

Summarised comments and follow-up after the EUEB meeting of March 2013¹

<p>General comments, definitions, Assessment and Verification</p>	<ul style="list-style-type: none">– <u>Regarding the criteria text part: " Article 1"</u><p>An amendment to clarify that fillers as defined by EN ISO 4618 are not in the scope was requested. This comment was accepted and respective text was added.</p>– <u>Regarding the criteria text part: "Article 2"</u><p>Stakeholders asked to add a number of definitions for clarification purpose. Following this request several definitions were added (e.g. UV curable paint systems, powder coatings, in-can preservatives, dry film preservatives, anti-skinning agents). In case of defining gloss as main reference ISO 28138 standard levels were used.</p>– <u>Regarding the criteria text part: " Article 7"</u><p>Stakeholders asked for a longer period of validity for the licences of current Ecolabelled products. The reasoning for this request is that in the current criteria revision many changes are made and therefore a longer transition period will allow manufacturers to undertake the necessary changes. This request was considered for relevant by the research team. However this part of the criteria is the same across different product groups and a change there would need to be approved on the EUEB level; therefore no change has been now proposed.</p>– <u>Regarding the criteria text part: " The aim of the criteria"</u><p>After the EUEB in November 2012 a few criteria areas were withdrawn (e.g. criterion on unused paint and on indoor air quality). The text's part referring to these area was therefore removed and/or amended.</p><p>Moreover, stakeholders proposed improvements on wording which was undertaken. An amendment was made to clarify that the requirements on Criterion 4 "Volatile Organic Compounds content-VOC" include also requirements on semi-volatile organic compounds (SVOCs).</p>– <u>Regarding the criteria text part: "Assessment and verification"</u><p>In part (a) Requirements stakeholders asked to specify in which cases a Competent Bodies (CB) may accept different tests than the ones described in the criteria. In order to ensure a harmonised handling of Ecolabel dossiers across different member states it is now proposed that a CB can accept such a test only if the test is described in the user</p>
---	--

¹ For more details regarding previous comments, please consult the Technical Background Report, available on the Project website: <http://susproc.jrc.ec.europa.eu/paints/stakeholders.html>.

manual of the Ecolabel criteria application. Update of the user manual can be made more easily than the criteria legal document. Such an update should take place on the basis of agreement and consensus on discussions held on EUEB and CB Forum level. Relevant text was added on this point.

Further an amendment on the text regarding the acceptance and/or request (if appropriate) of the declaration of compliance with the criterion requirements, of test reports made by *manufacturers' suppliers* and other test proof was made.

A text regarding the EMAS system was not considered relevant to be included in a legal document as it was providing a more general recommendation and was therefore removed.

- In part (b) Measurement thresholds Member states have commented to specify the used limit of 0.01% in case of rounding up and proposed to use the 0.010% limit. Manufacturers asked to use instead a more relaxed threshold of 0.1% especially as impurities are covered. The proposal of the MS was accepted whereas a clarification regarding impurities was added.
- In part (c) manufactures and their raw material suppliers expressed concerns that due to intellectual property rights providing to the CB the exact paint formula as requested by the criterion text could be a problem. This requirement is not a new one, it exists already in the current criteria for both indoor and outdoor products and there are many licences, so it was not seen a barrier for the current applicants. Therefore, the currently valid requirement is kept also in the revised criteria version.
- The text of point (d) regarding recognition of older performance testing reports (up to 5 years backwards) was removed from the decision text and will be included in the user manual, as requested in the feedback received. One stakeholder asked for a longer period than the 5 years. Other stakeholders indicated that acceptance of testing shall depend on whether a change in the formulation and/or testing methods and/or limit values took place (independantly when the testing was made; i.e. on the time which passed since the testing). Discussions with CBs how the acceptance of older testing results should be conducted in a harmonised way will be proposed to the CB Forum.
- Regarding the criteria text part: "Eco-label criteria"

Stakeholders commented that in criterion 4 in the verification part together with the theoretical calculation of the VOC content its measurement using the method given in ISO 11890 in line with Directive 2004/42/EC should be also accepted. The text was amended respectively.

	<ul style="list-style-type: none"> – Further stakeholders spotted an inconsistency in the text part referring to the application of criterion 1 and 2 for tinting systems as the requirement should refer to the spreading rate requirement in general as this differs for different paint types. This section is removed and included in the single criteria in the revised version.
Criterion 1. White pigment and Wet Scrub Resistance	<ul style="list-style-type: none"> – <u>Regarding the limit values and merging with the criterion on wet scrub resistance</u> <p>Stakeholders asked several questions for clarification and gave proposals for improvement in the area of the white pigment limits and scope for different kinds of paints. It was not clear if in situation where no wet resistance is claimed the paint for indoor use shall comply with 36 g/m² or 25 g/m² limit. It was clarified that in this case the 25g/l limit applies.</p> <p>Following the received feedback, the class 3 and 4 were removed from the table.</p> <p>The derogation for limed paints and silicate paints was welcomed. It was further asked if this criterion applies to mat indoor wall paints which are not washable. Need to clarify which threshold applies for a paint that's both used indoor and outdoor was also mentioned. It is proposed that in this case the more stringent values apply.</p> <p>Several stakeholders indicated the overlap with the sub-criterion on wet scrub resistance. It was proposed to merge these two criteria in one. Setting one common criterion was analysed and accepted. Specific comments regarding the wet-scrub resistance are included in the respective section.</p>
Criterion 2. Titanium Dioxide Pigment	<p>Only very minor changes were introduced in the criterion following the feedback received, the phrase 'titanium dioxide' was extended to 'titanium dioxide pigment' and an amendment of the assessment and verification was made, removing the unneeded part "together with the titanium dioxide content of the product".</p>
Criterion 3 Efficiency in use	
Sub-criterion (a) Spreading rate	<ul style="list-style-type: none"> – <u>Regarding scope of the criterion</u> <p>Some stakeholders indicated that it was unclear if requirements for primers, thick decorative coatings and elastomeric paints applied only for white and light-coloured products. The requirement applies to all paints.</p> <p>Additionally, it was indicated that it should be avoided to specify (as it is the case in the currently valid Ecolabel criterion) for some primers with special adhesion properties the surfaces they can be applied on (i.e. aluminium and galvanised surfaces) and to keep the criterion for primers as it was previously formulated. In this case the confusion to</p>

	<p>which applications or colours the requirement for primers applies would be avoided.</p> <p>It was pointed out that so far the primers for interior walls should have at least a spreading rate (at a hiding power of 98 %) of 6m²/l. For primers for interior walls good adhesion properties (e.g. on plaster) are the main attribute of these products, and not their opacity. Thus the spreading rate of 6m²/l should be kept for these products.</p> <p>In order to avoid misunderstanding, amendment of the exemption text was proposed as follows: "This requirement does not apply to varnishes, woodstains or any other transparent adhesion primers or transparent finishes".</p> <ul style="list-style-type: none"> - <u>Regarding Assessment and Verification</u> <p>Finally, it was indicated that in the assessment and verification section the phrase "or equivalent" shall be removed to ensure that all the applicants use the same test methods and the CBs evaluate in a harmonised way the applications.</p>
<p>Former criterion 3(b) Wet scrub resistance</p>	<ul style="list-style-type: none"> - <u>Regarding the scope and accepted class of WSR</u> <p>It was also indicated that matt paints should not be required to be tested and that for clarity the exclusion of outdoor paints should be explicitly mentioned.</p> <p>One stakeholder proposed to limit the acceptance of WSR to the class 1, 2 or 3. They pointed out that "<i>Good to very good durability for an indoor wall paints (i.e. scrub resistance class 1 or 2) means lower frequency to refresh and therefore makes less energy consumption/waste due to:</i></p> <ul style="list-style-type: none"> - <i>less raw materials/paints have to be produced,</i> - <i>less waste are generated after application of this paint".</i> <p>The paint with WSR class 4 was not considered by the stakeholder as more environmentally preferable. The proposal was to require for the indoor wall paints, for which there are no claims that they are washable-cleanable, a class 3 of WSR or better (i.e. class 1 or 2). The CB proposed also that ceiling paints and matt indoor paints (which constitute the main segment of the indoor paint products market), for which there is no claim that they are washable-cleanable, should be at least WSR class 3.</p> <p>Opposite opinion was received from another stakeholder, who indicated that they are against compulsory requirement on WSR for all indoor paints. They asked for a clarification if transpirant paints are considered matt paints. The explained that "<i>transpirant paints, which constitute 60-80% of their ecolabelled products, are of WSR class 5. (...) These paints are not washable or cleanable, but they contain less hazardous substances, are water based, contain less</i></p>

