



EUROPEAN  
COMMISSION

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ANNEX 1

**ANNEX**

**to**

**COMMISSION DIRECTIVE (EU)**

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

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

*"Annex II"*

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

A maximum concentration value up to 0.1 % by weight in homogeneous material for lead, hexavalent chromium and mercury and up to 0.01 % by weight in homogeneous material for cadmium shall be tolerated.

Spare parts put on the market after 1 July 2003 which are used for vehicles put on the market before 1 July 2003, except for wheel balance weights, carbon brushes for electric motors and brake linings, shall be exempted from the provisions of Article 4(2)(a) of Directive 2000/53/EC.

| 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(a). Steel for machining purposes and batch hot dip galvanised steel components containing up to 0.35 % lead by weight |   |  |
| 1(b). Continuously galvanised steel sheet containing up to 0.35 % lead by weight  | Vehicles type approved before 1 January 2016 and spare parts for these vehicles |  |
| 2(a). Aluminium for machining purposes with a lead content up to 2 % by weight  | As spare parts for vehicles put on the market before 1 July 2005                |  |
| 2(b). Aluminium with a lead content up to 1.5 % by weight   | As spare parts for vehicles put on the market before 1 July 2008                |  |
| 2(c)(i). Aluminium alloys for machining purposes with a lead content up to 0.4 % by                                     | (1)   |  |

|  |   |   |
|--|---|---|
| weight   |   |   |
| 2(c)(ii). Aluminium alloys not included in entry 2(c)(i) with a lead content up to 0.4 % by weight (1a)  | (2)   |   |
| 3. Copper alloys containing up to 4 % lead by weight   | (1)   |   |
| 4(a). Bearing shells and bushes  | As spare parts for vehicles put on the market before 1 July 2008                |   |
| 4(b). Bearing shells and bushes in engines, transmissions and air conditioning compressors   | As spare parts for vehicles put on the market before 1 July 2011                |   |
| <i>Lead and lead compounds in components</i>   |   |   |
| 5(a). Lead in batteries in high voltage systems (2a) that are used only for propulsion in M1 and N1 vehicles   | Vehicles type approved before 1 January 2019 and spare parts for these vehicles | X |
| 5(b). Lead in batteries for battery applications not included in entry 5(a)  | (1)   | X |
| 6. Vibration dampers   | Vehicles type approved before 1 January 2016 and spare parts for these vehicles | X |
| 7(a). Vulcanising agents and stabilisers for elastomers in brake hoses, fuel hoses, air ventilation hoses, elastomer/metal parts in the chassis applications, and engine mountings                                       | As spare parts for vehicles put on the market before 1 July 2005                |   |
| 7(b). Vulcanising agents and stabilisers for elastomers in brake hoses, fuel hoses, air ventilation hoses, elastomer/metal parts in the chassis applications, and engine mountings containing up to 0.5 % lead by weight | As spare parts for vehicles put on the market before 1 July 2006                |   |
| 7(c). Bonding agents for elastomers in powertrain applications containing up to 0.5 % lead by weight   | As spare parts for vehicles put on the market before 1 July 2009                |   |

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| 8(a). Lead in solders to attach electrical and electronic components to electronic circuit boards and lead in finishes on terminations of components other than electrolyte aluminium capacitors, on component pins and on electronic circuit boards | Vehicles type approved before 1 January 2016 and spare parts for these vehicles | X(4) |
| 8(b). Lead in solders in electrical applications other than soldering on electronic circuit boards or on glass   | Vehicles type approved before 1 January 2011 and spare parts for these vehicles | X(4) |
| 8(c). Lead in finishes on terminals of electrolyte aluminium capacitors  | Vehicles type approved before 1 January 2013 and spare parts for these vehicles | X(4) |
| 8(d). Lead used in soldering on glass in mass airflow sensors  | Vehicles type approved before 1 January 2015 and spare parts of such vehicles   | X(4) |
| 8(e). Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)  | (3)   | X(4) |
| 8(f)(a). Lead in compliant pin connector systems   | Vehicles type approved before 1 January 2017 and spare parts for these vehicles | X(4) |
| 8(f)(b). Lead in compliant pin connector systems other than the mating area of vehicle harness connectors  | (3)   | X(4) |

