

# **Adaptation to scientific and technical progress under Directive 2002/95/EC**

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## **1 Background and Objectives**

Article 4 (1) of Directive 2002/95/EC on the restriction of the use of certain hazardous sub-stances in electrical and electronic equipment provides “that from 1 July 2006, new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, PBB or PBDE.” The annex to the Directive lists a limited number of applications of lead, mercury, cadmium and hexavalent chromium, which are exempted from the requirements of Article 4 (1).

Article 5 (1) (b) of the Directive provides that materials and components can be exempted from the substance restrictions contained in Article 4 (1) if their elimination or substitution via design changes or materials and components which do not require any of the materials or substances referred to therein is technically or scientifically impracticable, or where the negative environmental, health and/or consumer safety impacts caused by substitution outweigh the environmental, health and/or consumer safety benefits thereof.

On the basis of this provision the Commission has received (and is still receiving) additional requests for applications to be exempted from the requirements of the Directive from industry. These requests need to be evaluated in order to assess whether they fulfil the above mentioned requirements of Article 5 (1) (b). Where the requirements are fulfilled the Commission proposes a draft decision amending the RoHS Directive.

Against this background Öko-Institut e.V. and Fraunhofer Institute for Reliability and Microintegration IZM have been commissioned by the European Commission with technical assistance for the evaluation of requests for exemptions submitted according to Article 5 (1) (b). The main objective of this technical assistance contract consists in a clear assessment of whether the requests for exemptions are justified in line with the requirements listed in Article 5 (1) (b) and in a subsequent recommendation on whether or not to grant the exemption – including a precise wording. These recommendations as well as the description of the proceeding will be included in monthly reports between October 2006 and October 2007.

## **2 General Procedure**

For details on the general procedure please refer to monthly report 1.

### 3 Scope

On 10 November 2006 the sixth stakeholder consultation round was launched by the Commission and closed on 10 January 2007. The requests open for comments of this sixth consultation round represent the scope of this sixth monthly report and of the current and forthcoming evaluation. Some stakeholder comments have been posted on the consultation website concerning requests 1, 7, 15, 18, 22 and 23 as well as one general comment.

Table 1 below gives an overview over the corresponding set 6 of requests for exemption and their current status.

Table 1: Overview status of requests set 6

No.	Title	Applicant	Status
1a	Lead used for shielding of x-radiation emissions for CRT	VDC Display Systems	<b>WITHDRAWAL 11/12/06</b>
1b	Hazardous materials and lead in solders in components and assemblies used in non-consumer products	VDC Display Systems	<b>WITHDRAWAL 11/12/06</b>
1c	Electronic equipment where reliability, durability and longevity of the equipment is paramount	VDC Display Systems	<b>WITHDRAWAL 11/12/06</b>
2	Lead as soldering alloy in high performance communication electronic board and hexavalent chromium (Cr-VI)	Clarity SAS	<b>WITHDRAWAL 18/12/06</b>
3	GemCore 410 EMV	Gemplus	Draft recommendation given in monthly report 6
4	SAVBIT solder	Roband Electronics PLC	Final clarification with applicant in progress.
5	Sn-Pb soldering used in Ground-based Aeronautical Communication Equipment Manufacturing	Telerad	Final clarification with applicant in progress.
6	Transducers used in professional loudspeaker systems, using tin-lead solder	Gemini Sound products Corp.	Recommendation given in monthly report 5.
7	Tin-lead solder in the manufacture of professional audio equipment	Gemini Sound products Corp.	Recommendation given in monthly report 5.
8	Inventory of special ICS having tin-lead solder on/in leads/balls, used in specialist/professional equipment	Gemini Sound products Corp.	<b>WITHDRAWAL 02/01/07</b>
9	Crystal Stones within the battery operated watch	Zeon Ltd.	<b>WITHDRAWAL 10/01/07</b>

