



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 1.7.2005  
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Proposal for a

**COUNCIL DECISION**

**amending Annex II of Directive 2000/53/EC of the European Parliament and of the Council on end-of-life vehicles**

(presented by the Commission)

## **EXPLANATORY MEMORANDUM**

Article 4 (2) (a) of Directive 2000/53/EC on end of life vehicles <sup>(1)</sup> prohibits the use of lead, mercury, cadmium or hexavalent chromium in vehicle materials and components, unless an exemption is provided for in Annex II to this Directive. This list of exemptions can be amended according to technical and scientific progress. The Commission is assisted in this work by the Committee established by Article 18 of Directive 75/442/EEC <sup>(2)</sup> on waste.

On the basis of the technical and scientific assessment, the Commission came to the following findings:

### **Entry 2 a) and b) of this Proposal** (*aluminium for machining purposes*)

As regards the exemption for use of lead as an alloying element in aluminium for machining purposes (entry 2 b) of current Annex II, as amended by Commission Decision 2002/525/EC <sup>(3)</sup>, the technical assessment shows that substitutes are available. However, stakeholder input shows that standardised aluminium alloys up to 1,5% lead are still needed for safety related parts and engine parts (e.g. brake systems and fuel systems). Therefore, it is proposed to allow a lead content up to 1,5% by weight until 1 July 2008, with a review on 1 July 2007. Furthermore, the second note of the current Annex II grants an exemption for the use of 0,4% lead by weight in aluminium for machining purposes without time-limitation. Given the fact that it is technically irrelevant whether the lead is intentionally introduced or not, it is proposed to delete this condition.

### **Entry 4 of this Proposal** (*bearing shells and bushes*)

As regards the scope of the exemption of entry 4 of the current Annex II (lead-bronze bearing shells and bushes), as amended by Commission Decision 2002/525/EC, stakeholders requested a rewording of the exemption in order to extend the exemption to all lead bearing shells and bushes, not only to lead-bronze bearing shells and bushes. Lead-bronze bearing shells and bushes typically contain 21-25% of lead by weight. Lead-free bearing shells and bushes are under development and in some applications they already started to be used. According to stakeholders, lead-free bearing shells and bushes are supposed to become mainstream in all future applications. The limitation of the current exemption to lead-bronze bearing shells and bushes only, seems to discourage the technical innovation and the use of lead-free alternatives, which at this moment may not be entirely lead-free. Therefore, it is proposed to extend the scope of the exemption to all lead containing bearing shells and bushes and, since technical innovation is moving towards substitution of lead in all applications, to include an expiry date (1 July 2008). The technical assessment shows that severe working conditions require an anti-friction material which is able to ensure rotation of moving parts, even in the case of a temporary breakdown of the lubricating film. Lead-free alternatives should also work under those extreme conditions existing inside both the engine and the transmission. Therefore, it is proposed to review this exemption by 1 July 2007 in order to ensure that lead-free technology can be applied in all engines and transmissions without harming their proper functioning.

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

<sup>2</sup> OJ L 194, 25.7.1975, p. 39. Directive as last amended by Commission Decision 96/350/EC (OJ L 135, 6.6.1996, p. 32).

<sup>3</sup> OJ L 170, 29.6.2002, p. 81.

**Entry 7 a) and b) of this Proposal** (*vulcanising agents and stabilisers for elastomers in fluid handling and powertrain applications*)

As regards the exemption for the use of lead in vulcanising agents and stabilisers for elastomers in fluid handling and powertrain applications (entry 8 of the current Annex II, as amended by Commission Decision 2002/525/EC), the assessment shows that lead-free alternatives are available. Stakeholders' submissions show that lead stabilisers are already replaced in elastomer types. The total replacement will be finished in time by July 2005 for all new vehicles. For vulcanising agents, stakeholders claim that long-term risks regarding safety-related aspects are not assessable at this moment. They claim that vulcanising agents with 0,5% lead content by weight show sufficient results in terms of road safety. Therefore, for these applications more time should be given in order to sufficiently test the lead-free alternatives. Taken into account that substitutes exist, for road-safety reasons an additional year for these applications seems reasonable. Moreover, the assessment showed that it is technically impossible to lower the lead content below 0,5% by weight for bonding agents for elastomers in powertrain applications. This is the case where lead is used as a bonding agent to connect elastomer ducts or elastomer parts on metal. Therefore, it is proposed to include a new entry for this specific application without time-limitation.