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| 8(g). Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages  | (3)  | X(4)  |
| 8(h). Lead in solder to attach heat spreaders to the heat sink in power semiconductor assemblies with a chip size of at least 1 cm <sup>2</sup> of projection area and a nominal current density of at least 1 A/mm <sup>2</sup> of silicon chip area  | Vehicles type approved before 1 January 2016 and after that date as spare parts for these vehicles | X(4)  |
| 8(i). Lead in solders in electrical glazing applications on glass except for soldering in laminated glazing  | Vehicles type approved before 1 January 2016 and after that date as spare parts for these vehicles | X(4)  |
| 8(j). Lead in solders for soldering of laminated glazing   | Vehicles type approved before 1 January 2020 and after that date as spare parts for these vehicles | X(4)  |
| 9. Valve seats   | As spare parts for engine types developed before 1 July 2003                                       |   |
| 10(a). Electrical and electronic components which contain lead in a glass or ceramic, in a glass or ceramic matrix compound, in a glass-ceramic material, or in a glass-ceramic matrix compound.<br><br>This exemption does not cover the use of lead in:<br><br>-glass in bulbs and glaze of spark plugs,<br>-dielectric ceramic materials of components listed under 10(b), 10(c) and 10(d). |  | X(5) (for components other than piezo in engines) |
| 10(b). Lead in PZT based dielectric ceramic materials of capacitors being part of integrated circuits or discrete semiconductors   |  |   |
| 10(c). Lead in dielectric ceramic materials of capacitors with a rated voltage of less than 125 V AC or 250 V DC   | Vehicles type approved before 1 January 2016 and   |   |

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|--|--|---|
|  | spare parts for these vehicles   |   |
| 10(d). Lead in the dielectric ceramic materials of capacitors compensating the temperature-related deviations of sensors in ultrasonic sonar systems   | Vehicles type approved before 1 January 2017 and after that date as spare parts for these vehicles |   |
| 11. Pyrotechnic initiators   | Vehicles type approved before 1 July 2006 and spare parts for these vehicles                       |   |
| 12. Lead-containing thermoelectric materials in automotive electrical applications to reduce CO <sub>2</sub> emissions by recuperation of exhaust heat   | Vehicles type approved before 1 January 2019 and spare parts for these vehicles                    | X |
| <i>Hexavalent chromium</i>   |  |   |
| 13(a). Corrosion preventive coatings   | As spare parts for vehicles put on the market before 1 July 2007                                   |   |
| 13(b). Corrosion preventive coatings related to bolt and nut assemblies for chassis applications   | As spare parts for vehicles put on the market before 1 July 2008                                   |   |
| 14. As an anti-corrosion agent of the carbon steel cooling system in absorption refrigerators in motorcaravans up to 0.75 weight - % in the cooling solution except where the use of other cooling technologies is practicable (i.e. available on the market for the application in motor caravans) and does not lead to negative environmental, health and/or consumer safety impacts |  | X |
| <i>Mercury</i>   |  |   |
| 15(a). Discharge lamps for headlight application   | Vehicles type approved before 1 July 2012 and spare parts for these vehicles                       | X |

|  |  |   |
|--|--|---|
| 15(b). Fluorescent tubes used in instrument panel displays | Vehicles type approved before 1 July 2012 and spare parts for these vehicles | X |
| <i>Cadmium</i>   |  |   |
| 16. Batteries for electrical vehicles                      | As spare parts for vehicles put on the market before 31 December 2008        |   |

(1) This exemption shall be reviewed in 2021.

(1a) Applies to aluminium alloys where lead is not intentionally introduced but is present due to the use of recycled aluminium.

(2) This exemption shall be reviewed in 2024.

(2a) Systems that have a voltage of >75VDC as defined in Directive 2006/95/EC of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (OJ L 374, 27.12.2006, p. 10).

(3) This exemption shall be reviewed in 2019.

(4) Dismantling if, in correlation with entry 10(a), 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.

(5) Dismantling if, in correlation with entries 8(a) to 8(j), 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.

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