The joint applicants reserve the right to submit more detailed comments during the trialogue

Use 3

Reference number and date:	Submitter:	Alternative:						
		Type	Generic name	EC Number	CAS Number	Description of technical alternative	Classification and Labelling	Attachments:
Ref.No: 721 **Date:** 2015/10/07	**Affiliation:** BehalfOfAnOrganisation **Type/Role in the supply chain:** Member State Competent Authority **Name of org/company:** Swedish Chemicals Agency **Country:** Sweden					There is information available that substitution is possible for several uses within the broad scope of the application, please see the attachment.		Comment_721_Attachment.pdf

Applicants' response:

The following claims made by KEMI are subject to our response.

1. **Too broad and unspecific use**

KEMI suggested that "*different areas of use are assessed separately and presented under use specific subheadings e.g. in the RAC/SEAC opinion*". However, this was taken into account within CTAC as outlined in the following paragraph.

After the data gathering within CTAC, a detailed sector analysis was performed for all uses and that the sector specific circumstances, development status and approval processes were taken into account for preparing and grouping of uses and sectors. Consequently, 6 uses were provided within this AfA.
For use 2, functional chrome plating, the applicant emphasises that for the sectors presented, the development status clearly indicates that, none of the tested alternatives is able to meet all the performance requirements for key applications for functional chrome plating.
The differences between functional chrome plating with decorative character and functional chrome plating were carefully assessed. As the alternative development status of functional chrome plating with decorative character is different compared to functional chrome plating, the applicant decided to split these uses and to apply for a shorter review period functional chrome plating with decorative character.
The Uses 4-6 were initially combined in one use. After thorough assessment of the alternatives in relation to the sector specific requirements it was decided to split this use into 3 uses with different review periods clearly reflecting the different development status of the alternatives.

2. **Technical feasible alternatives are already available for several uses within the scope of the application and may be economically beneficial – Cr(III)**

a) KEMI claimed in its comment that "*There is information available that substitution is possible for* ***several uses*** *within the scope of the application*" further down it is stated that "*Representatives from the Swedish coating industry confirm that* ***the only use where chromium VI still is not fully possible*** *to substitute is in hard chrome plating of hydraulic piston rods."*

We would like to indicate that these claims are inconsistent, highlighting that especially the second statement is baseless. As clearly outlined in the AoA, substitution of chromium trioxide for key applications in miscellaneous industry sectors will not be feasible due to technical deficiencies of potential alternatives and the complex and long-lasting approval processes.

b) KEMI stated that "*SYF (the Swedish Coating Association) recommends its members to phase out surface treatment based on hexavalent chromium until 2015-12-31. Among other arguments they state that:*
"- There are alternatives available which are free from hexavalent chromium
- There is an economic benefit for all involved parties to reduce the number of different surface treatment alternatives
- For several applications the use of chromium VI has already been phased out (e.g. legal requirements such as RoHS, WEEE, ELV)"

It is correct that for some applications other technologies are already in use for specific applications as stated in the dossier.
It is also clearly mentioned that these alternative technologies cannot be seen as a general alternative to metallic chrome coatings as they can only be used for specific parts where the performance requirements are comparably low in terms of the key functionalities - such as corrosion resistance, wear and scratch resistance, chemical resistance and nickel leaching. Importantly, where alternatives are tested and approved they have generally been already substituted by the industry for several years.
In practice, experience has shown that alternatives may not perform in real life circumstances, so it is incorrect to make generalized statements as to the amount of time it may take for an alternative chemistry/process to be adopted; depending on the requirements involved for the end-product it may take from several years through in excess of 15++ years to implement an alternative. Where alternatives are found to be feasible and operationalised as a result of ongoing substantial R&D commitments, they will be realised.

c) KEMI claimed that "*One example [*where substitution is possible*] is IKEA which provides furniture, kitchen & bathroom furnishing and other homeware all over the world*." As justification, KEMI provided the link to IKEA sustainability report, where it is stated that Cr(VI) has been gradually phased out for several processes.

