

## COMMISSION DECISION

of 24 September 2010

**amending, for the purposes of adapting to scientific and technical progress, the Annex to Directive 2002/95/EC of the European Parliament and of the Council as regards exemptions for applications containing lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers**

(notified under document C(2010) 6403)

(Text with EEA relevance)

(2010/571/EU)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment <sup>(1)</sup>, and in particular Article 5(1) thereof,

Whereas:

- (1) Directive 2002/95/EC prohibits the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) in electrical and electronic equipment (EEE) put on the market after 1 July 2006. Exemptions from that prohibition are listed in the Annex to that Directive. Those exemptions need to be reviewed in order to adapt them to scientific and technical progress.
- (2) As a result of the review of the exemptions, certain applications containing lead, mercury, cadmium or hexavalent chromium should continue to be exempted from the prohibition since the elimination of these hazardous substances in those specific applications is still scientifically or technically impracticable. It is therefore appropriate to maintain those exemptions.
- (3) As a result of the review of the exemptions, for certain applications containing lead, mercury, or cadmium the elimination or substitution of the use of those substances has become scientifically or technically possible. It is therefore appropriate to delete those exemptions.
- (4) As a result of the review of the exemptions, for certain applications containing lead, mercury or cadmium, the elimination or substitution of the use of those substances will become scientifically or technically possible in the foreseeable future. It is therefore appropriate to set expiry dates for those exemptions.
- (5) As a result of the review of the exemptions, for certain applications containing mercury, partial elimination or substitution of the use of that substance is scientifically or technically possible. It is therefore appropriate to reduce the amount of mercury that may be used in those applications.
- (6) As a result of the review of the exemptions, for certain applications containing mercury, in the foreseeable future only the partial and gradual elimination or substitution of the use of that substance is scientifically or technically possible. It is therefore appropriate to gradually reduce the amount of mercury that may be used in those applications.
- (7) In certain cases it is technically impossible to repair EEE with spare parts other than original ones. Therefore, in those cases only, the use of spare parts containing lead, mercury, cadmium, hexavalent chromium, or polybrominated diphenyl ethers, which benefited from an exemption, should be allowed in the repair of EEE, which was placed on the market before that exemption expired or was terminated.
- (8) Commission Regulation (EC) No 244/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps <sup>(2)</sup> and Commission Regulation (EC) No 245/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps, and repealing Directive 2000/55/EC of the European Parliament and of the Council <sup>(3)</sup> provide for indicative benchmarks as concerns the use of mercury in lamps. Although the mercury content of lamps was identified as a significant environmental parameter in Regulations (EC) No 244/2009 and (EC) No 245/2009, it was considered more appropriate to regulate it in Directive 2002/95/EC, which covers also lamp types exempted from those regulations.

<sup>(1)</sup> OJ L 37, 13.2.2003, p. 19.

<sup>(2)</sup> OJ L 76, 24.3.2009, p. 3.

<sup>(3)</sup> OJ L 76, 24.3.2009, p. 17.

- (9) As a result of the analysis undertaken for measures laid down in Regulation (EC) No 244/2009, for certain applications containing mercury, partial elimination or substitution of the use of this substance is scientifically or technically possible without negative environmental, health and/or consumer safety impacts that outweigh the benefits of substitution. It is therefore appropriate to reduce the mercury content for those applications in line with Regulation (EC) No 244/2009.
- (10) It is necessary to make substantial changes to the Annex to Directive 2002/95/EC. Therefore, for reasons of clarity, the whole Annex should be replaced.
- (11) Pursuant to Article 5(2) of Directive 2002/95/EC, the Commission has consulted the relevant parties.
- (12) Directive 2002/95/EC should therefore be amended accordingly.

- (13) The measures provided for in this Decision are in accordance with the opinion of the Committee established by Article 18 of Directive 2006/12/EC of the European Parliament and of the Council <sup>(1)</sup>,

HAS ADOPTED THIS DECISION:

*Article 1*

The Annex to Directive 2002/95/EC is replaced by the text set out in the Annex to this Decision.

*Article 2*

This Decision is addressed to the Member States.

Done at Brussels, 24 September 2010.