No.	Title	Applicant	Status
10	EEE used for the broadcast and homeland security sector	Tieline Technology	<b>WITHDRAWAL 26/2/07</b>
11a	AM186ES-V40 containing lead in used in the leads over plating and AM79C961AKC containing lead in used in the leads over plating	Digigram	Recommendation given in monthly report 6
11b	Audio board manufacturing process	Digigram	Withdrawal probable. Final clarification with applicant in progress.
12	Cadmium sulphide or cadmium selenide in polymer based thin film transistor	Silk Displays Inc.	Clarification on scope issue in progress with Commission.
13	Lead used in the soldering for surface finishing at the electric pole terminal on the electronic parts	ICOM Incorporated	Recommendation possible (see section 5.1)
14	Cadmium contained in the cadmium oxide of a thick film ceramic substrate	ICOM Incorporated	Questions sent out 7/5/2007. Answers expected until 25/05/2007.
15	All electronics assemblies using lead in solder	RoHSUSA Inc	Final recommendation given in monthly report 5.
16	Lead in electric overblankets for Hot Spot detection	Beurer / Especialidades Eléctricas Daga S.A.	Final recommendation given in monthly report 5.
17	MPC10 used in automatic vending machines to achieve the payment by card	Sagem monetel	Recommendation possible (see section 5.2)
18	Hexavalent Chrome Cr-VI when used as a passivate	Amphenol Limited	Recommendation possible (see section 5.3)
19	Lead contained in circuit boards, obsolete and non-compliant Intel 80c188/86 EA\XL microprocessors, Analog Devices ADMC300 DSP, and NEC uPD7101 DART and hexavalent chromium	NBS Technologies Inc.	Clarification on inclusion into RoHS scope still in process with applicant.
20	Component used in the manufacture of electric blankets and heating pads	Thermocable (Flexible Elements) Limited	Final recommendation given in monthly report 5.
21	Request to delete exemption for "Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used for fibre optic communications systems	Integrated Photonics	Recommendation given in monthly report 6

No.	Title	Applicant	Status
22	Lead in Trimmer Potentiometer elements	Tokyo Denshi Ltd.	Questions sent out 7/5/2007. Answers not yet received.
23	Cadmium in opto-electronic components	Marshall Amplification plc	Questions sent out 7/5/2007. Answers not yet received.

## 4 Results

Questions have been sent out to all applicants. Some answers are still pending (3). This is in some cases due to applicants not replying to questions sent out by Öko-Institut even upon several reminders. Since in cases of possible withdrawals the Öko-Institut insists on a formal withdrawal by the applicant it is sometimes a lengthy procedure until the applicant does follow that request.

Most of the evaluation work has up till now consisted in asking the applicants the relevant questions in order to clarify whether (i) the application for which an exemption is requested falls under the scope of the RoHS Directive, (ii) an existing exemption would cover the application concerned and (iii) the use of the substance in an application can be described in more detail. This process sometimes takes up quite extensive e-mail exchanges and telephone calls. The fact that this is nevertheless an important part in the evaluation before beginning with drafting a recommendation is reflected in the many withdrawals (7) that are brought forward by applicants when they subsequently realise that the exemption request is not valid within the context of the RoHS Directive and its exemptions in force.



## 5 Recommendations

### 5.1 Lead used in the soldering for surface finishing at the electric pole terminal on the electronic parts – Icom Incorporated (set 6 request no. 13)

#### 5.1.1 Description of requested exemption

The applicant produces communication equipment for professional, amateur, marine, avionics and other uses (<http://www.icom.co.jp/world/index.html>). He asks to exempt lead used in the surface finishes of electronics components from the ban in the RoHS Directive and has added a list of components, to which this exemption would apply.

The applicant wants to continue using lead in tin-lead finishes on specific components, which he has listed in an additional document (see Lot6\_requ13\_icom\_complist2.xls in the Annex).

The applicant states that lead in the range of around 10 % (weight) is used in tin-lead finishes on the terminations of electronics components. The addition of lead suppresses whisker formation and thus increases the reliability in particular of fine pitch components, where the whisker might cause short circuits between the component pins causing electrical failures.