	<p><i>white pigments than other washable paints and should not be discriminated"</i>. It was referred results of the technical analysis which has shown that white pigments content is one of the main contributors to the environmental impact of paints for this product group. Thus, exclusion of paints with lower classes, e.g. 5, which contain less white pigment, was considered to be inconsistent with the findings of the study.</p> <p>One stakeholder asked for WSR requirements for matt paints. Industry representative suggested to accept only paints with WSR of class 1 or 2 and asked for compulsory WSR testing for matt paints. Another one indicated that only ceiling paints shall be excluded, while all other indoor paints should be tested.</p> <p>No agreement was obtained among stakeholders regarding this issue. There is a clear trade-off between the content of white pigment and the life-span of a paint product (which can be extended if the paint is washable-cleanable). Furthermore, it was indicated that consumer may choose lower class WSR paint due to esthetical reasons. Therefore, an inclusion of the paints with class 3, 4 or 5 if they have very low white pigment content was proposed to be accepted.</p> <p>It is finally proposed to allow paints of lower class but only if the white pigment content does not exceed 25 g/l. For paints of class 3, 4 and 5 no claims on their clean-ability shall be made. Ceiling paints do are not required to be tested for WSR.</p> <ul style="list-style-type: none"> – <u>Regarding testing</u> <p>It was asked whether internal measurements could be accepted except of external control in order to limit costs for all testing required. A test report according to EN 13300 using the method EN ISO 11998 is required. Accepted are also tests conducted in-house.</p>
<p>Sub-criterion (b) Adhesion</p>	<ul style="list-style-type: none"> – <u>Regarding the test methods and results acceptance</u> <p>One stakeholder pointed out that the EN24624 (ISO 4624) shall be substituted by EN2409 for interior support, as it is not cohesive (like plaster substrate). EN 2409 is considered to better judge the adhesion. Additional explanations have been asked from the stakeholders and feedback is awaited.</p> <p>Furthermore, a correction regarding the acceptance for adhesion for floor coatings, floor paints, floor undercoats, metal undercoats and wood undercoats tested in accordance with EN 2409 was pointed out. According to the EN 2409 best result is 0 and worst is 5 therefore in the revised draft criteria adhesion inferior or equal to 2 is required.</p>

**Sub-criterion (e) Weathering
(for outdoor paints and
varnishes)**

- Regarding testing on tinting bases or on coloured paints

One stakeholder highlighted that the proposed limits (threshold value $\Delta E^*=4$) was "set in 2008 by correlating weathering data of tinting bases without colorants. So this threshold for ΔE^* is not the proper limit" for testing of tinted paint. In the opinion of the stakeholder new limits need to be considered if tinted paints shall be tested. Furthermore, it was indicated that it is "difficult to isolate the worse case of tinted paints (...). Also the amount of white pigment affect a lot" the result. It was additionally explained that " $\Delta E^*=8-10$ for a dark shade may be very bad (i.e. visible difference) compared with $\Delta E^*=4$ for a white paint". It was indicated that a comprehensive study would need to be done before setting the proper limits. Therefore, for the current revision it is proposed to keep the testing on the base paint (without colorants) and is recommended for the next revision to be analysed which thresholds are appropriate if test is conducted on the final paints. Alternatively, it was proposed that 'Tests should be performed on one representative shade for each base paint'. Nevertheless, it would be difficult to identify which shade is the representative one.

Unless additional input from stakeholders with rationale and justified threshold is submitted to the project team, it is proposed for the tests to be still in this criteria version conducted for the base paint.

- Regarding threshold for alkyd based coatings and woodstains

There were a few comments highlighting that the limit of 30% gloss loss is too strict for the majority of alkyd based varnishes; even more that the testing time is now extended from 500h to 1000h. It was commented that for alkyd based varnishes the limit of 50% gloss loss is more appropriate. Another option proposed by stakeholders was to keep the testing requirement of 1000h only for outdoor products. Based on the above feedback, several amendments have been made. It is proposed to require the QUV testing of 1000h for outdoor products.

Gloss definition is given in the following table:

Designation	Angle of Incidence	Reflectance
Gloss	600	≥ 60
Mid sheen (semi gloss, satin, semi matt)	600 or 850	$<60 \geq 10$
Matt	850	< 10
Dead matt	850	< 5
Gloss is measured by the method described in EN ISO 2813		

	<ul style="list-style-type: none"> - <u>Regarding testing</u> <p>Several stakeholders asked to change the assessment for testing of the final product, i.e. the tinted paint, instead of paint base (due to the reasons explained above). This comment was accepted.</p>
<p>Sub-criterion (f) Water vapour permeability</p>	<p>One stakeholder asked for the reason to exclusion of transparent primers. As this criterion applies only to exterior masonry and concrete paints which are claimed to be breathable, the exclusion text was removed.</p>
<p>Sub-criterion (h) Fungal resistance</p>	<ul style="list-style-type: none"> - <u>Regarding the accepted score in this criterion</u> <p>One stakeholder asked for clearer explanation regarding the score the paint has to obtain. The standard defines a scale ranging from 0 (which refers to no growth) to 5 (more than 70% of the coating is covered by fungal growth). In order to comply with the requirement the paint must be in class 0 to 2.</p> <ul style="list-style-type: none"> - <u>Regarding the testing</u> <p>It was further indicated that the phrase "testing on the paint base" should be replaced by "testing on the one tinted paint", as "<i>it is the final paint which should be of the right quality. The tinting colour can affect the performance of the paint</i>". Respective amendment proposal was included in the draft.</p> <ul style="list-style-type: none"> - <u>Regarding paints with microbial properties and their classification</u> <p>Furthermore, it was again asked if paints with antimicrobial properties are considered to fall into the scope of PT10 according to Biocide Regulation. This issue has been analysed. In accordance with the information given in the Manual of decisions for implementation of directive 98/8/EC concerning the placing on the market of biocidal products it is stated that:</p> <p>"the active substance (in paint) "prevent the growth of mould on the paint itself, once it has been painted on a wall or ceiling. Mould would normally feed on the organic components of the paint - the wall itself has probably very little to offer in nutrients as it is made of inorganic material. So in the end the active substance protects the paint-film (which in turn protects the wall). This clearly meets the definition of PT 7 in Annex V, which reads: 'Products used for the preservation of films or coatings by the control of microbial deterioration in order to protect the initial properties of the surfaces of materials or objects such as paint, plastics, sealants, wall adhesives, binders, papers, art works ...' and " the paint itself should not be considered as a biocidal product, however the active substance (or preparation) used as a preservative is a biocide in PT 7 and needs authorisation for the intended use".</p>