General statement: It is assumed that Cr(III) is used by IKEA as in order to provide coatings with decorative and at least some functional character . However, IKEA's performance specification has not been provided by KEMI. When assessing the technical feasibility of the alternatives, it must be kept in mind that customer demands at IKEA are not necessarily in line with the technical requirements illustrated in this AoA, especially when it comes to life-time requirements. According to statements on the IKEA homepage (http://www.ikea.com/ms/en_GB/media/pdf/guarantee_2013_pdf/Bathroom_taps_Guarantee.pdf), IKEA is limiting guarantee for sanitary products to domestic use only: "*This guarantee applies to domestic use only (…). What is not covered under this guarantee: If the products have been used for public use (…) this guarantee does not apply*." In general, sanitary companies and suppliers into the sanitary branch represented in the CTAC consortia are producing for all uses and quality standards have to follow the highest expectations (public use), for which the specifications are prepared.

As illustrated in Table 1 and 2, quality demands covered in this AfA can currently not be achieved by using Cr(III). As an example, bath tapware produced by European OEMs from the sanitary sector has to fulfil its quality demands for more than five years and heavy use (public use) (see above). Testing of Cr(III) coated product revealed quality issues already after 6 months (Table 2). This quality may be acceptable at a certain price level, but is clearly not in line with customer demands in the sectors covered in this AfA.

In its sustainability report from 2014, IKEA refers to the phase out of chrome plating and metal surface treatments. As stated in our AoA, trivalent chrome plating processes are not a complete substitute to chromium trioxide, as adequate pre-treatment of plastic substrates can only be achieved by using chromium trioxide based etching solution. This is a technical issue for several sectors where plating of plastics is performed (e.g. cosmetics, automotive, sanitary, white goods, furniture). The IKEA report does not state whether Cr(VI) in the etching solutions used by their suppliers was also phased out. In addition, Cr(III) based coatings may require a post-treatment, such as passivation based on Cr(VI), to ensure that quality standards can be fulfilled. Chrome plating on plastics is mostly performed on Acrylonitrile Butadiene Styrene (ABS) or Polycarbonate (PC)/ABS. We are not aware of any alternative for plating on this substrate.

Technical feasibility: The following table summarizes the outcome of the technical feasibility assessment for Cr(III) (as described in the AoA for Use 3), illustrating that clear technical limitations such as corrosion resistance or the nickel leaching – which are key functionalities for several sectors - currently exclude Cr(III) plating as a general alternative for the main applications. Prevention of nickel leaching is of highest importance when the coated product is in contact with skin, food or other materials potentially affecting the health of the consumer. The maximum nickel leaching rate of nickel plated products is regulated by law, and use of Cr(VI) allows industry to meet this public health standard.

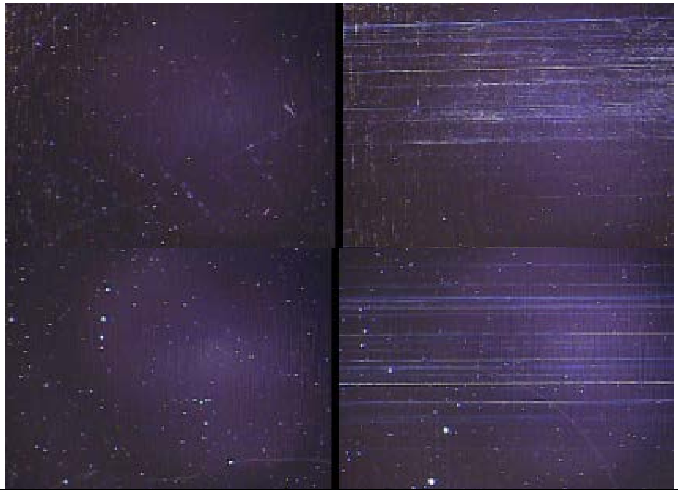
Table 1. Comparison of sector-specific performance of Cr(III) for functional chrome plating with decorative character. Red box: the parameters/assessment criteria do not fulfil the requirements of the respective sector. Green box: the parameters/assessment criteria do fulfil the requirements of the respective sector. N.A.: The parameters/assessment criteria were not assessed.