According to the applicant's component list, the total annual quantity of lead used in the applicant's products in component finishes is around 500 g.

The wording of the exemption according to the applicant would be:

*"Use of lead in finishes on terminals of electrical and electronics components."*

#### 5.1.2 Summary of justification for exemption

The applicant justifies his exemption request according to the following technical and environmental arguments:

- The applicant says that his products are high value and low volume products. The non-conformity of just one component in a significant part of his product range would no longer allow him to sell these products into the European Union just because of an insignificant amount of lead in the finishes of the components.
- The components in question (see attached list in the Annex) can technically be produced with lead-free finishes. The applicant, however, has purchased a lot of components for his future production as a last time buy, as the production of these components was discontinued afterwards and alternative manufacturers for these components were not available.
- The use of lead-free finish components would, according to the applicant, require massive design changes on the printed wiring board. The applicant says he wanted to

develop new and RoHS compliant designs for RoHS compliant products, which would have been available in 2006 and 2007. However, according to the applicant, the development of these products has been delayed or cancelled. Products with new designs using newly designed and RoHS compliant products thus are not available at the time being. The applicant did not indicate any further reasons for the delays and cancellations in the product redesign process.

- The applicant further on argues that he needs to use lead in component finishes to avoid whisker reliability problems on fine pitch components. The consultants asked the applicant why the existing exemption for the use of lead on fine pitch components does not suffice his reliability requirements (exemption no. 23). The applicant replied that he has many components with pitches of 0.65 mm and more. The applicant does not indicate any further explanation, why he, in opposite to other manufacturers, thinks that he needs an exemption for components with a pitch of more than 0.65 mm.

A critical review of the documents made available by the applicant and of further data and information given by other parties lead to the following observations and conclusions:

- The applicant on the one hand based his request on a last-time-buy (LTB) issue, on the other hand on whisker reliability arguments on fine pitch components.
- The applicant did not explain why he was not ready with new designs in time enabling RoHS compliant products. He stated that he undertook permanent efforts to achieve RoHS compliance, but did not proof that he undertook the necessary efforts to achieve RoHS compliance on time. In the context with the applicant's LTB arguments, the consultants would like to refer to their previous statements that the COM should make a principal decision on the LTB issue (see monthly report 9 from previous evaluation contract<sup>1</sup>). The applicant has submitted a list with the non-RoHS compliant LTB components (Lot6\_requ13\_icom\_complist2.xls).
- The applicant did not indicate any reasons that would justify expanding the existing 0.65 mm pitch limit in exemption no. 23 of the RoHS Directive for the use of lead in finishes to wider pitches.
- The applicant's arguments for his exemption request thus are not in line with the requirements of Article 5 (1) (b) of the RoHS Directive. Granting the exemption request can therefore not be recommended.

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<sup>1</sup> See Annexes to the Final Report published on [http://ec.europa.eu/environment/waste/weee/studies\\_en.htm](http://ec.europa.eu/environment/waste/weee/studies_en.htm)

#### **5.1.2.1 Final recommendation**

The applicant's justifications for his exemption request are not in line with the requirements of Article 5 (1) (b). The consultants therefore recommend the COM not to grant this exemption. Nevertheless, one aspect of this request is a last-time-buy and single-source component issue. The consultants in this point would like to refer to monthly report 9 from their previous contract<sup>2</sup>, where they described this issue as a principal decision to be taken by the Commission.

Whiskers in fine pitch components are the other aspect of this request. The applicant did not provide any evidence that the existing exemption no. 23 in the RoHS Directive for the use of lead in fine pitch components is not sufficient to avoid reliability problems due to whisker formation.

### **5.2 MPC10 used in automatic vending machines to achieve the payment by card – Sagem Monetel (set 6 request no. 17)**

#### **5.2.1 Description of requested exemption**

Sagem Monetel requests an exemption for an electronic component used in automatic vending machines. The name of the component is MPC 10. It is used within automatic vending machines in order to allow payment by card. This application includes a specific modem component (300/1200 Bits per second Modem; SC11016 from Sierra) which itself contains tin-lead solder used on the component legs to ensure "wetting" when the part is soldered to the circuit board. The lead content is estimated at 0,01 g per device. The total weight of lead for the use in the remaining production of the machines<sup>3</sup> is estimated to be no greater than 50 g.