<p>Sub-criterion (k) Corrosion resistance</p>	<ul style="list-style-type: none"> - <u>Regarding the test conditions</u> <p>Association stakeholders proposed to make this criterion more precise through adding the reference to the simulated corrosion test conditions which should be used (240 hours salt spray in accordance with the ISO 9227 standard was proposed).</p> <p>Further clarification was proposed as follows: the results shall be rated using ISO 4628-2² for blistering and ISO 4628-3³ for rusting. Ratings after 240h salt spray could be: ISO 4826-Part 2 for blistering: no worse than size 3 and density 3, ISO 4826-Part 3 for rusting: no worse than Ri2.</p> <ul style="list-style-type: none"> - Furthermore, changing the description of “anti-corrosive” paint (suitable more for industrial application products) to “anti-rust” paint (which better suits decorative paint products) was suggested. <p>The comments were accepted.</p>
<p>Criterion 4. Volatile and Semi-volatile Organic Compounds (VOCs, SVOCs)</p>	<p><u>VOCs</u></p> <ul style="list-style-type: none"> - <u>Regarding the limit values</u> <p>Further discussion regarding the proposed VOC limits for primers and binding primers were conducted. Several MS stakeholders suggested coming back to the previously proposed values of 10 g/l in order to ensure that, after the removal of the criterion on indoor air quality, low VOCs emissions from the ecolabelled paints. On the other hand, industrial stakeholders asked not to lower the limit of 15 g/l. They explained that for indoor matt walls and ceilings, primers and binding primers lower values can be achieved more easily in some countries (e.g. Nordic countries, with colder climate, i.e. lower temperatures) than in other (i.e. Southern countries with warmer climate). It was pointed out that enough VOC is needed with respect to the open-time of the paint⁴. One stakeholder proposed to set stricter values for nearly all paint types as follows:</p>

² ISO 4628-3 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering.

³ ISO 4628-3:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 3: Assessment of degree of rusting

Description	VOC limits (g/l including water)
Interior matt walls and ceilings (Gloss <25@60°)	10
Interior glossy walls and ceilings (Gloss >25@60°)	40
Exterior walls of mineral substrate	25
Interior/Exterior trim and cladding paints for wood and metal	80
Interior trim varnishes and woodstains, including opaque woodstains	50
Exterior trim varnishes and woodstains, including opaque woodstains	60
Interior and Exterior minimal build woodstains	45
Primers	10
Binding primers	10
One-pack performance coatings	60
Two-pack reactive performance coatings for specific end use such as floors	60
Decorative effect coatings	65
Anti-rust paints	80

Some industry stakeholders indicated that the VOCs limits are too low for “Interior/exterior trim and cladding paints for wood and metal”. They explained that “*paint of this type needs the enough VOC with respect to the open-time of the paint. If adjusted further, it will be risked that the customers switch to white spirit-based paints instead, which would be a worse alternative*”.

In the revised criteria the previously proposed values have been kept with the exception of VOC limits for interior wall and ceiling paints, primers and binding primers, for which a compromise threshold of 12 g/l is proposed. Nevertheless technical rationale substantiating the previously mentioned higher threshold, regarding the technical need of higher

⁴ In accordance with the feedback received "open time is defined as the time available where the paint can be worked into a previously painted area. Open time is a key performance property for coatings, particularly for brush applications".

⁵ Of FprCEN/TS 16516 (this technical specification will be adopted in July 2013).

⁶ For more information see: http://www.blauer-engel.de/en/products_brands/search_products/produkttyp.php?id=569.

VOCs content for the products used in southern countries (and explanation regarding the impact of lowering this to 12 g/l) are still welcome for the final discussion.

Furthermore, a clarification was asked which limit value will apply to paints for both, indoor and outdoor use. For both application products stricter limit values should be used.

Additional feedback with technical rationale regarding the limit values was requested and, if possible, will be presented in EUEB meeting in June.

It was further proposed that beside the theoretical calculation, the option to provide a test report using the method ISO 11890 (as defined in Directive 2004/42/EC) shall be allowed. Some stakeholders asked to substitute completely the self declaration by testing. As the technical specification for Construction products - Assessment of release of dangerous substances - Determination of emissions into indoor air shall be adapted in July 2013, feedback is asked whether the Determination of VOCs and SVOCs in test chamber air, as indicated in this specification shall be required or whether alternative verification shall be accepted. Nevertheless, for the current criteria version, both the calculation and the testing results shall be accepted.

SVOCs

– Regarding the definition

Different opinions were expressed regarding the definition of SVOCs. Some stakeholders supported the current definition, while others suggested to refer to the definition proposed in prCEN/TS 16516:2013 Construction products — Assessment of release of dangerous substances — Determination of emissions into indoor air. This draft of the harmonised testing methods has been adopted in September 2012. Its publication as CEN technical specification is planned for July 2013. Later the harmonised testing method will be published as EN standard, but this is not expected before 2015. The definition of SVOCs given in the prCEN/TS 16516 is as follows: "SVOCs are all organic compounds which, in a capillary column as specified in 8.2.2⁵, are eluting with a retention range between n-hexadecane (excluded) and n-docosane (included)". It is proposed to use this definition in the revised draft.

In the feedback received, it was also mentioned that it would be helpful to list the SVOC substances, though it was recognised as a difficult task to establish an exhaustive list. Possibility of establishing such a list will be consulted with stakeholders, and if feasible, included in the user manual.

	<p>– <u>Regarding the limit values for SVOCs</u></p> <p>Some stakeholders pointed out that it is difficult to assess the stringency of these limits, as information about SVOCs is not easily available. It was suggested to increase the threshold limits to 50 g/l for indoor paints and 60 g/t for outdoor paints, and paints with tinting systems. The need to have SVOCs in is also, as above, linked to assurance of the appropriate open-time. Other opinions were also received, where stringent values of 10g/l for Interior matt paints were recommended, due to the link to indoor air quality. It was also proposed to keep for SVOCs the same limit values as for the VOCs as these are also used as solvent/coalescing agents.</p> <p>The Blue Angel Scheme⁶ defines VOCs are all TVOCs (Total Volatile Organic Compounds) and SVOCs according to DIN ISO 16000-6, i.e. the total of organic compounds within the retention range C6 – C16 and > C16 – C22. In accordance with the provisions of this scheme, if SVOC are present in the product, the VOCs (i.e. SVOC and TVOC content) shall not exceed the limit value for VOC with boiling point up to 200°C. Very low SVOC limit values are also set.</p> <p>Due to much diversified opinions regarding the SVOCs limits and the differences how to deal with the situation when both VOCs and SVOCs (as defined in the criterion) are used, further stakeholders feedback in necessary. The project team further investigates this issue and will present the results, as far as possible during the EUEB meeting. Thus, the stakeholders are invited to provide their feedback and proposals with technical rationale substantiating these proposals. So far, as no additional information, beside those mentioned above have been received, the formulation regarding the total sum of VOC and SVOC is left open.</p> <p>Limits for SVOC for various types for paints were proposed for discussion with stakeholders as well.</p>
<p>Former Criterion on Metals</p>	<p>It was highlighted that, on the same technical basis, the criteria should encompass derogations for a number of other pigments that may contain metals within their structure. Concern was raised as to what the basis would be for a comparative environmental and health evaluation of pigments containing metals. Without clear testing parameters this comparison would need to be carried out by a third party with chemical expertise.</p> <p>During the previous round of consultation (September 2012-March 2013) test results were submitted by a stakeholder for a mineral containing barium with the aim of demonstrating the insolubility of the barium content. The test method used was DIN 53770-1 <i>Pigments and extenders - Determination of matter soluble in hydrochloric acid - Part 1: Preparation of acid extracts</i>. This could therefore be suitable with the potential to also specify testing under alkaline conditions. Hazard classifications for derogation could also be considered alongside analytical testing results.</p>

The following pigments containing the listed metals had previously been put forward and their cases for derogation evaluated:

- Barium sulphate: This substance is not classified and test results submitted by a stakeholder demonstrate that is relatively insoluble under acid, neutral and alkaline conditions.
- Antimony nickel within an insoluble TiO₂ lattice: A concentration limit of 3% was proposed linked to a requirement for benchmarking of the health and environmental performance. The antimony chromophore (8007-18-9) is classified similarly to the pigments proposed for comparison by stakeholders, with self-classifications suggesting H411 (R51/53).
- Cobalt aluminate blue spinel: A concentration limit of 5% was proposed for cobalt aluminate blue spinel in order to cover all shades. Self-classifications suggest that it would not be formally classified, although a small number suggest a classification of H400(R50).