**Entry 9 of this Proposal** (*brake linings*)

The exemption for the use of lead in the copper of brake-linings of 0,5% lead by weight for vehicles type-approved before 1 July 2003 and the servicing of these vehicles expired on 1 July 2004 (entry 12 of the current Annex II, as amended by Commission Decision 2002/525/EC). However, the third note of the current Annex II allows to use up to 0,4% lead until 1 July 2007, provided that lead is not intentionally introduced. The proposed entry 9 specifies that this 0,4% can only be used in friction materials of the brake systems. Given the technical irrelevance of the condition that lead may not be intentionally introduced, it is proposed to delete this condition.

**Entry 10 of this Proposal** (*valve seats*)

As regards the exemption for the use of lead in valve seats, which expires in July 2006 (entry 13 of the current Annex II, as amended by Commission Decision 2002/525/EC), some stakeholders have indicated that the change of running series requires intensive durability tests and that in case of unsuccessful tests the total engine needs to be redeveloped. In order to guarantee road safety, it is proposed to prolong the expiry date with one year.

**Entry 12 of this Proposal** (*pyrotechnic initiators*)

As regards the exemption for the use of lead in pyrotechnic initiators, which expires on 1 July 2007 (entry 16 of the current Annex II), the assessment shows that substitutes are available for new models in the near future. However, the technical assessment shows that there exist different generations of air-bag systems. New generations incorporate the control electronics into the initiators and future generations of air-bag systems will include more electronics to ease their application to different vehicle types. For existing models, the component parts of the various generations of air-bag systems are not interchangeable and component parts of one type cannot be replaced by those of another type, should the air-bags have to be replaced after an accident. Therefore, it is proposed that new models (vehicles type-approved after 1 July 2006) should be lead-free and that old models (vehicles type-approved before 1 July 2006) and their replacement parts are exempt without time-limitation.

**Entry 13 a) and b) of this Proposal** (*corrosion preventive coatings*)

As regards the exemption for the use of hexavalent chromium in corrosion preventive coatings, which expires on 1 July 2007 (entry 17 of the current Annex II, as amended by Commission Decision 2002/525/EC), the assessment shows that for many applications substitutes exist. For the use of hexavalent chromium in corrosion protection related to bolt and nut assemblies for chassis applications there are no substitutes available at this moment. Therefore, it is proposed to prolong the exemption for this specific application with one year and review this exemption in order to ensure that no accidental disconnection of essential mechanical parts can occur in the lifetime of vehicles.

**Entry 17 of this Proposal** (*batteries for electrical vehicles*)

The current exemption for the use of cadmium in batteries for electrical vehicles expires on 31 December 2005. The use of cadmium in batteries for electrical vehicles is allowed without time-limitation as replacement parts for vehicles put on the market before 31 December 2005 (entry 21 of the current Annex II, as amended by Commission Decision 2002/525/EC). The SUBAT study (<http://www.battery-electric.com/subatdocs/WP5-006.pdf>) concluded that nowadays (2005) for pure electrical vehicles, lithium-ion technologies are the most suitable solutions, followed by sodium-nickel chloride, lead-acid, nickel-metal hydride and nickel-cadmium. However, it is disputed whether at this moment these substitutes are tested and ready for production on a large scale. During the Electrical Vehicle Conference in Monaco in April 2005, SAFT promoted the lithium-ion battery technology for electrical vehicles. In a press release it is stated that “*in France, this technology is developed by SAFT. This type of storage battery is still very little used, mainly because of its cost. It is due to be fitted on the vehicles of SVE company (HEULIEZ and DASSAULT ASSOCIÉS).*” (see [http://evs21.org/IMG/pdf/new\\_battery\\_technology.pdf](http://evs21.org/IMG/pdf/new_battery_technology.pdf)).

