



**EUROPEAN COMMISSION**

DIRECTORATE-GENERAL

ENVIRONMENT

Directorate A - Communications, Governance, Production, Consumption and Waste

**ENV.A2 - Production, Consumption & Waste**

Brussels, 22 January 2004

**STAKEHOLDER CONSULTATION ON THE PREPARATIONS OF A REVISION OF  
CERTAIN ENTRIES OF ANNEX II OF  
DIRECTIVE 2000/53/EC ON END-OF LIFE VEHICLES**

## **1. INTRODUCTION**

Directive 2000/53/EC on end-of life vehicles<sup>1</sup> (hereinafter: “ELV Directive”) aims, amongst others, at the prevention of waste from vehicles and at the reuse, recycling and other forms of recovery of end-of life vehicles. The requirements laid down in this Directive should reduce the disposal of waste from vehicles and improve the environmental performance of all the economic operators involved in the life cycle of vehicles, in particular those directly involved in the treatment of end-of life vehicles.

Article 4 (1) of the ELV Directive states that *“in order to promote the prevention of waste, Member States shall encourage, in particular (a) vehicle manufacturers, in liaison with material and equipment manufacturers, to limit the use of hazardous substances and to reduce them as far as possible from the conception of the vehicle onwards, so as in particular to prevent their release into the environment, make recycling easier and avoid the need to dispose of hazardous waste; (...)”*.

Article 4 (2) (a) of this Directive establishes the so-called “heavy metals ban” by stipulating that *“Member States shall ensure that materials and components of vehicles put on the market after 1 July 2003 do not contain lead, mercury, cadmium or hexavalent chromium other than in cases listed in Annex II under the conditions specified therein”*.

## **2. THE LIST OF EXEMPTIONS OF ANNEX II**

Initially, at the time of adoption of the ELV Directive in 2000, Annex II contained a list of exemptions from the heavy metal ban for 13 materials and components with the hazardous substances mercury, lead, cadmium or hexavalent chromium. These materials and components were exempted from the heavy metals ban of Article 4(2)(a) either generally or up to a certain concentration or absolute mass limit. Annex II further mentioned five applications which were to be examined by the Commission as a matter of priority, three of which refer to potential additions to the list of exemptions and two of them to potential deletions.

---

<sup>1</sup> OJ L 269/34, 21.10.2000.

In general terms, under Article 4 (2) (b), the Commission is required to amend Annex II on regular basis, according to technical and scientific progress, in order to:

- exempt materials and components from the heavy metals ban of Article 4(2) (a), if the use of lead, mercury, cadmium or hexavalent chromium in those materials or components is unavoidable; and
- delete from the list of exemptions those materials and components in which the use of lead, mercury, cadmium or hexavalent chromium is avoidable.

In 2002, Commission Decision 2002/525/EC<sup>2</sup> has amended the list of exemptions of Annex II for the first time. This Commission Decision introduced some exemptions for certain materials and components or maintained some existing ones, since the use of hazardous substances in those specific materials and components was still unavoidable. Other exemptions were limited in scope and temporal validity, in order to achieve a gradual phase-out of hazardous substances in vehicles as established by Article 4 (2) (a), given that the use of those substances in such applications has been or will become avoidable by the end of the deadline. The exemption for the use of lead in coating inside petrol tanks was deleted, since the use of lead in this specific component had become avoidable at the time the Commission Decision was adopted. Moreover, the Commission Decision established maximum concentration values of the hazardous substances which will be tolerated, provided that these substances are not intentionally introduced.

### **3. REVIEW OF CERTAIN ENTRIES**

Commission Decision 2002/535/EC provides for a review of the scheduled phase-out date of certain entries of Annex II. The review should take place, either in relation to the availability of substitutes or in relation to specific aspects such as the availability of electrical vehicles or road safety aspects. In this review, the Commission should take account of the objectives of Article 4 (2) (a), namely that the use of hazardous substances in vehicle materials and components should be prohibited if their use is avoidable.

This review concerns the following entries:

- entry 2 (a), which grants an exemption for the use of lead as an alloying element in aluminium for machining purposes with a lead content up to 2% by weight until 1 July 2005;
- entry 2 (b), which grants an exemption for the use of lead as an alloying element in aluminium for machining purposes to a lead content up to 1% by weight until 1 July 2008;
- entry 7, which grants an exemption for the use of lead and lead compounds in wheel-balance weights for vehicles type-approved before 1 July 2003 and wheel balance weighs intended for the servicing of those vehicles until 1 July 2005; and
- entry 8, which grants an exemption for the use of lead and lead compounds in vulcanising agents and stabilisers for elastomers in fluid handling and powertrain applications until 1 July 2005;

---

<sup>2</sup> OJ L 170/81, 29.06.2002.

- entry 21, which grants an exemption for the use of cadmium in batteries for electrical vehicles until 31 December 2005.