Cobalt chromite blue-green spinel is also understood to have been derogated by the Blue Angel and self-classifications similarly suggest that it would not be formally classified. The derogation of pigments containing metals is further discussed in relation to the hazardous substance criteria Section 4.2.10.

It was commented that for pigments containing metals concentration limits would be unnecessarily restrictive. For pigments that meet the testing requirement a simple derogation was therefore envisaged.

On this basis the following formulation is proposed for the revised May 2013 criteria text, which would be moved into the hazardous substances Appendix:

<p>(b) Metals and their compounds</p> <p><i>Applicability:</i> All products</p>	<p><i>The following metals or their compounds shall not be used as an ingredient of the product whether as a substance or as part of any preparation used:</i> Cadmium, lead, chromium VI, mercury, arsenic, barium, selenium, antimony and cobalt.</p> <p><i>The following derogations apply:</i> - Barium, antimony and cobalt in pigments (see restriction 5(f)) - Cobalt in driers (see restriction 2(a))</p>	<p>Trace impurities 0.01% cut-off</p>	<p><i>Verification:</i> Declaration by the applicant and their raw material suppliers.</p>
---	---	---	--

	<p>(f) Pigments <i>Pigments containing metals shall only be used where laboratory testing of the pigment shows that the metal chromophore is bonded within a crystal lattice and is insoluble.</i></p> <p>Applicability: All products</p> <p><i>The following metal containing pigments are derogated for use:</i></p> <ul style="list-style-type: none"> - <i>Barium sulphate</i> - <i>Antimony nickel within an insoluble TiO₂ lattice</i> - <i>Cobalt aluminate blue spinel</i> - <i>Cobalt chromite blue-green spinel</i> 	n/a	<p><i>Verification:</i> <i>Test results demonstrating that the pigment chromophore is bonded within a crystal lattice and is insoluble.</i></p> <p><i>Test method:</i> <i>DIN 53770-1 or equivalent</i></p>
<p>Former criterion on Alkylphenoethoxylates</p>	<p>Comments were received that the listing of specific APEO's was too narrow and that other labels such as the Blue Angel included much more comprehensive listings of surfactants which are APEO's or their derivatives. It may therefore be possible to maintain a simple reference in the restricted substance listing to 'APEO's and their derivatives' whilst providing a longer indicative list of derivatives either in an annex of the final Decision or in the User Manual for applicants.</p> <p>The verification required clarifying as it was not felt to be feasible to obtain SDS from suppliers who may not wish to disclose the formulation of their products. CAS No's and classifications were felt to be more feasible.</p> <p>On this basis the following formulation is proposed for the revised May 2013 criteria text, to be integrated into the hazardous substance listing:</p>		
<p>(b) Alkylphenoethoxylates (APEOs)</p> <p>Applicability: Surfactants in colourant</p>	<p>Alkylphenoethoxylates (APEOs) and their derivatives shall not be used in any paint or varnish preparations or formulations.</p> <p><i>An indicative list of APEO's and their derivatives is provided in Appendix 2 to this Decision.</i></p>	n/a	<p><i>Verification:</i> Declaration shall be provided by the applicant and their surfactant supplier supported by CAS No's and</p>

	and tinting bases, white finishes, dispersing agents and primers.			classifications for the surfactants used.
Former criterion on Isothiazolinone compounds	Isothiazolinone compounds are discussed within the wider context of biocides.			
Former criterion on Perfluorinated alkyl sulfonates (PFAS)	<p>Comments were received from an industry stakeholder that the criterion should reflect the advances made by industry in this area and distinguish, based on definitions established by the OECD, between long and short chained surfactants⁷. Evidence was provided showing that while new short chain surfactants introduced by industry are still persistent they have a significantly shorter half-life for bio-elimination from organisms⁸. It was also highlighted that this form of surfactant plays an important role in paint products formulated to make surfaces easy to clean, with their hydrophobic characteristics providing the function of water, oil and stain repellency⁹. It also understood from stakeholders that they can support a reduction in the VOC content of paints.</p> <p>The proposed test methods should be reviewed because concerns were raised that they may not be accurate enough to exclude other possible contaminants from the paint formulation. More accurate GC/MS/MS and LC/MS/MS methods were proposed. Testing has, however, been omitted on the basis that, in line with the principle applied to the rest of the substance restrictions in Appendix 1, compliance shall be on the basis of declarations from raw material suppliers.</p> <p>The application of this restriction to only colourants and tinting bases was queried. The basis for this narrow definition should be reviewed.</p> <p>On this basis the following formulation is proposed for the revised May 2013 criteria text, to be integrated into the hazardous substance listing:</p>			

	<p>(c) Perfluorinated surfactants</p> <p>Applicability: Colorant and tinting bases</p>	<p><i>Long chain perfluorinated surfactants, as specified in the OECD definition below, shall not be used:</i></p> <p>(i) Perfluorocarboxylic acids with carbon chain lengths $\geq C8$, including perfluorooctanoic acid (PFOA);</p> <p>(ii) Perfluoroalkyl sulfonates with carbon chain lengths $\geq C6$, including perfluorohexane sulfonic acid (PFHxS) and perfluorooctane sulfonate (PFOS); and</p> <p>(iii) Precursors of these substances that may be produced or present in products</p>	n/a	<p><i>Verification:</i></p> <p>Declaration shall be provided by the applicant, raw material suppliers and/or their surfactant supplier supported by CAS No's and classifications for the surfactants used.</p>
--	--	--	-----	--

Former criterion on Biocides

The consensus view from stakeholders was that the criteria proposal was not currently workable, with a number of specific concerns being highlighted:

- Division into two annexes: The separation of a biocide listing and hazard derogations into separate annexes was felt to be confusing. The continuity between the two also requires addressing – for example the preservatives IPBC are zinc pyrithione are subject to concentration limits in Appendix 1 which are not permitted by Appendix 2;
- Restrictions applying to specific biocides: It was not felt to be clear why restrictions applied only to the listed biocides and on what scientific basis they had been selected. The listing was also referred to as a ‘positive list’ and it was queried as to why there was no list for dry film preservatives.
- Combinations of active substances: The listing of specific combinations of active substances was not felt to be workable because it would be too restrictive. It was also not clear whether other combinations could be used and if yes what rules would apply;
- Sum total or individual concentration limits: It should be clarified whether the concentration limits shall apply to the sum total of preservatives in the product or to individual preservatives. This will also dictate the degree of flexibility a manufacturer has to combine the actions of specific preservatives;
- Reference to the Blue Angel RAL-UZ-102 Appendix 1 biocide listing: Whilst harmonisation with this listing was proposed by some industry stakeholders there was general feedback that this could not be applied across all of Europe and that it did not cover film protection. Furthermore, it was also noted that under the Blue Angel criteria higher concentrations can be used if evidence from a 'biotest' is submitted ¹⁰;
- Strictness of the thresholds for combinations of active substances: The thresholds proposed were, by consensus, felt to be too restrictive, particularly for Southern Europe and for exterior paint used in humid locations, where the concentrations would not be high enough to protect the paint product. There needs to be sufficient flexibility because there are a limited number choice of effective biocides to choose from. It was also noted that restrictions on residual monomers and VOC’s makes the final product more susceptible to infection, which could be a reputational risk for Ecolabelled paints;
- Assignment of substance-specific concentration limits on the basis of sensitising properties: A query was raised as to why the limits were assigned on this basis. The non-additive nature of the CLP rules for mixtures means that this would need to be applied across all preservatives in order to avoid being arbitrary.

- Assessment and verification on the basis of SDS: This was not likely to be feasible because preservative formulations may be confidential – although opinions on this issue varied and in some cases formulations were provided by stakeholders. Declaration of CAS numbers and classifications (self-classified or harmonised) would be feasible.