The SUBAT study further claims that some time should be given to the vehicle manufacturers to adapt their production models and to integrate some more environmentally sound battery technologies in their vehicles. They state that “during the discussion the consortium had with various stakeholders, this cannot be performed within about 5 years”. Furthermore, the European car producers requested an exemption for the use of cadmium in electrical vehicles until 2008.

On the basis of the foregoing, it is proposed to extend the expiry date of this exemption to 31 December 2008, for reasons of maintaining the availability of electrical vehicles: this extra time is needed in order to increase the capacity of the new battery technologies and for the car manufacturers to make the necessary adaptations to their production models in order to incorporate this new battery technology.

It is proposed to review this exemption by the end of 2007 in order to ensure the availability of alternative battery technologies and electrical vehicles.

**Entry 18 of this Proposal** (*optical components in glass matrixes used for Driver Assistance Systems*)

It is proposed to include an additional exemption for the use of cadmium in optical components in a glass matrix used for Driver Assistance Systems in automobiles until 1 July 2007. The Driver Assistance System would improve the visibility for a car driver on the basis of a camera. The glass matrix of the camera (500 mg) will contain 1% (5 mg) cadmium. The

use of cadmium in this application is for the moment unavoidable from a technical point of view. However, alternatives are under development.

On the basis of this assessment, the Commission submitted a draft decision for vote in the Committee established under Article 18 of Directive 75/442/EEC on waste on 28 April 2005. There was no qualified majority in favour of the draft decision.

Thus, in accordance with the procedure set out in Article 5 (4) of Council Decision 1999/468/EC <sup>(4)</sup> a Proposal for a Council Decision is submitted to the Council. If the Council has not acted within three months from the date of referral of the proposal, the proposed measures shall be adopted by the Commission.

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<sup>4</sup> OJ L 184, 17.7.1999, p. 23.

Proposal for a  
**COUNCIL DECISION**

**amending Annex II of Directive 2000/53/EC of the European Parliament and of the Council on end-of-life vehicles**

**(Text with EEA relevance)**

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community,

Having regard to Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles (<sup>5</sup>), and in particular Article 4(2)(b) thereof,

Whereas:

- (1) Under Directive 2000/53/EC the Commission is required to evaluate the use of lead, mercury, cadmium or hexavalent chromium which are prohibited by Article 4(2)(a) of that Directive.
- (2) Having carried out the requisite technical and scientific assessments the Commission has reached a number of conclusions.
- (3) Certain exemptions from the prohibition should not be prolonged because the use of lead, mercury, cadmium or hexavalent chromium in those applications has become avoidable.
- (4) Certain materials and components containing lead, mercury, cadmium or hexavalent chromium should be exempt or continue to be exempt from the prohibition of Article 4(2)(a), since the use of these substances in those specific materials and components is still unavoidable. In some cases it is appropriate to review the expiry date of these exemptions in order to assess whether the use of the prohibited substances is still unavoidable in the future.
- (5) In the case of aluminium for machining purposes with a lead content up to 1,5 % by weight, described in point (2)(a) of the Annex, the Commission will assess, by 1 July 2007, whether the expiry date of that exemption has to be reviewed in relation to the availability of substitutes of lead.
- (6) In the case of lead bearing shell and bushes, described in point (4) of the Annex, the Commission will assess, by 1 July 2007, whether the expiry date of that exemption has

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<sup>5</sup> OJ L 269, 21.10.2000, p. 34. Directive as last amended by Commission Decision 2005/438/EC (OJ L 152, 15.6.2005, p. 19).

to be reviewed in order to ensure that lead-free technology can be applied in all engines and transmissions without harming their proper functioning.