The applicant himself refers to the component as a so-called Last Time Buy: "As a result of the very low volume of this component being used in the professional equipment, it will not be converted to lead-free solder as it is now obsolete and has been made available to us as an Last Buy Order in order to be able to continue manufacturing for one and a half years."

The applicant has not proposed any wording.

#### **5.2.2 Summary of justification for exemption**

The applicant justifies his exemption request according to the following technical and environmental arguments:

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<sup>2</sup> See Annexes to the Final Report published on [http://ec.europa.eu/environment/waste/weee/studies\\_en.htm](http://ec.europa.eu/environment/waste/weee/studies_en.htm)

<sup>3</sup> This is an interpretation of Öko-Institut on the basis of the available documentation. The applicant was asked to specify which "total amount" of lead was meant but did not reply within the required delay (even upon several demand).

- The applicant argues that the manufacturer stopped production of the component due to low production volumes and offered a Last Time Buy order.
- Furthermore, the applicant states that there is no replacement for this component and that therefore minor re-design will not be possible until a suitable and reliable substitute becomes available.
- Design of a new product could be possible during the last quarter of 2006: “The MPC10 product is covered by French banking organisation approval; a new homologation is required for any change on the product. This new homologation must be performed according to updated specifications and rules. As long as the updating of as these specifications and rules is in progress, it is not possible to present any new product nor any change in the present products to homologation. Therefore products have to be sold as they are. The new technical requirements and rules will be available in September 2006. Sagem Monetel is ready to start the study of a new product fully compliant both with bank requirements and RoHS EC Directive and plans to commercialise it by the end of 2007”.

A critical review of the documents made available by the applicant and of further data and information given by other parties lead to the following observations and conclusions:

- Even upon several request, the applicant did not provide any evidence and information on:
  - More details on applications covered by the exemption request, their functionality and the functionality of the compound containing the restricted substance (e.g. performance criteria, circuit diagram, data sheet, ...).
  - Wording of the requested exemption
  - Volumes and design cycles of the last time buy components
  - Quantity of stocked components
  - Starting point of RoHS compliance activities
  - Re-design process (e.g. roadmap)
  - Confirmation of suppliers on non-availability of RoHS compliant components
- According to the applicant, design of a new, RoHS compliant product, could be possible in the last quarter of 2006. Öko-Institut requested more information on this point in order to be able to analyse whether an exemption by mid 2007 would then be obsolete (which is suggested by the applicant’s statement). However, no response was given with regard to this point.
- Looking at the applicant’s statement that the last time buy order was done for a production period of 1 ½ years (see section 5.2.1) and knowing that the request for

exemption was handed in to the Commission by 26 July 2006, the component would be phased-out by end 2007 thus making an exemption obsolete by then<sup>4</sup>.

#### **5.2.2.1 Final recommendation**

Since the applicant could not bring forward sufficient argumentation and evidence - in line with Art. 5 (1) (b) –concerning his exemption request and since it is assumed that the necessity of an exemption will not be maintained beyond end of 2007, it is recommended not to grant the exemption.

Nevertheless, the attention is drawn to the fact that this exemption request belongs to the lot of the so-called LTB requests and that an evaluation sticking closely to Article 5 (1) (b) does not seem to be adequate (for the general discussion of this issue please refer to section 5 of monthly report 9 of the last evaluation contract<sup>5</sup>).

### **5.3 Hexavalent Chrome Cr-VI when used as a passivate – Amphenol Limited (set 6 request no. 18)**

#### **5.3.1 Description of requested exemption**

Amphenol Limited requests an exemption for the use of CrVI as surface treatment used to protect metal parts like connectors, fasteners and associated fittings. The aim is to get a surface which provides high corrosion resistance, electrical conductivity, self healing and colourant properties.