*For the Commission*  
Janez POTOČNIK  
*Member of the Commission*

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<sup>(1)</sup> OJ L 114, 27.4.2006, p. 9.

## ANNEX

## ANNEX

**Applications exempted from the prohibition in Article 4(1)**

| Exemption |   | Scope and dates of applicability   |
|-----------|---|--|
| 1         | Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):                          |  |
| 1(a)      | For general lighting purposes < 30 W: 5 mg  | Expires on 31 December 2011; 3,5 mg may be used per burner after 31 December 2011 until 31 December 2012; 2,5 mg shall be used per burner after 31 December 2012 |
| 1(b)      | For general lighting purposes $\geq$ 30 W and < 50 W: 5 mg  | Expires on 31 December 2011; 3,5 mg may be used per burner after 31 December 2011  |
| 1(c)      | For general lighting purposes $\geq$ 50 W and $\leq$ 150 W: 5 mg  |  |
| 1(d)      | For general lighting purposes $\geq$ 150 W: 15 mg   |  |
| 1(e)      | For general lighting purposes with circular or square structural shape and tube diameter < 17 mm          | No limitation of use until 31 December 2011; 7 mg may be used per burner after 31 December 2011  |
| 1(f)      | For special purposes: 5 mg  |  |
| 2(a)      | Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp): |  |
| 2(a)(1)   | Tri-band phosphor with normal lifetime and a tube diameter > 9 mm (e.g. T2): 5 mg                         | Expires on 31 December 2011; 4 mg may be used per lamp after 31 December 2011  |
| 2(a)(2)   | Tri-band phosphor with normal lifetime and a tube diameter $\geq$ 9 mm and $\geq$ 17 mm (e.g. T5): 5 mg   | Expires on 31 December 2011; 3 mg may be used per lamp after 31 December 2011  |
| 2(a)(3)   | Tri-band phosphor with normal lifetime and a tube diameter $\geq$ 17 mm and $\leq$ 28 mm (e.g. T8): 5 mg  | Expires on 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011  |
| 2(a)(4)   | Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12): 5 mg                       | Expires on 31 December 2012; 3,5 mg may be used per lamp after 31 December 2012  |
| 2(a)(5)   | Tri-band phosphor with long lifetime ( $\geq$ 25 000 h): 8 mg   | Expires on 31 December 2011; 5 mg may be used per lamp after 31 December 2011  |
| 2(b)      | Mercury in other fluorescent lamps not exceeding (per lamp):  |  |
| 2(b)(1)   | Linear halophosphate lamps with tube > 28 mm (e.g. T10 and T12): 10 mg                                    | Expires on 13 April 2012   |
| 2(b)(2)   | Non-linear halophosphate lamps (all diameters): 15 mg   | Expires on 13 April 2016   |

|          | Exemption  | Scope and dates of applicability   |
|----------|--|--|
| 2(b)(3)  | Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9)  | No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011   |
| 2(b)(4)  | Lamps for other general lighting and special purposes (e.g. induction lamps)   | No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011   |
| 3        | Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):                  |  |
| 3(a)     | Short length ( $\geq 500$ mm)  | No limitation of use until 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011  |
| 3(b)     | Medium length (> 500 mm and < 1 500 mm)  | No limitation of use until 31 December 2011; 5 mg may be used per lamp after 31 December 2011    |
| 3(c)     | Long length (> 1 500 mm)   | No limitation of use until 31 December 2011; 13 mg may be used per lamp after 31 December 2011   |
| 4(a)     | Mercury in other low pressure discharge lamps (per lamp)   | No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011   |
| 4(b)     | Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index $R_a > 60$ : |  |
| 4(b)-I   | $P < 155$ W  | No limitation of use until 31 December 2011; 30 mg may be used per burner after 31 December 2011 |
| 4(b)-II  | $155$ W < $P < 405$ W  | No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011 |
| 4(b)-III | $P > 405$ W  | No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011 |
| 4(c)     | Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):   |  |
| 4(c)-I   | $P < 155$ W  | No limitation of use until 31 December 2011; 25 mg may be used per burner after 31 December 2011 |
| 4(c)-II  | $155$ W < $P < 405$ W  | No limitation of use until 31 December 2011; 30 mg may be used per burner after 31 December 2011 |
| 4(c)-III | $P > 405$ W  | No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011 |
| 4(d)     | Mercury in High Pressure Mercury (vapour) lamps (HPMV)   | Expires on 13 April 2015   |
| 4(e)     | Mercury in metal halide lamps (MH)   |  |