Clarification was additionally requested as to whether the criterion applied only to preservatives added to the formula for the purpose of final product preservation or whether it is to protect ingoing raw materials. The most cited were binders and colourants, although emulsion resins, defoamers and thickeners were also referred to. No evidence was submitted in relation to the proportional contributions to concentrations in the final product although experience from the Blue Angel ecolabel suggests that final product preservation, binders and colourants are the main contributors to biocides in the final product. It was noted that for final product manufacturers the contributions from binders and colourants are difficult to estimate as they will depend on the storage time for the raw materials. The concentration in the final product may therefore be lower than estimated. Colourants were specifically highlighted as being difficult because they may be present both as in can preservatives and dry film preservatives. It was therefore queried as to how they should be treated. The Blue Angel ecolabel currently only focuses on final product preservation and binders.

Some biocides have been authorised for use in the EU despite being classified with hazards such as H400 (R50) which are identified in relation to '*substances of concern*' in the Biocide Regulation (EC) No 528/2012. It may therefore be appropriate to ensure that any derogation conditions set out in the associated authorisation and formalised in a Directive are implemented by applicants. 4,5-Dichloro- 2-octyl-2H-isothiazol-3-one (DCOIT) is a good case in point, being classified with H400 (R50) and subject to a requirement in Directive 2011/66/EU¹¹ that surfaces painted with it are not exposed to weather.

It may also be appropriate to consider restrictions on preservatives that 'for which a dossier has been submitted for evaluation pending a decision on authorisation or non-inclusion' on the basis that a preservative may be permitted by the Ecolabel which later is denied an authorisation. A complete restriction is not felt to realistic because a range of commonly used preservatives are pending authorisation. Instead it is proposed that specific conditions be placed on those preservatives which are classified with hazards 'of concern'.

It was noted that from 2015 new rules under the second Adaptation to Technical Progress (ATP) of CLP Regulation¹² will come into force that will apply to biocides classified with H317 and/or H334 which are present at either concentrations greater than 0.1% or at 10% of the specific concentrations stipulated in Annex VI of Regulation (EC) No 1272/2008 and all amending legislation. In these cases the final product shall display EUH208 “Contains (name of sensitising substance). May produce an allergic reaction”. The acceptability of an ecolabelled product carrying this

labelling is to be discussed further with stakeholders. A number of stakeholders proposed that a restriction on final product labelling with EUH208 at least apply to indoor paints. It is understood that this would have a significant impact on the use of isothiazolinone preservatives with specific concentrations of 500ppm and 15ppm.

With the adoption of the new Biocides Regulation 528/2012 new requirements have been introduced for the disclosure of nanomaterials on product labelling and the selection of scientifically appropriate test methods. The Regulation reflects the definition of nanomaterials provided in the Commissions Recommendation 2011/696/EU¹³. It is therefore proposed to require a disclosure of ingredients falling under the definition in the above-mentioned recommendation in the assessment and verification of preservatives used in the EU Ecolabelled paint and varnish products. Reflecting the explanation given in the Background report¹⁴ and industry stakeholders' input the scope of this requirement addresses only intentionally manufactured nanomaterials. The discussion on nanomaterials (there are different views of stakeholders) and potential options is described in the Background report.

On this basis the following formulation is proposed for the revised May 2013 criteria text, which would be included within the hazardous substances annex:

1. Preservatives added to binders and the final product

The paint formulation shall only contain preservatives that meet the requirements of this annex and which are authorised under the Biocide Directive 98/8/EC and the Biocide Regulation (EC) No 528/2012. *Applicants should consult the most current authorisation list:*

http://ec.europa.eu/environment/biocides/annexi_and_ia.htm

Preservatives for which a dossier has been submitted for evaluation pending a decision on authorisation or non-inclusion can be used, with the exception of those which are classified with H400 (R50) which shall not be used in outdoor paints.

(a) In-can preservatives

Derogated classifications: H331 (R23), H317 (R43), H400 (R50), H410 (R50/53), H411 (R51/53), H412 (R52/53)

Sum total in the final product: 0.060% w/w

Verification:
Declaration by the applicant and their binder supplier supported by CAS numbers and

Applicability:

All products

Derogation conditions:

	unless specified otherwise	<ul style="list-style-type: none"> ○ Substances classified with H400 (R50) shall be non-bioaccumulative. Non-bioaccumulative substances shall have a Log Kow ≤ 3.2 or a Bioconcentration Factor (BCF) ≤ 100. ○ Evidence shall be provided that Authorisation conditions under the Biocide Directive 98/8/EC and the Biocide Regulation (EC) No 528/2012 are being respected. ○ Where preservatives that are formaldehyde donors are used then formaldehyde emissions from the final product must meet the requirements in substance restriction 7(a) 		<p>classifications for the active ingredients in the final product and its binder.</p> <p>This shall include calculation by the applicant of the concentration of the active ingredient in the final product.</p> <p>This shall include identification of intentionally manufactured active ingredients with a particle size of less than 100 nm.</p>
		<p>The following in-can preservatives shall only be used at the specified maximum sum total concentrations in the final product at the time of manufacturing for the specified applications:</p> <p><i>(i) Isothiazolinone compounds</i></p> <p>- All products</p>	<p><i>Sum total</i></p> <p><i>0.05%</i></p>	<p><i>Verification:</i></p> <p>Calculation by the applicant of the concentration of the active ingredient in the final product supported by the CAS number and classification.</p>
		<p>Derogated classifications: H317 (R43), H400 (R50), H410 (R50/53), H411 (R51/53), H412 (R52/53)</p>	<p><i>Sum total in the product:</i></p> <p><i>Indoor paints</i></p>	<p><i>Verification:</i></p> <p>Declaration by the applicant and their</p>

		<p>Derogation conditions:</p> <ul style="list-style-type: none"> ○ Substances classified with H400 (R50) shall be non-bioaccumulative. Non-bioaccumulative substances shall have a Log Kow \leq 3.2 or a Bioconcentration Factor (BCF) \leq 100. ○ Evidence shall be provided that the conditions set out in the Authorisation conditions for preservatives under the Biocide Directive 98/8/EC and the Biocide Regulation (EC) No 528/2012 are being respected. 	<p><i>0.1% w/w</i> <i>Outdoor paints</i> <i>0.3% w/w</i></p>	<p>binder supplier supported by CAS numbers and classifications for the active ingredients in the final product and its binder.</p> <p>This shall include calculation by the applicant of the concentration of the active ingredient in the final product.</p> <p>This shall include identification of intentionally manufactured active ingredients with a particle size of less than 100 nm.</p>
		<p>The following dry film preservatives may be used at specified maximum sum total concentrations in the final product at the time of manufacturing for the specified applications:</p> <p>(i) Isothiazolinone compounds</p> <p>- All products</p> <p>(ii) 3-iodo-2-propynyl butylcarbamate (IPBC)</p> <p>- Outdoor wood paints and varnishes</p>	<p><i>Sum total</i> <i>0.05%</i></p>	<p><i>Verification:</i></p> <p>Calculation by the applicant of the concentration of the active ingredient in the final product supported by the CAS number and classification.</p>

	- All other applications	0.45%	
		0.3%	

A list of substances which were highlighted in February 2013 and which are pending re-evaluation of their derogations can be found in the Table. This list was provided to the industry association CEPE and derogations will be evaluated on the basis of functional need and the availability of substitutes. In some cases the derogations are also linked to consideration of other substance restrictions, for example free formaldehyde from donors.

Preservatives to be re-evaluated for derogation (March 2013)

Substance group	Substance	Basis for re-evaluation
In-can preservatives	Bronopol-2-bromo-2-nitropropane 1,3 diol (52-51-7)	Contribution to free formaldehyde levels in the paint product, for which a revised limit value of 100 ppm is under consideration.
	Dodecyldipropylene triamine (BDA) (2372-82-9)	The substance has a different hazard profile within the in-can preservative group, displaying H301 (R25), H373 (R48/20-22). Contribution to free formaldehyde levels in the paint product, for which a revised limit value of 100 ppm is under consideration.
	20% silver chloride on 80% titanium dioxide (7783-90-6/13463-67-7)	The proposed concentration limit for outdoor paint applications is significantly higher than the sum total for the substance group. Self-classifications suggest that silver chloride may have an M Factor of between 10 and 1000 based on classification with H400 (R50) and H410 (R50/53).