The estimated amount of CrVI affected by this exemption request in one year is 25 t.

This request is very similar to request 5 of the second stakeholder consultation. The previous evaluation can be found in monthly reports 3 and 9 of the former contract<sup>6</sup>.

The applicant requests an exemption as a minimum until 1 July 2007 to be consistent with the ELV Directive. He suggests that it should then be reviewed in the light of advances in science and available replacement technology prior to that date.

Upon request to narrow down its request to certain categories of the WEEE Directive instead of requesting a general exemption for the use of CrVI as passivate in electrical and electronic equipment, the applicant proposed the following wording:

*“CrVI used in corrosion preventive coatings of metal and of plated connectors, fasteners, and associated fittings used for corrosion protection and electrical conductivity (in view of electrical radio frequency and electromagnetic interference shielding, or where electrical*

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<sup>4</sup> The applicant has upon his submission for exemption been informed by the Commission about the length of the process by e-mail on the same day.

<sup>5</sup> See Annexes to the Final Report published on [http://ec.europa.eu/environment/waste/weee/studies\\_en.htm](http://ec.europa.eu/environment/waste/weee/studies_en.htm)

<sup>6</sup> See Annexes to the Final Report published on [http://ec.europa.eu/environment/waste/weee/studies\\_en.htm](http://ec.europa.eu/environment/waste/weee/studies_en.htm)

*earth or electrical grounding requirements exist) in equipment falling under categories three, five and six of Directive 2002/96/EC.”*

This wording is similar to the wording of the existing exemption no. 8 in the RoHS Annex. The differences are shown in the table below.

Table 2: Comparison current wording exemption no. 8 and new proposal

	<b>Wording exemption no. 8</b>	<b>New wording proposed</b>
Coating of	unpainted metal sheetings and fasteners	metal and of plated connectors, fasteners, and associated fittings
Electrical characteristics	electromagnetic Interference shielding	electrical conductivity (in view of electrical radio frequency and electromagnetic interference shielding, or where electrical earth or electrical grounding requirements exist)
WEEE categories	3 “IT and telecommunications equipment”	3 “IT and telecommunications equipment”; 5 “Lighting equipment” and 6 “Electrical and electronic tools”

### 5.3.2 Summary of justification for exemption

The applicant justifies his exemption request according to the following technical and environmental arguments. The argumentation on the positive effects of CrVI as surface treatment as well as the non-availability of suitable alternatives is similar to the argumentation used in the previous stakeholder consultation on the same topic:

- CrVI allows for self-healing properties (continues to protect surfaces when scratched), provide an electrically conductive surface and provide a finished coloured surface.
- Alternatives like coated steel, paint finishes and / or polymer coatings, stainless steel, aluminium and aluminium alloy substrates as well as metallic nickel, zinc, CrIII or other combination plating finishes are not able to deliver the same above-mentioned properties all in one as CrVI can.
- Using an alternative would lead to severe corrosion, leading to poor electrical connection, causing failure of the product, preventing repair, and in some cases causing a safety hazard.
- The automotive industry has been allowed an exemption until 1 July 2007 for the same application. The RoHS Directive should at least be in line with the ELV Directive.
- According to the applicant, the reasons why alternatives to CrVI investigated by industry are not suitable for the use of surface protection of connectors, fasteners and associated fittings in electrical and electronic products are the following:
  - Coated steel: new coatings for steel are primarily developed for automotive industry (e.g. CrIII); applicant claims these to be less effective with respect to “self healing” and provision of electrically conductive surface. Applicant states that it is not possible to obtain corresponding data or samples for purposes of qualification testing and life expectancy trial.