It is intended to finalise this review by the end of 2004.

Annex I to this Consultation Note gives an overview of the review of the entries concerned.

#### 4. CONSULTATION OF INTERESTED PARTIES

In the preparation of the review of the entries mentioned in paragraph 3, the Commission services would like to consult interested parties. In particular, stakeholders are requested to answer the questions in the boxes below. Interested parties are encouraged to illustrate their submissions, as far as possible, with technical and scientific evidence.

##### **4.1. Review of entries 2 (a) and (b): exemption for the use of lead as an alloying element in aluminium for machining purposes with a lead content up to 2% by weight until 1 July 2005 and with a lead content up to 1% by weight until 1 July 2008**

Leaded aluminium alloys are used in a variety of applications in vehicles. Most of them are applications where lead is added for improved machinability. Additionally, some applications have been mentioned where lead is added because of decorative aspects (e.g. exterior trim parts of a vehicle). Initially, at the time of adoption of the ELV Directive in 2000, Annex II contained an exemption for lead as alloying element in aluminium in general up to a maximum lead content of 0.4% by weight (entry 2) and an exemption for leaded aluminium alloys in wheel rims, engine parts and window levers up to a maximum lead content of 4% by weight (entry 3). The latter entry was indicated as a priority entry for re-evaluation by the Commission during the first review of the Annex, which took place in 2002.

Ökopol's study "Heavy metals in vehicles" of July 2001<sup>3</sup> states that the lead content in different aluminium standards ranges from a minimum of 0.4% to a maximum of 2% by weight. The study reports that already in 2001 from a technical point of view, the phase-out of leaded aluminium alloys was considered as possible by a wide range of actors. Possibilities would be an abandonment or substitution of the lead, for example by tin. It concluded that for some applications, safety reasons may require an additional testing period.

Currently, Annex II as amended by Commission Decision 2002/525/EC, grants an exemption for the use of lead as an alloying element in aluminium for machining purposes up to 2% by weight until 1 July 2005. After that date, the lead content should be lowered to 1% by weight and after 1 July 2008 the use of lead as an alloying element in aluminium for machining purposes should be fully phase-out.

The scheduled phase-out date of this exemption should be reviewed by 1 January 2005, in relation to the availability of substitutes of lead.

---

<sup>3</sup> See: [http://europa.eu.int/comm/environment/waste/elv\\_index.htm](http://europa.eu.int/comm/environment/waste/elv_index.htm).

Question 1: Are there currently leaded aluminium alloys with more than 1% lead by weight put on the market? If so, in which applications? What are the predicted market evolutions for the next 5-10 years?

Question 2: Are there any technical impediments to phase-out the use of leaded aluminium alloys? If so, for which applications?

Question 3: Is the scheduled phase-out date (1 July 2008) feasible? If not, please give detailed reasons and specify for which applications this is not feasible.

Question 4: If the scheduled phase-out date is not feasible (for certain applications), which phase-out date would be appropriate?

#### **4.2. Review of entry 7: exemption for the use of lead and lead compounds in wheel balance weights used in vehicles type-approved before 1 July 2003 and wheel balance weights intended for the servicing of these vehicles until 1 July 2005**

In general, there are two types of wheel balance weights: (i) clip-on balance weights, exclusively used on the outer edges (horn) of rims and (ii) adhesive balance weights, used on the inner side of rims. The use of lead in balance weight was indicated as a priority entry for re-evaluation by the Commission during the first review of Annex II.

Ökopol's study "Heavy metals in vehicles" of July 2001 confirms the availability of substitutes for lead in wheel balance weights and states that some substitutes are already in use. It states on p. 20 "(...) for weights which are fixed on the horn (clip-on weights) a change to alternatives is possible from a technical point of view. Weights made of ZAMA and PP are already in use. Clip-on weights made of tin are available from one manufacturer in Europe. For adhesive weights introduction of alternative materials might be more difficult, but solutions have been developed. Production costs may increase to a certain extent for alternative weights. All of the mentioned metals, including lead itself, have certain limitation and disadvantages but these are possible to overcome by adaptation of tyres and rims to the specific material properties)". It concludes that a temporary exemption until 1 July 2004 seems adequate, in order to allow for the necessary adjustments and to leave time for the 'alternative market' to grow.

Entry 7, which was inserted by Commission decision 2002/525/EC in 2002, allows the use of lead and lead compounds in wheel balance weights until 1 July 2005 for vehicles type-approved before 1 July 2003 and wheel balance weights intended for the services of those vehicles. By 1 January 2005, this exemption should be assessed in relation to road safety aspects.

Question 5: Did the alternative market for non-lead wheel balance weights develop and are the necessary adaptations made in order to ensure the road safety? What are the predicted market evolutions for the next 5-10 years?

Question 6: Is the scheduled phase-out date (1 July 2005) feasible and would this not endanger road safety?