- (7) In the case of the use of hexavalent chromium in corrosion preventive coatings related to bolt and nut assemblies for chassis applications, described in point (13 b) of the Annex, the Commission will assess, by 1 July 2007, whether the expiry date of that exemption has to be reviewed in order to ensure that no accidental disconnection of essential mechanical parts can occur in the lifetime of the vehicle.
- (8) In the case of the use of cadmium in batteries for electrical vehicles, described in point (17) of the Annex, the Commission will assess, by the end of 2007, whether the expiry date of that exemption has to be reviewed in order to ensure the availability of alternative battery technologies and electrical vehicles.
- (9) Directive 2000/53/EC should therefore be amended accordingly.

HAS ADOPTED THIS DECISION:

*Article 1*

Without prejudice to Commission Decision 2005/438/EC <sup>(6)</sup>, Annex II to Directive 2000/53/EC is replaced by the text set out in the Annex to this Decision.

*Article 2*

This Decision shall apply from 1 July 2005.

*Article 3*

This Decision is addressed to the Member States.

Done at Brussels,

*For the Council  
The President*

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<sup>6</sup> OJ L 152, 15.6.2005, p. 19.

## ANNEX

### “Annex II

#### Materials and components exempt from Article 4(2)(a)

Materials and components	Scope and expiry date of the exemption	To be labelled or made identifiable in accordance with Article 4(2)(b)(iv)
<i>Lead as an alloying element</i>		
1. Steel for machining purposes and galvanised steel containing up to 0,35% lead by weight		
2 a) Aluminium for machining purposes with a lead content up to 1,5 % by weight	1 July 2008	
2 b) Aluminium for machining purposes with a lead content up to 0,4% by weight		
3. Copper alloy containing up to 4% lead by weight		
4. Bearing shells and bushes	1 July 2008	
<i>Lead and lead compounds in components</i>		
5. Batteries		X
6. Vibration dampers		X
7 a). Vulcanising agents and stabilisers for elastomers in fluid handling and powertrain applications containing up to 0,5% lead by weight	1 July 2006	
7 b) Bonding agents for elastomers in powertrain applications containing up to 0,5% lead by weight		
8. Solder in electronic circuit boards and other electric applications		X <sup>i</sup>
9. Copper in friction materials of brake linings containing more than 0,4% lead by weight	1 July 2007	X

10. Valve seats	Engine types developed before 1 July 2003: 1 July 2007	
11. Electrical components which contain lead in a glass or ceramic matrix compound except glass in bulbs and glaze of spark plugs		X <sup>ii</sup> (for components other than piezo in engines)
12. Pyrotechnic initiators	Vehicles type-approved before 1 July 2006 and replacement initiators for these vehicles	
<i>Hexavalent chromium</i>		
13 a). Corrosion preventive coatings	1 July 2007	
13 b) Corrosion preventive coatings related to bolt and nut assemblies for chassis applications	1 July 2008	
14. Absorption refrigerators in motorcaravans		X
<i>Mercury</i>		
15. Discharge lamps and instrument panel displays		X
<i>Cadmium</i>		
16. Thick film pastes	1 July 2006	
17. Batteries for electrical vehicles	After 31 December 2008, the placing on the market of NiCd batteries shall only be allowed as replacement parts for vehicles put on the market before this date.	X
18. Optical components in glass matrixes used for Driver Assistance Systems	1 July 2007	X

Notes:

- A maximum concentration value up to 0,1% by weight and per homogeneous material, for lead, hexavalent chromium and mercury and up to 0,01% by weight per homogeneous material for cadmium shall be tolerated.
- The re-use of parts of vehicles which were already on the market at the date of expiry of an exemption is allowed without limitation since it is not covered by Article 4(2)(a).

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<sup>i</sup> Dismantling if, in correlation with entry 11, an average threshold of 60 grams per vehicle is exceeded. For the application of this clause, electronic devices not installed by the manufacturer on the production line shall not be taken into account.

<sup>ii</sup> Dismantling if, in correlation with entry 8, an average threshold of 60 grams per vehicle is exceeded. For the application of this clause, electronic devices not installed by the manufacturer on the production line shall not be taken into account. “