Cr(III) technical performance	Corrosion resistance	Chemical resistance	Wear / abrasion resistance	Nickel leaching	Adhesion	Aesthetics
Sanitary	varying	varying				
Automotive	varying	varying		N.A.		
Cosmetics		N.A.	N.A.		N.A.	
Furniture		N.A.	N.A.		N.A.	
White goods				N.A.	N.A.	

To our knowledge, IKEA currently uses Cr(III) for plating of brass. We can provide some illustrations below that confirm that the quality of these surfaces is not in line with the industry standards as outlined in the AoA. Figure 1 shows the abrasive behaviour after 2000 cycles in the taber test of two different Cr(III)-coated brass surfaces compared to Cr(VI)-coated brass. Furthermore, the tested Cr(III) surfaces also showed insufficient corrosion resistance.

A

B



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C

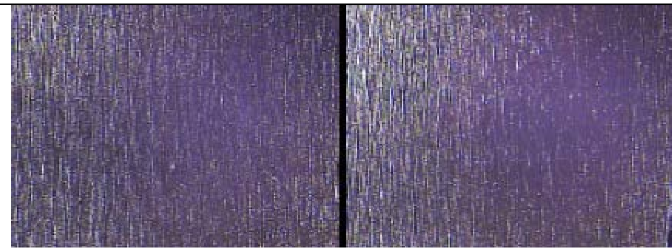
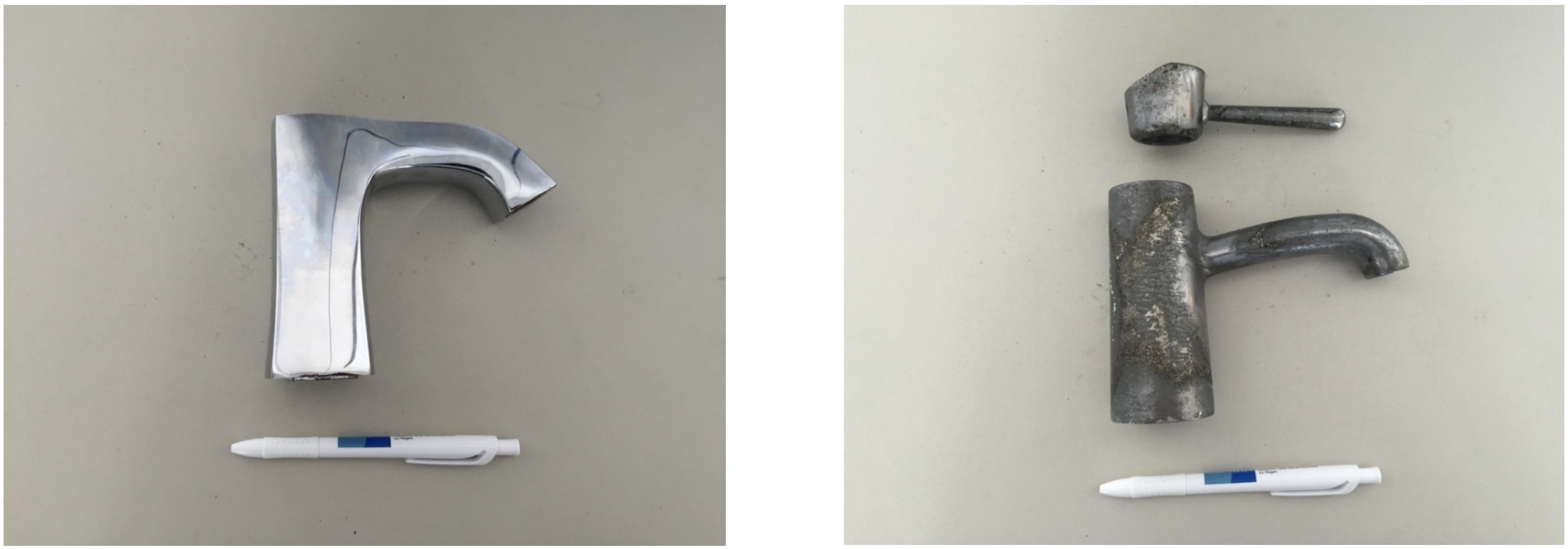