#### **4.3. Review of entry 8: exemption for the use of lead and lead compounds in vulcanising agents and stabilisers for elastomers in fluid handling and powertrain applications until 1 July 2005**

Lead compounds are used as vulcanising agents for high pressure and fuel hoses with high safety demands. Initially, at the time of adoption of the ELV Directive in 2000, Annex II provided for an exemption for this application without time-limitation. According to information submitted by BLIC in 2001, manufacturers were developing alternative rubber which is lead free. It was indicated that the necessary approval procedures should be followed but that a phase-out would be feasible by 1 July 2005.

The scheduled phase-out date of this exemption should be reviewed by 1 January 2005, in relation to the availability of substitutes of lead.

Question 7: Which substitutes have been developed and are currently in use? What are the predicted market evolutions for the next 5-10 years?

Question 8: Are there other substitutes still being developed and tested?

Question 9: Is the scheduled phase-out date (1 July 2005) feasible? If not, please give detailed reasons.

Question 10: If the scheduled phase-out date is not feasible, which phase-out date would be feasible and why?

#### **4.4. Review of entry 21: exemption for the use of cadmium in batteries for electrical vehicles until 31 December 2005**

Initially, at the time of adoption of the ELV Directive in 2000, Annex II required the Commission to assess the use of cadmium in batteries for electrical vehicles as a matter of priority in order to establish whether Annex II should be amended. This assessment should take account of the availability of substitutes as well as the need to maintain the availability of electrical vehicles.

Substitutes for NiCd batteries in electrical vehicles are for example NiHM and Li-ion batteries. Ökopol's study "Heavy metals in vehicles" of July 2001 concludes that "*no technical reason was identified to add a derogation for cadmium in batteries for electrical vehicles (..)*" but that "*the necessity to phase out NiCd batteries by 2003 will require considerable organisational and economic efforts for some of the companies concerned*".

Commission Decision 2002/535/EC, amending Annex II for the first time, granted an exemption for the use of cadmium in batteries for electrical vehicles until 31 December 2005. After 31 December 2005, the placing on the market of NiCd batteries is only allowed for replacement parts for vehicles put on the market before this date.

Pursuant to Article 2 of this Commission Decision, this exemption should be reviewed by 31 December 2004. This review should include an analysis of the progressive substitution of cadmium and the availability of electrical vehicles.

Question 11: How many electrical vehicles are currently registered and in circulation in the EU? What are the predicted market evolutions for the next 5-10 years?

Question 12: How many electrical vehicles are currently being equipped with substitutes for NiCd batteries? What are the predicted market evolutions for the next 5-10 years?

Question 13: Are other substitutes than NiMH and Li-ion still being developed and tested?

Question 14: Is the scheduled phase-out date (31 December 2005, with an exemption for replacement parts) feasible? If not, please give detailed reasons.

Question 15: If the scheduled phase-out date is not feasible, which phase-out date would be feasible and why?

Interested parties are invited to send their comments by **26 March 2004** at the latest by e-mail to [env-elv@cec.eu.int](mailto:env-elv@cec.eu.int), or by post to

European Commission  
DG Environment, Unit A2 – ELV – Annex II Consultation,  
B-1049 Brussels  
Belgium.

Responses submitted electronically will be posted on this web site as they are received, unless respondents specifically request that their contribution should not be publicised. In the latter case, responses should be clearly and visibly marked with the words "Not for publication".

\*\*\*

**ANNEX I: OVERVIEW OF THE SCOPE OF THE CONSULTATION  
ON THE REVIEW OF ANNEX II OF THE ELV DIRECTIVE**

<b>Entry</b>	<b>Exemption</b>	<b>Current Phase-out date</b>	<b>Scope of the Review</b>	<b>Timing for the review</b>
2 (a)	Allows the use lead as an alloying element in aluminium for machining purposes with a lead content up to 2% by weight	1 July 2005	In relation to the availability of substitutes for lead.	1 January 2005
2 (b)	Allows the use of lead as an alloying element in aluminium for machining purposes with a lead content up to 1% by weight	1 July 2008	In relation to the availability of substitutes for lead.	1 January 2005
7	allows the use of lead and lead compounds in wheel balance weights	1 July 2005 for vehicles type-approved before 1 July 2003 and wheel balance weights intended for the services of those vehicles.	In relation to road safety aspects.	1 January 2005
8	Allows the use of lead and lead compounds in vulcanising agents and stabilisers for elastomers in fluid handling and powertrain applications	1 July 2005	In relation to the availability of substitutes for lead.	1 January 2005
21	Allows the use of cadmium in batteries of electrical vehicles	31 December 2005. After 31 December 2005, the placing on the market of NiCd batteries is only allowed as replacement parts for vehicles put on the market before this date.	Review should analyse the progressive substitution of cadmium, taking into account the availability of electrical vehicles.	31 December 2004