- Paint finishes and / or polymer coatings: applicant claims that when used electrical grounding and protection from Electrical Radio Frequency Interference (RFI) and EMI (Electro Magnetic Interference) is lost. Also electrical conductivity might be lost which can be useful for electrical safety purposes (e.g. positive earth connection).
- Stainless steel alternatives: the applicant states that stainless steel can be used as an alternative for selected applications but that due to its very high price it cannot be used as an alternative in commercial quantities. Furthermore, the applicant argues that stainless steel requires more energy to process and would thus lead to waste of natural resources.
- Aluminium and aluminium alloy substrates: applicant states that aluminium metal components tested to date with CrIII or equivalent passivate finishes are unable to meet the same level of protection as CrVI.
- Metallic nickel, zinc, chromium or other combination plating finishes: applicant admits that these alternatives are technically suitable for some applications like fasteners. However, the applicant argues that costs would be higher and that resources would be wasted since plating finishes of this type would need to be significantly thicker.
- Research into substitutes is currently mostly carried out with a view to harmonise with the ending of the current exemption in the ELV Directive. The applicant states that however, many applications in the automotive industry do not have the same strong requirements about electrical conductivity as electronics.
- Furthermore, the applicant argues that technically feasible substitutes (i.e. coated steels) are not available in sufficient quantity to support production of electronic goods for the European market.
- According to the applicant, the use of CrVI has to be seen together with the use of other surface plating such as e.g. Cadmium. Since some use of Cadmium (i.e. in electrical contacts) has been exempted from the requirements of the RoHS Directive (entry of the Annex no. 8), the applicant requests the same condition for the use of CrVI. He argues that otherwise cadmium applications mentioned in the exemption would become “at risk”.
- The applicant has been supported in his argumentation by several stakeholders (e2v, Emerson, Serious Science, BCF, Glenair and Tyco).
- One stakeholder – Electrolux – has reiterated their previous statement that for household appliances there are technical and economical viable substitutes to CrVI surface coatings available (e.g. CrIII, galvanised metal layers, Zinc flake techniques, and zirconium based passivation solutions. According to this stakeholder these new solutions show no reduced performance with regard to corrosion protection, friction, thread tolerance or thermal resistance and are also available in insufficient quantities.



- Responding to this argument the applicant states that household appliances do not generally have RFI and EMI shielding requirements. He argues that in general equipment belonging to WEEE categories 1, 2, 4, 7 and 10 does not have this type of requirement and is furthermore generally used in a benign environment and therefore does not require extended corrosion protection.

A critical review of the documents made available by the applicant and of further data and information given by other parties lead to the following observations and conclusions:

- The applicant has stated that the exemption in force no. 28 does not cover his exemption request since the wording restricts the exemption to “metal sheetings and fasteners” while the applicant requests an exemption for “connectors, fasteners and associated fittings”. A re-wording of the existing exemption no. 28 would thus have to take place if it is recommended to grant the exemption request.
- Upon request by Öko-Institut, the applicant admitted that due to an absence of exemption, “Amphenol Limited in common with other manufacturers of high reliability connectors and associated components have been prevented by the RoHS Legislation from supplying connectors with high corrosion resistance finishes and enhanced electrical conductivity. Customers have had to purchase product with either inferior protection (which will require early replacement due to corrosion) or have purchased stainless steel product which, due to the overall energy costs associated with producing and machining Stainless Steel, it rates as a very poor second to aluminium which has been plated with a CrVI passivate protection.”
- This leads to the conclusion that alternatives are technically feasible. However, the applicant also mentions the higher amount of energy necessary for the production of the stainless steel alternatives leading to the question whether the environmental impact of substitution might outweigh the benefits thereof. This question cannot be answered within the framework of this evaluation since no sufficient data is available and the applicant has not supported this statement by any evidence.
- The applicant argues that even though “research has been ongoing for a number of years by the metal finishing industry globally, to date no replacement has been found which will provide the electrically conductive, self healing, coloured finishes with high corrosion resistance [...] performance that is obtainable from the present CrVI.” This argumentation is not in line with Art. 5 (1) (b) since technical practicability cannot be understood in a way that a substitute needs to be a 1:1 replacement fulfilling all characteristics of the restricted substance. As stated above, substitutes appear to exist for some of the applications mentioned by the applicant even if the use of these substitutes leads to certain restrictions.
- The argumentation that a technical practicability of substitutes in household appliances cannot be taken over for all electrical and electronic equipment is comprehensible and has been used in the context of the previous evaluation of request 5 in the second



stakeholder consultation. WEEE category 3 (IT and telecommunications equipment) has in that context already be identified as having stricter requirements to surface treatment than household appliances thus leading to the existing exemption no. 28. Whether this is also the case for categories 5 (lighting equipment) and 6 (electrical and electronic tools) is less comprehensible.