Figure 1. Taber test results after for coated brass surfaces. On the left hand side, the surface before testing is shown. The right hand side shows the test results after 2000 cycles. (A) Cr(III) electrolyte 1 (B) Cr(III) electrolyte 2 (C) Cr(VI) electrolyte. The test results indicate that the abrasive behaviour as shown in (A) and (B) is not comparable to the Cr(VI) coated surface (C) and not in line with the industry requirements.



A B

Figure 2. Difference between Cr(VI) plated sanitary faucet after Kesternich test (corrosion testing after exposure to sulphur dioxide containing atmosphere). (A) GROHE, brass faucet body "Grandera" (produced in 2013, Hemer plant, Germany); (B) IKEA, brass faucet, Cr(III) plated (assumed) sanitary faucet.

Field testing experience: Several companies also provided additional examples on the technical feasibility of Cr(III) in real life installations. Here, examples are provided of well documented situations where companies changed to Cr(III)) based alternatives for some applications, but later reverted to Cr(VI) technology as Cr(III) alternatives were clearly not sufficient from a technical point of view.

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Sector	Product	Alternative used	Technical deficiencies
Furniture	Desks, chairs, others	Cr(III)	- Nickel leaching (including food safety concerns, especially for kitchen applications) - Wear resistance (when products were stacked) - Corrosion resistance - Colour mismatch
Sanitary	Bath tapware	Cr(III)	A field test installation (see picture below) at a sanitary company revealed the following technical deficiencies after 6 months (life time of Cr(VI)-tapware is >5 years): - Corrosion performance - Adhesion - Darkening of the Surface, colour mismatch between Cr(VI) and Cr(III) 
Automotive	Design surface	Cr(III)	- Claims due to insufficient wear resistance

During the most recent consultation (2015), one company from the furniture sector stated that it installed a Cr(III) surface treatment line in 2013 (> 10.000 litre bath volume) with the aim to substitute Cr(VI) and to avoid the authorisation procedure under REACH. However, after production started it became clear that the parts with the coating based on Cr(III) were not accepted by the customers. For example, food safety tests could not be passed because of the nickel leaching. In addition the company received complaints followed by the rejection of the parts from customers regarding wear resistance, corrosion resistance and colour mismatch. Consequently the company was forced to change back to the Cr(VI) based coating. This demonstrates that even if Cr(III) is a promising potential alternative, it is not yet a viable alternative, and changing prematurely to this non-proven alternative can lead to significant loss of invested capital and consumer trust.

Economic feasibility: Furthermore, additional data on the economic feasibility of Cr(III) clearly demonstrate that these alternatives are (not only technically insufficient as a general alternative to chromium trioxide but) also significantly more expensive:

- Investment costs for installation of Cr(III) baths per company are in a range of **0.8-3 Million €** (The actual cost depends on the size of the company and the respective throughput. In some cases the existing facilities might not be used further, resulting in additional construction costs (building, infrastructure). The provided costs do not include additional labour, quality control and scrap costs).
- R&D costs for improvement of Cr(III) *per company*: **> 0.15 Million €**
- A comparison of production costs between Cr(VI) and Cr(III) processes leads to a 30% increased cost for Cr(III) over Cr(VI).

With regards to aesthetics, the yellowish/brownish colour of Cr(III)-plated products is caused independent from the electrolyte used and has been observed on all tested samples. This is an issue for all sectors. The customer (OEM), having complex supply chains, normally combines parts of different plating companies or brands and relies on consistency in appearance across suppliers: a colour mismatch is not acceptable to the OEM or its customers. The mismatch of colours is also an issue in the replacement of parts, for example upon bathroom refurbishment, but also applies for other applications.

Summary: In combination with the comparably higher production costs of the alternative and the insufficient technical performance outlined above, Cr(III) for functional chrome plating with decorative character cannot yet be considered as a viable alternative, particularly while this can clearly be avoided through sourcing from non EU suppliers using Cr(VI) technology.

