile Organic Compounds content shall not exceed:

Description	VOC limits (g/l including water)	PREVIOUS EU Ecolabel (g/l)
Indoor matt walls and ceilings (Gloss <25@60°)	10	15
Indoor glossy walls and ceilings (Gloss >25@60°)	40	60
Outdoor walls of mineral substrate	25	40
Indoor/Outdoor trim and cladding paints for wood and metal	80	90
Indoor trim varnishes and woodstains, including opaque woodstains	65	75
Outdoor trim varnishes and woodstains, including opaque woodstains	75	90
Indoor and Outdoor minimal build woodstains	50	75

Volatile Organic Compounds (VOC)

New limits

Old limits

Volatile Organic Compounds content shall not exceed:

Description	**VOC limits (g/l including water)**	**PREVIOUS EU Ecolabel (g/l)**
Primers	10	15
Binding primers	10	15
One-pack performance coatings	80	100
Two-pack reactive performance coatings for specific end use such as floors	80	100
Decorative effect coatings	80	90
Anti-corrosion paints	80	new

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. **These values shall be measured at the point of application and must include any additional solvent added to the paint prior to application.**

amendment ⇨

New ⇨ **The total Semi Volatile Organic Compound (SVOC) shall be limited to 30 g/l including water. SVOCs are defined as organic substances or mixtures with a boiling range between 250 and 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.

Indoor Air Quality (IAQ)

Based on conducted research:

- There is a general move towards IAQ testing for construction materials (including paints), which will at some point be mandatory through the CE marking scheme. CBs responded positively to an IAQ criterion -IAQ can give added value to EU Ecolabel.
- There is not an internationally recognised/harmonised standard for testing, there is concern that favouring a single standard would unduly benefit companies that are currently subscribing to that system
- IAQ is only relevant for indoor paints and varnishes.
- The current research on harmonised EU-wide standard is intended as a minimum standard and therefore probably not appropriate for EU Ecolabel.
- The work performed particularly by the French standard could form the basis of a threshold for EU Ecolabel paints and varnishes (used a grading).
- Stakeholders raised concerns regarding the uncertainty over this test method (method need to be adjusted to paints instead of construction materials).
- It is commented that with the current test scaling the top (A+) can be achieved by an average paint. Therefore, no substitution of VOC criterion by IAQ (concluded in 1st AHWG)
- IAQ tests are currently expensive – burden for applicants. Options to reduce should be explored.

Indoor air quality

New criterion ⇒

Each indoor paint shall undergo testing for Indoor air quality and meet Class A+ as defined within French Decree NOR: DEVL1104875A. This requirement is restricted to the lightest colour paint within a series or, in tinting systems, the base paint.

Verification and assessment: The applicant shall provide test results using the methodology described within NOR : DEVL1104875A.

Metals

The following 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 0.01 % w/w deriving from impurities in the raw materials and can be present at these quantities for each metal for each ingredient.
Derogations for substances containing cobalt are described under the Hazardous Substances criterion.

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

Formaldehyde

Free formaldehydes shall not be added. Formaldehyde donators 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 in-can concentration shall be determined using a standard based on High-Performance Liquid Chromatography using a testing laboratory certified to ISO 17025:2005. The applicant shall provide test results on the concentration of in-can formaldehyde on each paint colour, or where a tinting system is used, on the base paint, each colour tint, and the theoretical maximum on a tinted paint (i.e. a paint that contains the maximum amount of tint with the most amount of formaldehyde donor).

Comment 1
The HPLC test is expensive.
For discussion:
Is it necessary to mandate it if no formaldehyde donors are added?

Phthalates

Intentional addition of phthalates is not permitted.

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

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

Session 6 &7 : Revision of existing criteria
-Criteria on End-of-life phase
-Corporate Criteria
-Additional relevant issues

2nd Ad-hoc Working Group Meeting
24th September 2012, Brussels
Joint Research Centre, Institute for Prospective Technological Studies

Unused Paint – Reasoning

There are different options and actions that can reduce the environmental impacts .
Differences are found among the Member States about which option/action is more appropriate. The se options are as follows:

1.Reuse. Mainly run as charitable organisations - making use of unwanted paint selling either to the general public or for use within the social sector. The largest hurdle for implementation is that collection and reuse throughout Europe is likely to be different between countries, which may be expensive to operate.