		2 Octyl 2H isothiazol-3-one (26530-20-1)	The substance has a different hazard profile within the in-can preservative group, with a harmonised classification of H311 (R24) and H331 (R23).
	Dry film preservatives	Diuron (330-54-1)	The substance has a different hazard profile within the dry film preservative group, displaying H351 (R40) and H373 (R48/22). The substance has an M Factor for hazards to the aquatic environment of 10.
		20% silver chloride on 80% titanium dioxide (7783-90-6/13463-67-7)	The substance is proposed with a concentration limit of 0.5% (indoor) and 2.0% (outdoor) which are significantly higher than the proposed sum total concentration limit for this substance group. Self-classifications suggest that silver chloride may have an M Factor of between 10 and 1000 based on classification with H400 (R50) and H410 (R50/53).
		2 Octyl 2H isothiazol-3-one (26530-20-1) OIT	The substance has a different hazard profile within the dry film preservative group, with a harmonised classification of H311 (R24) and H331 (R23).
Criterion 5. Restriction of hazardous substances and mixtures	<p>The move to a more flexible derogation framework was in general welcomed by stakeholders. However, there was an overall consensus from stakeholders that the proposal requires further development, with the rules requiring further testing in order to ensure that they are clear and transparent and to eliminate any contradictions. In particular the continuity between restrictions in Appendices 1 and 2 should be ensured.</p> <p>Stakeholder comments relating to the following specific substance groups are aggregated and discussed in separate sections of the Technical Background Report (available at: http://susproc.jrc.ec.europa.eu/paints/stakeholders.html):</p> <ul style="list-style-type: none"> – metals (Section 4.2.3), 		

- APEO's (Section 4.2.5),
- perfluorinated surfactants (Section 4.2.7),
- preservatives (Section 4.2.9),
- formaldehyde (Section 4.2.11)
- and phthalates (Section 4.2.12).

Some additional substance group-specific comments are aggregated in Table.

Below we discuss general comments received relating to the overall approach and to the structuring into substances groups, aggregated thematically:

- Substances of Very High Concern (SVHC's): A limited number of comments were received in relation to the restrictions on Substances of Very High Concern. Clarification was requested on the proposed criteria wording that appears to permit their use up to a concentration of 0.1%. This is because the wider restriction on hazardous substances in criteria 6b applies to substances classified as '...toxic, carcinogenic, mutagenic, dangerous to the environment...' at concentrations greater than 0.01%. Concern was also raised that the proposed approach may deviate from some recent criteria sets such as printed paper products in which substances meeting the criteria of Article 57 (a) (b) and (c) of Regulation (EC) No 1907/2006 shall not exceed generic or specific concentration limits as opposed to a stricter limit of 0.10%. It is to be noted, however, that Article 6(7) of the aforementioned Regulation states that '*No derogation shall be given concerning substances that meet the criteria of Article 57 of Regulation (EC) No 1907/2006...[at] concentrations higher than 0,1 % (weight by weight).*'
- Cut-off threshold: A range of comments were received in relation to the 0.01% threshold. Because 0.1% is the threshold for the mandatory disclosure of ingredients on Safety Data Sheets it was felt that 0.01% would be much more difficult to verify. This would be particularly problematic for impurities. Other stakeholders felt that the limit for impurities should be set at 0.01% and should not be cumulative. The application of a threshold for impurities to the final product should be made clearer.
- Inclusion of sensitising hazards: The inclusion of the respiratory and skin sensitising hazards H334 and H317 was queried. This is not a hazard classification mentioned in the Ecolabel Regulation 66/2010/EC. There is, however, general precedent and agreement from the EU Ecolabel Board that these hazards are included where they are particularly relevant i.e. where is potential for skin contact with and/or inhalation of the final product.

- Final product classification: With regard to classification of the final paint product there was a consensus from industry stakeholders that the stricter CLP definition of ‘hazardous to the environment’ would be workable. The relationship between final product classifications based on the CLP Regulation and the DSD Regulation is to be clarified e.g. does ‘hazardous to the environment’ equate to N under DSD.
- Additional derogation conditions: Limited feedback was received on the additional derogation rules relating to factory conditions and production processes. One existing licenseholder commented that they may be more challenging for SME’s. The application of the conditions to Category 1 and 2 hazards requires clarification – which are the Category 1 and 2 hazards?
- Assessment and verification: The combination of verification routes that apply to a substance or substance group should be clarified. Particular concern was raised about the range of test methods now proposed for a number of the substance groups. It was generally felt that it would not be realistic to introduce significant number of tests because of the cost. Compliance could only realistically be achieved based on a combination of SDS, calculations and raw material suppliers declarations. Additionally, and in order to show compliance with the hazard classifications raw material suppliers should also confirm the classification status of raw materials and ingredients. It was felt that the overall requirements for applicants to compile such declarations into a ‘technical report’ would benefit from guidance in the User Manual following the final Decision. The general assessment and verification conditions for criteria 5 have been updated to support the declaration of classifications. This is based on text developed for other Ecolabel product groups and clarifies the information required to support declarations for classifications.

A more fundamental comment was made by one Competent Body that the substance list might better be placed within the criteria than in an appendix. It is not usual for an appendix to contain criteria requirements for applicants.

Earlier in the revision process a number of stakeholders raised concerns about nanomaterial ingredients. With the adoption of the new Biocides Regulation 528/2012 new requirements have been introduced for the disclosure of nanomaterials on product labelling and the selection of scientifically appropriate test methods. The Regulation reflects the definition of nanomaterials provided in the Commissions Recommendation 2011/696/EU¹⁵.

Taking into account the requirements that are used in Biocides Regulation and in the section for derogating preservatives respective wording on the disclosure of ingredients which fall under the definition of Recommendation 2011/696/EU was introduced. Based on the explanation given in the Background report¹⁶ and industry stakeholders' input the scope of this requirement addresses only intentionally manufactured nanomaterials. The discussion on nanomaterials (there are different views of stakeholders) and potential options is described in the Background report.

A summary of stakeholder comments relating to specific substance groups is summarised in Table. For each aggregated comments a proposed response is also outlined.

Substance-specific comments received from Stakeholders following March 2013

Substance group	Summary of comments	Proposed response
2. Driers and anti-skinning agents	A concentration limit was proposed of 1.0% for all driers. Evidence was, however, provided to support this proposal.	Previous submissions referred to a concentration limit of 0.1%. It is proposed to maintain this limit unless specific new evidence is submitted.
	There is a contradiction between the derogation of cobalt as a siccative in alkyd paints in Criterion 5 and their restriction in Appendix 2. In addition, a derogation is required for H400 to support their use.	The use of cobalt driers in alkyd paints is proposed for derogation at a final product concentration limit of 0.05%, which is consistent with the current criteria set. This is proposed a specific additional derogation and H400 shall not therefore be derogated for other driers.
	Concern was raised that the derogations would exclude the use of more common iron-based driers.	Further information is required as to why they would be excluded.