3. Use by the automotive industry

KEMI statement that the End-of Life Vehicles Directive 2000/53/EC prohibits hexavalent chromium (e.g. chromium trioxide) in materials and components of vehicles put on the market after 1 July 2003 is correct. Limited exemptions exist under Annex II of this directive for the use of hexavalent chromium in corrosion preventive coatings in spare parts for vehicles put on the market before 1 July 2007. Thus, hexavalent chromium is not present in current passenger cars and light commercial vehicles. However, the automotive supply chain relies on the use of chromium trioxide in sub processes to manufacture metallic chrome-plated parts. Several thousands of chrome-plated parts are supplier per vehicle manufacturer. **Most importantly, the final parts do not contain Cr(VI).** They are selected for use because of their very low toxicity and high durability in a consumer environment, and because exposure to Cr(VI) is limited to surface treatment activities, where it is efficiently and effectively controlled.

We confirm that "*…parts specified in the AoA page 3, belt locks and injector,…*" fully comply with the ELV Directive and are free of Cr(VI). Furthermore, these metallic chrome-plated parts are demonstrated to increase safety, durability and/or lead to less fuel consumption in the vehicle.

4. Use in electrical and electronic equipment (EEE)

The applicant confirms that the content of Cr(VI) in EEE is restricted in accordance with the RoHS directive (2011/65/EC). As a consequence, no Cr(VI) is present in the products concerned. Chromium trioxide is used for the manufacturing of thousands of parts, and worker exposure is carefully managed and restricted in these applications. Importantly, **the final products, containing a metallic chrome coating do not include any residual Cr(VI)** and are therefore in compliance with the RoHS directive and present no health risk to consumers.

5. Setting a relevant review period

We refer to the response to the first paragraph of this document "1. Too broad and unspecific use".

Reference number and date:	Submitter:	Alternative:						Attachments:
		Type	Generic name	EC Number	CAS Number	Description of technical alternative	Classification and Labelling	
Ref.No: 684 **Date:** 2015/10/07	**Affiliation:** BehalfOfACompany **Type/Role in the supply chain:** Manufacturer **Name of org/company:** Oerlikon Balzers Coating Germany GmbH	Oerlikon Balzers has developed an innovative technology that is an alternative to traditional functional chrome plating with decorative character, called ePD (embedded Physical Vapour Deposition (PVD) for Design parts).						Comment_684_Attachment.pdf

	Country: Germany		

Applicants' response:

The technology Oerlikon Balzer is presenting is well known by the industry. The technique is referred to as "Lacquer+PVD" in the AoA of Use 3. The following statements were consolidated from companies from several sectors, which performed numerous tests with this technology. It can be clearly concluded that the performance presented from Oerlikon Balzers Coating Germany GmbH is not consistent with the experience from industry.

As a general comment, Oerlikon Balzer makes the following claims that its technology

- "*complies with the requirements for sanitary applications*". Furthermore, the technology is "*already approved [...] in the laboratory or in extended field tests*".
- *"The ePD™ technology has been approved through an extended field test and laboratory test with a big client to comply with "all regulations and to provide a safe product in contact with drinking water*
- *"OEMs also designed specifications for lacquer+PVD+lacquer and the ePD™ technology complies with all the specifications"*
- *"it also has a large positive impact on health"*

However, none of these general statements are supported by information on the applications, specifications concerned, requirements or the testing conditions or approval within the EU or by countries / companies. OEMs within the EU confirm they did not approve this technology and that it is currently not planned to approve the technology, due to technical deficiencies as outlined below.

In contrast, the AoA for Use 3 clearly listed the requirements from the respective sectors and the technical deficiencies of this technique.

Oerlikon Balzer mentioned several time that its technology is free of boric acid while concluding that "*Boric acid is currently used in the functional chrome plating process."* [Cr(VI)]. This statement is misleading. The chromium trioxide based baths do not contain boric acid. However, the entire process also includes nickel baths that contain boric acid.