2.Recycle or set minimum recycled content. - an emerging technology (unused white paint is added to the base formulation). The main concern is on the quality of the paint, particularly its anti-biocidal properties (has the old paint been contaminated?).

Unused Paint – Reasoning

3.Take-back for appropriate disposal. – solvent-containing waste paint must be treated as hazardous material and be sent for hazardous waste disposal (usually incineration). Encouraging customers to return unwanted paint, for example to the point of sale, for appropriate disposal could be beneficial. Potential problems in coordinating this requirement across Europe and the overall benefit may be limited.

4.Combination of the above. It is conceivable that developing the infrastructure for any of the above would facilitate the adoption of several reuse and recycling options. This would allow a manufacturer to decide the most appropriate method for controlling waste paint. It would however, be difficult to develop a flexible yet robust criterion to monitor this activity.

Unused Paint – Reasoning

Alternative Ecolabel schemes set requirements, specify the development and implementation of a scheme to **take-back, recycle and reuse unwanted paint**. The French **industry label 'RETOUR'** is run by the French Environment Agency, ADÈME, to fulfil the requirements of their environmental code L541-10-4 which states that dangerous waste must be safely disposed of.

Summarizing

There is a **clear environmental impact from unused paint**.
This extends to **both disposal** of the paint and also the impact of **production** of unused paint.

There is significant **resistance** from **manufacturers** and producers to the implementation of a **take-back or reuse** scheme. They argue that the diversity of the **waste collection regimes** throughout Europe make developing a universal scheme impractical and schemes tailored to individual Member States are **expensive** as well that they have **limited control** of fate of unsued paint **Conversely,** there is some **support** from the Ecolabel **Competent Bodies** who recognise the environmental **value of reuse**.

Unused Paint criterion proposal

Applicants shall encourage paint reuse/recycling equivalent to at least 2 %, by volume, of all their Ecolabelled paint sold per annum. This can be achieved by one or with combination of the following options:

a. Supporting reuse collection systems through third parties

b. Accepting unwanted paint for recycling or reuse

c. Supporting retailers with take-back systems.

The user should be respectively advised on the available options on how to deal with the unused paint.

Unused Paint (cont.)

Verification and assessment: The applicant shall either provide direct evidence of having a reuse scheme in place that reuses at least 2% by volume of paint per annum or provide evidence of substantial financial, logistical or physical support to a third party scheme that reuses 2%. It is not a requirement that the paint reused has obtained the EU Ecolabel. In addition, the applicant shall provide evidence through literature and packaging that instructs the end user where unused paint can be taken for reuse/recycling. These instructions should also be made available via the manufacturer website.

With regard to the threshold:

On average 10 % of paint is unused, if 1/5 thereof is captured this makes 2 % of the overall.

Recycled content

Rationale:

There are three ways to reduce the environmental impact of the packaging:

- Increasing the amount of recycled material within the paint pot
- Decreasing the amount of material within the paint pot
- Improving the usability and lifetime of the paint through changes in packaging design.

Received Comment 1

Limited capacity of post-consumer recycled content and lower mechanical properties,
Design limitations (white packaging not possible).
Cost concerns.

Criterion proposal:

Plastic paint pots shall be made of a minimum 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.

Consumer information

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

Consumer information (cont.)

- 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.
- Text advising that unused paint requires specialist handling for safe environmental disposal and therefore it should not be thrown away with household refuse. The consumer should be informed on the provided and/or supported by the manufacture option for dealing the unused paint as given in criterion "unused paint".
- 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.’

Consumer information (cont.)

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. The information in which is given advice on how to deal with the "unused paint" should also be available via the manufacturer website.

Comment 1
A sample of the product is not considered for necessary.

Information appearing on the Ecolabel

Box 2 of the Ecolabel 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)

Information appearing on the Ecolabel (cont.)

- Minimised use of hazardous substances
- Low volatile organic compounds (VOCs).

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.

THANK YOU VERY MUCH

Additional relevant issues and future recommendations

1) LCA study shows that environmental impacts are associated with the use of binders. Recommend to investigate this issue.

2) It is recommended to consider the issue of intentionally engineered nanomaterials based on new research findings

3) It is recommended to investigate the potential of the scope expansion to non-filming coatings

4) It is recommended to investigate on the area of recycled content in paints and paints waste management