	4. Surfactants	<p>Surfactants are used in many types of paints and not just tinting bases. They are also used in various other raw materials e.g. resins, defoamers, dispersing agents.</p>	<p>The scope of the derogation has been widened to include dispersing agents and primers.</p>	
		<p>Verification of this restriction using SDS for all surfactants present in raw materials within the paint formulation would be very difficult in practice since this information may be confidential. CAS numbers and classification would be more realistic (<i>see also</i> the general comments on assessment and verification).</p>	<p>The assessment and verification is to be modified to request CAS numbers and classified (self-classified or harmonised).</p> <p>The general assessment and verification conditions for criteria 5 clarify the information required to support declarations for classifications.</p>	
		<p>It was commented that the overall concentration limit of 2% is too low and should be raised to 3% to reflect the possible contribution from colourants. The inclusion of colourants within the concentration limit should be clarified.</p>	<p>It is proposed that the current hazard class derogations are maintained as these are in line with surfactant derogations in other product groups¹⁷. On this basis an increase in the concentration limit to 3% could be accepted. A transition period of 12 months is likely to be applied to all existing licenseholders.</p>	
		<p>It was additionally proposed that the hazard derogations be extended to classifications H400, H410 and H411. Five specific surfactants were identified as specific examples. If this extension</p>		

		is not accepted a transition period of 2 years is requested.	
	5(f) Pigments	Restrictions on cobalt containing pigments in Criteria 5 and Appendix 1 need to be cross referenced. The Blue Angel allows the use of C.I. Pigment Blue 28 and 36 and C.I.Pigment 50.	It is proposed to derogate the proposed C.I.Pigments Blue 28 and 36. C.I.Pigment 50 was consulted in the C&L Inventory. Self-classifications suggest that it may be classified with H351. On this basis it is not proposed to derogate C.I.Pigment 50.
	5(c) Binders and fillers	Clarification was requested as to why there is no binders and fillers substance group.	A new substance group is to be added to which derogation of hazard classification H373 (R48/20) up to a concentration limit of 1.0% would apply.
		Crystalline silica and leucophyllite minerals containing crystalline silica used as binders did not require a derogation and it is to be clarified as to whether they could be used.	Crystalline silica and leucophyllite minerals containing crystalline silica are to be derogated for use.
	7(c) Monomers from binders	It was queried why only acrylic acid was restricted and why only for the paint classes c,d,e and i. This restriction is technically too narrow. Moreover, this substance is difficult to measure by standard analytical	Acrylic acid has been moved into a substance group entitled 'monomers from binders' to which a generic cut-off limit of 0.1% will be applied (see also the next comment relating to VAC's).

techniques.

The concentration limit for Volatile Aromatic Compounds (VAH's) of 0.1% in Decisions 2009/544/EC and 2009/543/EC could be used.

It is proposed to maintain the concentration limit for VAH's at 0.1%.

A list of substances which are pending re-evaluation of their derogations can be found in Table below. This list was provided to the industry association CEPE and derogations will be evaluated on the basis of functional need and the availability of substitutes.

Substances to be re-evaluated for derogation (March 2013)

Substance group	Substance	Basis for re-evaluation
2. Drying and anti-skinning agents	Iron (1+), chloro[dimethyl 9,9-dihydroxy-3-methyl-2,4-di(2-pyridinyl-kN)-7-[(2-pyridinyl-kN)methyl]-3,7-diazabicyclo[3.3.1]nonane-1,5-dicarboxylate-kN3,kN7]-, chloride	The substance has a different hazard profile within the drier substance group, being classified with H373 (R48/22).
	2,2'iminoethanol (DEA)	The substance has a different hazard profile within the drier group, being classified with H373 (R48/22).

	3(a)Anti-corrosive pigment	Zinc phosphate (2.5%) for paint classes d,i and j at an 8.0% concentration limit.	This is a high concentration limit for an R50/53 classification and it is of significance to the classification of the final product.
	4(a) General purpose surfactants	Alcohols, C16 C18 ethoxylated	These substances have a different hazard profile within the surfactant group, being classified with H400 (R50).
		Oleyl alcohol condensed with 2 moles ethylene oxide	
		Partially fluorinated alkyl phosphate esters	The substance has a different hazard profile within the surfactant group, being classified with H330 (R26), H411 (R51/53), H373 (R48/22).
		Amphoteric fluorinated surfactant	The substance has a different hazard profile within the surfactant group, being classified with H411 (R51/53).
	6(a) UV protection and stabilisation	bis (1,2,2,6,6 pentamethyl 4 piperidyl) sebacate	The substances have a different hazard profile within the UV protection/stabilisation substance group, being classified with H410 (R50/53).
		Methyl-1,2,2,6,6-pentamethyl-4-piperidylsebacate	
		Trizinc bis(orthophosphate)	

		2,2-dibromo-3-nitrilopropionamide	The substance has a different hazard profile within the UV protection/stabilisation substance group, displaying H400 (R50).
	7(b) Solvents	Emulsion triethoxy (2,4,4 trimethylpentyl) silane	The substance has a different hazard profile within the solvent group, being classified with H412 (R52/53).
<p>On the basis of stakeholder comments received up to March 2013 the following revised criteria text is proposed, complemented by the proposed Appendix 1: Hazardous substance restriction and derogation list.</p>			
<p>Former criterion on Formaldehyde</p>	<p>A number of comments highlighted the need to clarify the limit values that should apply, including the additional residual contributions listed in the proposed restrictions. This is to be clarified in relation to specific types of paint formulation, and in particular the use of specific types of preservatives.</p> <p>The main comments received related to the potential for the free formaldehyde content of the paint product to be higher than 10ppm if preservatives or polymer binders that are formaldehyde donors are used. Evidence was submitted of the range of preservatives that this encompasses¹⁸ and it was also noted that in many cases this group of preservatives represents an important alternative to isothiazolinones, including Bronopol-2-bromo-2-nitropropane 1,3 diol (52-51-7) and Dodecyldipropylene triamine (BDA) (2372-82-9).</p> <p>An upper limit of 100ppm would be required to permit the use of preservatives that are formaldehyde donors. It is understood from existing Ecolabel licenseholders that the current limit value of 10ppm can only be met through the use of isothiazolinones, with the most effective being MIT/BIT. Formaldehyde donors are usually used in combination with isothiazolinones at concentrations that comply with the current restrictions on preservatives, isothiazolinones and formaldehyde.</p> <p>A call for information from manufacturers of polymer dispersions (binders) indicated that a maximum residual</p>		

concentration of 100 ppm could also be present in the final product. This suggests that for some paint formulations their overall contribution to the level of formaldehyde in paints and varnishes can be as significant as for preservatives.

The testing method also raised significant points of discussion. The VdL-RL 03 method was highlighted as not being accurate enough at low concentrations. This is because it picks up other aldehydes that may be present as residuals from polymers, which can then indicate a much higher, and therefore inaccurate concentration in the product. Alternative proposals were put forward based on either the more accurate HPLC method or testing of the emissions from a sample of painted surface (see below with reference to the Blue Angel). It was proposed that HPLC only be required where formaldehyde donors are used, with calculations based on information from suppliers being accepted in order to comply with the 10 ppm limit.

It was also noted that Blue Angel has an additional form of verification that relates to the emissions of formaldehyde upon application of the paint. Upon review the specific requirement relates to a sample of painted surface in a chamber test with results showing <0,25 ppm after drying and < 0,05ppm after 24 hours. Given that the ECHA Committee for Risk Assessment has proposed that formaldehyde be reclassified to H350 (may cause cancer)¹⁹ it is considered that this form of testing could now be more relevant in order to protect the consumer from exposure.

The Blue Angel's testing specification for formaldehyde emissions is based on a chamber test. It does not, however, reference a specific DIN, EN or ISO testing standard. It is understood that formaldehyde is commonly tested in relation to building products. The standard series EN 717-1 to 3 is specified for wood products but is understood to be used more generally for building products, including paints and varnishes. EN 717-3 is based on a flask as opposed to a chamber test and could therefore minimise costs.

The sampling method for testing generated comments mostly relating to minimising the costs to applicants. One proposal suggested only white and tinted transparent based or only for the worst case. It was highlighted that the specification of testing for limited colour ranges should be clarified. For example if only specific colours are produced. This requires only a simple clarification within the text.

Clarification was requested on when an updated testing may be required e.g. when a paint formula is changed.