Statement from Sanitary Sector / White goods:

Large scale industry experiments were performed, with a considerable large number of parts (around 1000) for sanitary applications. This illustrates the extent to which industry actively seeks to substitute Cr(VI) in its applications. 350 of these parts had already to be used for setting up the appropriate coating parameters for the ePD technology. These parts could not be used for further testing. The remaining parts were coated and tested. None of them fulfilled the companies' quality standards. Nevertheless, around 200 parts were further processed for practical tests at customers from the hotel sector. Here, the scratch resistance was clearly not comparable with functional chrome coatings as illustrated in Figure 1 below.

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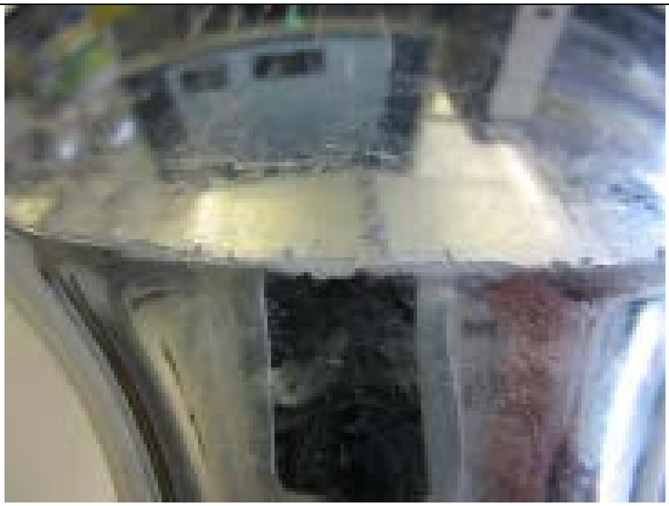

Figure 1. Abrasive behaviour of tested part (after 3 months) coated with ePD. The performance is clearly not in line with industry standards. At the edges spalling of the coating is visible.

A

B

C

D

Figure 2. Results for GROHE abrasion test (A, B) Lacquer / PVD surface (Oerlikon Balzer) result after 30,000 cycles. (C, D) Lacquer / PVD surface (Oerlikon Balzer), result after 50,000 cycles. Both results are not in Conformity with GROHE GSO (100,000 cycles without significant surface problems) (GROHE, 2015).

In summary, the following technical limitations are observed:

- Most importantly for a potential use of this technology is the current **non-compliance with drinking water legislation**. As stated in the document (p.8), a UV lacquer is applied as top coat on the products. These lacquers have to be cured before the product can be used. UV lacquers are generally not limited to the outside of the product, but can also diffuse to the inner geometry (inner waterways) of a substrate. The curing procedure may not reach to the amount of lacquer in the inner waterways. Consequently, residues of non-cured particles can remain in inner geometries. UV lacquers are known to contain substances where an approval for materials in contact with drinking water is not likely to be granted. As of today, this issue is not solved, so that an approval for these UV lacquers will not be granted in terms of drinking water compliance. Referring to the AoA (p36), it is expected to take at least **10 years** from the decision making for an alternative, until product safety and approval for the use in contact with drinking water has been achieved.
- Compared to functional chrome coatings, the top coat of this technology is a UV lacquer. These lacquer systems are not comparable to metallic coatings. The resistance to abrasion is not sufficient, as confirmed by test results from the sanitary sector. Furthermore, the surface is not scratch resistant. In summary, the surface properties of this technology are not in line with the sector specific requirements from the sanitary sector.
- Geometry of parts is also an issue in terms of lacquers processing. Round parts can be coated, while for parts with edges the coating performance is not sufficient.
- In general, this technology still has a high rejection rate (up to 50%), which is not acceptable (from a commercial point of view).
- The aesthetic and brightness of this system is not as good as a metallic chrome coating applied by chromium trioxide electroplating. In addition, the colour change over time (colour stability, colour match) was stated to be worse and the metal feeling is missing. Depending on layer thickness and the lacquer system, considerable differences in terms of thermal conductivity are observed, influencing the haptic of the products.
- From industry experience, the lacquer curing is not guaranteed in case of complex geometries.