| Exemption |  | Scope and dates of applicability  |
|-----------|--|---|
| 4(f)      | Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex   |   |
| 5(a)      | Lead in glass of cathode ray tubes   |   |
| 5(b)      | Lead in glass of fluorescent tubes not exceeding 0,2 % by weight   |   |
| 6(a)      | Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0,35 % lead by weight   |   |
| 6(b)      | Lead as an alloying element in aluminium containing up to 0,4 % lead by weight   |   |
| 6(c)      | Copper alloy containing up to 4 % lead by weight   |   |
| 7(a)      | Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)  |   |
| 7(b)      | Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications        |   |
| 7(c)-I    | Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound |   |
| 7(c)-II   | Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher   |   |
| 7(c)-III  | Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC   | Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013 |
| 8(a)      | Cadmium and its compounds in one shot pellet type thermal cut-offs   | Expires on 1 January 2012 and after that date may be used in spare parts for EEE placed on the market before 1 January 2012 |
| 8(b)      | Cadmium and its compounds in electrical contacts   |   |
| 9         | Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0,75 % by weight in the cooling solution                                    |   |
| 9(b)      | Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications                                     |   |
| 11(a)     | Lead used in C-press compliant pin connector systems   | May be used in spare parts for EEE placed on the market before 24 September 2010  |
| 11(b)     | Lead used in other than C-press compliant pin connector systems  | Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013 |

|       | Exemption   | Scope and dates of applicability  |
|-------|---|---|
| 12    | Lead as a coating material for the thermal conduction module C-ring   | May be used in spare parts for EEE placed on the market before 24 September 2010  |
| 13(a) | Lead in white glasses used for optical applications   |   |
| 13(b) | Cadmium and lead in filter glasses and glasses used for reflectance standards   |   |
| 14    | Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80 % and less than 85 % by weight  | Expires on 1 January 2011 and after that date may be used in spare parts for EEE placed on the market before 1 January 2011 |
| 15    | Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages   |   |
| 16    | Lead in linear incandescent lamps with silicate coated tubes  | Expires on 1 September 2013   |
| 17    | Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications   |   |
| 18(a) | Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as speciality lamps for diazoprinting reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba) <sub>2</sub> MgSi <sub>2</sub> O <sub>7</sub> :Pb) | Expires on 1 January 2011   |
| 18(b) | Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi <sub>2</sub> O <sub>5</sub> :Pb)  |   |
| 19    | Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact energy saving lamps (ESL)  | Expires on 1 June 2011  |
| 20    | Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs)  | Expires on 1 June 2011  |
| 21    | Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses   |   |
| 23    | Lead in finishes of fine pitch components other than connectors with a pitch of 0,65 mm and less  | May be used in spare parts for EEE placed on the market before 24 September 2010  |
| 24    | Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors   |   |
| 25    | Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring  |   |
| 26    | Lead oxide in the glass envelope of black light blue lamps  | Expires on 1 June 2011  |
| 27    | Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers  | Expired on 24 September 2010  |

|    | Exemption  | Scope and dates of applicability |
|----|--|----------------------------------|
| 29 | Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC <sup>(1)</sup>  |                                  |
| 30 | Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more |                                  |
| 31 | Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)  |                                  |
| 32 | Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes  |                                  |
| 33 | Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers   |                                  |
| 34 | Lead in cermet-based trimmer potentiometer elements  |                                  |
| 36 | Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display  | Expired on 1 July 2010           |
| 37 | Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body  |                                  |
| 38 | Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide  |                                  |
| 39 | Cadmium in colour converting II-VI LEDs (< 10 µg Cd per mm <sup>2</sup> of light-emitting area) for use in solid state illumination or display systems   | Expires on 1 July 2014           |

<sup>(1)</sup> OJ L 326, 29.12.1969, p. 36.

*Note:* For the purposes of Article 5(1)(a) of Directive 2002/95/EC, a maximum concentration value of 0,1 % by weight in homogeneous materials for lead, mercury, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) and of 0,01 % by weight in homogeneous materials for cadmium shall be tolerated.