The following formulation of the criterion is proposed in the May 2013 criteria revision, proposed for integration into the hazardous substance listing:

				<p>hours from the first application.</p> <p>(2) Outdoor paints and varnishes: Determination of the in-can concentration using high-performance liquid chromatography (HPLC) or VdL-RL 03</p>				
<p>Former criterion on phtalates</p>	<p>Limited further comments were received in relation to this criterion. It was suggested to change the limit to 0.01% in line with the cut-off for impurities and for this to be the limit for individual substances rather than a sum total. This can be justified by the SVHC status of these substances. It was also suggested that the raw material supplier provide the declaration.</p> <p>The following formulation of the criteria is proposed in the May 2013 revised criteria text and phthalates are to be integrated into the restricted substance listing in Appendix 1:</p>			<table border="1"> <tr> <td data-bbox="629 975 853 1316"> <p>(b) Plasticisers in paint and varnish.</p> <p><i>Applicability:</i> Where included in the formulation</p> </td> <td data-bbox="853 975 1518 1316"> <p><i>The following phthalates shall not be intentionally added as plasticisers:</i></p> <p>DEHP (Bis-(2-ethylhexyl)-phthalate) BBP (Butylbenzylphthalate) DBP (Dibutylphthalate) DMEP (Bis2-methoxyethyl) phthalate DIBP (Diisobutylphthalate)</p> </td> <td data-bbox="1518 975 1742 1316"> <p>Concentration limit for any individual phthalate: 0.10%</p> </td> <td data-bbox="1742 975 2042 1316"> <p><i>Verification:</i> Declaration shall be provided by the applicant and their raw material suppliers supported by CAS numbers and classifications.</p> </td> </tr> </table>	<p>(b) Plasticisers in paint and varnish.</p> <p><i>Applicability:</i> Where included in the formulation</p>	<p><i>The following phthalates shall not be intentionally added as plasticisers:</i></p> <p>DEHP (Bis-(2-ethylhexyl)-phthalate) BBP (Butylbenzylphthalate) DBP (Dibutylphthalate) DMEP (Bis2-methoxyethyl) phthalate DIBP (Diisobutylphthalate)</p>	<p>Concentration limit for any individual phthalate: 0.10%</p>	<p><i>Verification:</i> Declaration shall be provided by the applicant and their raw material suppliers supported by CAS numbers and classifications.</p>
<p>(b) Plasticisers in paint and varnish.</p> <p><i>Applicability:</i> Where included in the formulation</p>	<p><i>The following phthalates shall not be intentionally added as plasticisers:</i></p> <p>DEHP (Bis-(2-ethylhexyl)-phthalate) BBP (Butylbenzylphthalate) DBP (Dibutylphthalate) DMEP (Bis2-methoxyethyl) phthalate DIBP (Diisobutylphthalate)</p>	<p>Concentration limit for any individual phthalate: 0.10%</p>	<p><i>Verification:</i> Declaration shall be provided by the applicant and their raw material suppliers supported by CAS numbers and classifications.</p>					

	DIHP (Di-C6-8-branched alkylphthalates) DHNUP (Di-C7-11-branched alkylphthalates) DHP (Di-n-hexylphthalate)		
Criterion 6. Consumer information	<p>– <u>Regarding the text information to be included on the packaging</u></p> <p>Some stakeholders indicated they found it unnecessary to add the text “Unused paint is not waste” together with the "explanation to the customer that the amount of paint should be calculated to avoid excess use of paint"). They augmented that "adding of additional text to the packaging material, on labels which are already filled up with regulatory required texts, we will ultimately result in the need of country specific packaging material, instead of country-sharing labels which currently exists. This will generate more labels and packages and in the end harm the environment more than helping it. EU Ecolabel should rather encourage and support/host campaigns to raise the general public awareness regarding the issue of how to handle unused paint". Others were of opinion that the recommendation to calculate paint demand prior to purchase shall be given; nevertheless the information on how to preserve the paint (shall be removed as the consumers cannot preserve the product appropriately i.e. add additional biocide).</p> <p>In the opinion of the project team, the information regarding the unused paint should be kept due to its high environmental relevance found in the LCA results. Information on labels is already given in the language of the country where the product is placed on the market and translations need to be made. Though, it is true that sometimes manufacturers choose to have texts in few languages simultaneously, which contributes to high amount of text on the label. Nevertheless, as the criterion regarding take-back of unused paint was removed from the criteria set, this proposal was an alternative solution to raise the consumer attention regarding the end-of-life phase of the product. The study showed that the environmental impacts attributable to the unused paints are very high. Nevertheless, it was agreed that setting specific requirements for take back of unused paint is not feasible at the moment. Thus, the focus should be more on minimizing the amount of unused pain at "the source", e.g. aiding the customers in estimation how much they need to paint a given surface and raising their attention that unused paint is not waste. The more precisely estimated the amount, the lower amount of paint will become waste after the painting activity.</p> <p>Further, following the feedback, the text of the requirement was redrafted to change the phrase "preserve" with "store in appropriate conditions".</p> <p>Some stakeholders pointed out that this information shall be only put on DIY products, as the professional painters do</p>		

	<p>already estimated the amount of paint needed. Nevertheless, as the scope of the product group covers both, products intended for use by do-it-yourself and professional users, in the opinion of the product team, all ecolabelled products should contain this information, as sometimes the same product will be offered for professional and DIY applications.</p> <p>One additional point was raised regarding the use of pictogram faucet to indicate that the tools should be washed with water. In the opinion of one CB this pictogram shall be forbidden on the packaging. It was further proposed to add the following indication: <i>“To preserve the environment, do not throw your paint residue in the sewer sink, into drains, toilet or to the waste bin. All components of this product should be dropped off at the waste sorting centre (or recycling centre) of your town”</i>.</p> <p>Additional advices are given below:</p> <ul style="list-style-type: none"> ➤ Wipe the brush thoroughly after application. ➤ Dry thoroughly. Rinse with a little water in a vessel. Allow the water to evaporate. The residue can then be normally thrown away (in the bin). ➤ Reseal packaging after use. ➤ Do not discharge into drains. ➤ Place the empty container for disposal at your local waste sorting centre ➤ It is recommended to contact the local authorities to check the terms of disposal and collection <p>It is proposed to include them in the user manual.</p>
<p>Indoor Air Quality – Criterion withdrawn</p>	<p>A few Competent Bodies expressed in their feedback disappointment regarding the removal of the criterion on indoor air quality. They explained that respective criterion is very important for this product group: <i>“This criterion would be a true added value as it will respond to the concerns of consumers and public purchasers, especially for public authorities in charge of children. The criterion on VOC content in cans is not sufficient to ensure that paints have good performance with regards to indoor air quality”</i>.</p> <p>Furthermore, regarding the question raised by the manufacturers on the relevance of these tests for paints, the CB pointed out that <i>“the French Ministry of Environment, especially the service responsible for the implementation of the sanitary labelling, has not received any complaint from manufacturers for the time being. The decree is already applicable to new formulations of paints placed on the French market since January 2012, and will be applicable to all paints in 2013”</i>. Although it was confirmed that some problem of reproducibility were observed and efforts are being</p>

made by the paint manufacturers to try solve this problem. It was further explained that the manufacturers “*elaborated in collaboration with the French Ministry of Environment a new protocol for the preparation of samples to test the paints²⁰. It should ensure a better reproducibility of the emission tests. This protocol will be used by the control authorities in France from the 1st September 2013*”.

It was also explained that the “*costs linked to the use of the French emission standard will be around 1500 euro per sample. A macro-economic study carried out by the Ministry of Environment shows that the cost should decrease because of the commercial competition between laboratories. As an example, the cost linked to LCA has been divided by 10 in 10 years*”.

Although this criterion will not be included in the revised criteria version this time, in the statement accompanying the next criteria revision a recommendation to re-consider its inclusion in the future shall be made, as this issue is considered of relevance for this specific product group. Till then, harmonised at the EU 27 level testing methods are expected to be available.