In the next paragraphs we will provide further clarification on the claims made by Oerlikon Balzer. Please note, that comment is only provided in relation to major claims.

- **Cleaning:** Oerlikon Balzer stated that for the cleaning step, snow-ice is used and that no further cleaning is necessary. The use of snow-ice is not unproblematic in terms of processing and probably to be conducted under significant safety measures. The tested parts from the above mentioned industry experiments were, however, additionally cleaned with alcohol.
- The cleaning process is being described by Oerlikon Balzer for plastic materials and as an integrated part of the machine concept (INUBIA I 6 and I 12). For pre-treatment of metals, no process / machine concept is being presented by Oerlikon Balzer. Comparing to existing cleaning processes within the metal area it is assumed that snow-ice treatment will not be sufficient enough to replace existing cleaning steps (especially inner geometries). Pre-treatment of parts is crucial for

the subsequent plating / deposit steps and seen to be more complicated in the metal area than in case of plastics.

- **Substrates:** The number of substrates used is also limited. The process cannot be applied to all kind of metals, nor several plastics (e.g. Polypropylene).
- **Risk reduction:** According to the information provided, the applied UV-lacquer is solvent based and not water based. This is a major disadvantage environmentally and economically. This is also the case because VOC requires special explosion proof equipment. The use of VOC requires a closed system.
- **Better resource efficiency:** It is stated in the document that **"***Due to very strict legal regulations to install electroplating lines such as regulations for waste water, off-gas emissions etc., the electroplaters act as job-coater or in the tier 2 level in most cases. Especially in regions with water preserved areas it is not possible to operate electroplating lines*." This claim is not correct. Indeed, when building a new electroplating line environmental restrictions have to be accepted. However, industry is able to design the building and equipment to follow the actual rules to protect the environment. Sector specific needs are the reason for the structure of the supply chain, not environmental issues.
- **Economic feasibility:** The economic feasibility assessment carried out by Oerlikon Balzer is misleading and leads to wrong conclusions. The batch sizes and product sizes are not in line with information from sanitary and automotive sector. Furthermore, it is stated that indeed, depending on size and quantity of parts, different machines are needed. In contrast, one advantage of an electroplating line is that parts of different sizes and geometries can be processed in one line. Therefore, the whole paragraph can be claimed as irrelevant and misleading. In the end of the economic assessment, Oerlikon Balzer admits that "*In some cases, a huge cost saving for ePD™ can be seen, in other cases a clear cost advantage for electroplating is discovered*".
  An example calculation was provided by the company that conducted the large industry experiment with this technique:
    - The mentioned cycle times of 35s mean that 14 parts/min can be coated.
    - This is valid for an ePD system (type I12) with 8 Parts on each rack.
    - In the experiment the industry carried out with Oerlikon Balzer with this ePD system, only 2 parts were mounted on each rack.
    - Consequently, the throughput was less than 4 parts/min.
    - For comparison, companies using an electroplating line are able to place 96 parts onto one rack set. 15 rack sets can go through the electroplating line per hour. As a result, the throughput is 24 parts/min.
    - This means that even with the I12 system only 58% of the production capacity of the electroplating line is reached.
- It is claimed that the ePD process can "*cover more than 80% of all plated parts for decorative coating"*. Industry experience clearly contradicts this claim.

As a result of the experiences mentioned above, other companies, which manufacture sanitary products, confirmed that the technology of Oerlikon Balzers is currently not an alternative to electroplating with hexavalent chromium. The field tests contradict the results mentioned by Oerlikon Balzers. In conclusion, industry has investigated the ePD technology in great detail. The results show that this technology is actually not a general alternative for several reasons. The wear resistance of ePD surfaces is not in line with current quality standards, while the production quality and production efficiency of ePD is very low. Furthermore, costumers complained about colour mismatch compared to electrodeposited chromium. Another issue that was observed is the accumulation of the visible lacquer thickness at the edges of 3 dimensional parts.