- However, as stated in monthly report 9 of Öko-Institut's previous contract<sup>7</sup>, "other industry sectors than ICT may have problems in complying with RoHS by 1 July 2006. The new proposed wording has not been subject to a stakeholder consultation thus not giving stakeholders the chance to comment on the now narrowed exemption request." Thus, even though the applicant has not well justified the necessity to include categories 5 and 6 into an exemption, the general argumentation on substitution issues described in the monthly report are still valid, i.e. it is possible than alternatives to CrVI are not yet fully practicable for certain applications.
- Furthermore, the applicant asks for an alignment with the ELV Directive. In the mentioned monthly report 9 Öko-Institut recommended that "phase-out of Cr-VI in passivation coatings should be harmonised with Annex II of Directive 2000/53/EC (on end-of-life-vehicles). Item 13 a) of this Annex includes the exemption for the use of hexavalent chromium in corrosive preventive coatings, which expires on 1 July 2007. Thus, in the field of electric and electronic products covered by RoHS Directive, the same time-line should be applied." This has also to be seen in the context that "supply chains of the automotive industry and the ones of the electronics industry are often the same and that in practice it can not be guaranteed that supply and delivery channels can be properly separated in order to ensure RoHS conformity. This is especially the case for stocks that supply both industry sectors (e.g. a screw used in a car might just as well be used in a refrigerator)."
- Following from the above, it is recommended to grant the exemption until 1 July 2007. However, the wording proposed by the applicant would needed to be cross-checked with the applicant of request 5 from the second stakeholder consultation as well as other concerned stakeholders concerning inclusion of WEEE categories 5 and 6 as well as the changes in the wording regarding the metal parts exempted and the purpose of the surface treatment (see explanation of proposed wording in section 5.3.1).
- Since the timeline between transmission of the current monthly report to the Commission, the ensuing formal procedure until a possible proposal of the Commission to adopt a new wording and the entry into force of the exemption would exceed by far 1 July 2007, it does not appear sensible for the Commission to take over the proposed exemption into the formal procedure of RoHS Annex adaptation.

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<sup>7</sup> See Annexes to the Final Report published on [http://ec.europa.eu/environment/waste/wEEE/studies\\_en.htm](http://ec.europa.eu/environment/waste/wEEE/studies_en.htm)

### 5.3.2.1 Final recommendation

Concluding from the above-mentioned review, it is not recommended to grant the requested exemption. This takes into account that due to the length of the formal procedure of adaptation of the RoHS Annex, the exemption will not be able to be passed though on time before the date of expiry of the existing exemption no. 28 it should replace.

However, should an extension of exemption no. 28 be envisaged, it is strongly recommended to review the new proposed wording with all relevant stakeholders- especially with those involved in the exemption request no. 5 of the second stakeholder consultation.

A proposal for a new wording would then be the following:

*“CrVI used in corrosion preventive coatings of metal, unpainted metal sheetings and of plated connectors, fasteners, and associated fittings used for corrosion protection and electrical conductivity (in view of electrical radio frequency and electromagnetic interference shielding, or where electrical earth or electrical grounding requirements exist) in equipment falling under categories three, five and six of Directive 2002/96/EC.”*

This wording should then replace the existing exemption no. 28.

## 6 Further proceeding

The next step will be to finally clarify open issues concerning withdrawals, scope issues and necessary technical clarifications with applicants. Furthermore, recommendations for remaining requests will be finalised.

The next monthly report is scheduled for 24 June 2007.