Additional information from the Automotive Sector:

The described PVD application is well known by the automotive industry and the AoA sets out the advantages and disadvantages of the technique itself, taking into account specifications from the applying industry and the end users. Oerlikon Balzers has not taken into account the specific specifications for chrome plated parts in the automotive industry. To the knowledge of OEMs, the Oerlikon Balzers technique is not approved for these chrome plated parts. The PVD technology itself requires a lot of attention on the quality of the finishing of the injection tools of the plastic parts. The adhesion of the PVD layer on these parts is weak and this PVD layer has no levelling effect which requires an additional layer of lacquer on the substrate. Even with the two layers, the abrasion coefficient and scratch resistance is so poor that an additional layer of lacquer on top is required, which often causes an unacceptable "orange peel effect" and colour changes to the original chrome surface. The colour changes to the chrome surface might be adapted using additional aluminum in the PVD layer which on the other hand excludes the technique for all surfaces with high and long-term corrosion load such as in the automotive industry. Additional UV-light tests (one year Florida simulation) failed with unacceptable crack formation and loss of layer adhesion. Test results vary massively estimating a lack of process reliability. This indicates that this technology needs more maturity and has to be developed further. If in the future ever a better PVD technique will be provided and approved by all OEMs that could replace the chrome plated parts is questionable. Even Oerlikon Balzers has justified in their comments that additional time is required until "*…the coating market in the EU could be (fully) covered in 6-7 years …*".

Additional information from other sectors

The statements given by the sanitary sector and automotive sector were also confirmed by companies operating in other sectors e.g. in the furniture sector. When testing ePD e.g. on columns with flexible heights for the use, e.g., in ergonomic desks, the abovementioned technical failures occurred after few height adjustments. Clearly, hardness, scratch resistance and abrasive behaviour was not in line with the requirements, as grooves and scratches were observed. The products also failed in a climate test: Infiltration through pores let to severe discoloration of the product. Furthermore, complex geometries cannot be coated satisfactory.

An additional aspect for cosmetic applications is the "touching metal appearance" which is currently only created by the electroplating process. Customers currently demand these standards. On page 11, Oerlikon Balzer stated that "*approval for the cosmetic sector should not be an issue*". From this statement it could be assumed that the approval is planned for the future but not yet granted. However, in the performance overview on this page, all parameters are claimed as "*Approved".* To our knowledge, no such general approvals are in place.

In summary, this analysis shows that the technology presented is not a technically feasible alternative to chromium trioxide-based functional chrome plating with decorative character for key applications in miscellaneous industry sectors. The current performance does not support the necessary combination of key functionalities to be considered as technically feasible alternative.

Reference number and date:	**Submitter:**	**Alternative:**						**Attachments:**
		Type	**Generic name**	**EC Number**	**CAS Number**	**Description of technical alternative**	**Classification and Labelling**	
Ref.No: 642 **Date:** 2015/10/06	**Affiliation:** BehalfOfACompany **Type / Role in the supply chain:** Downstream User **Name of org / company:** W&H Dentalwerk Bürmoos GmbH **Country:** Austria	Final Statement: For dental or surgical hand-piece applications there are no acceptable alternatives to metallic plating from chromium trioxide. None of the alternatives would fulfil the technical requirements of dental and surgical instruments. Please see attached file "00_Statement for consultation of Alternatives CrVI"						Comment_642_Attachment.pdf

Applicants' response:

We appreciate the comment made by W&H Dentalwerk Bürmoos GmbH. We would consider dental or surgical hand-piece applications as a very significant example to be covered under "Others".

This demonstrates that, although no detailed information was considered during the preparation of the dossier, the applications and requirements of the dental and medical sectors are fully in line with key parameters for other products and parts as already outlined in the AoA.

Furthermore, the health and economic impacts of a decision to authorise use of chromium trioxide in production of dental and surgical instruments has not been considered in the SEA. However, the magnitude of health and associated economic implications of failing to access instruments that can be readily sterilised and safely used for dental and surgical procedures can be readily anticipated, and lends further significant weight to the benefits of the applied for authorisation.