



# Directive 2002/95/EC (RoHS)

## Overview on Exemptions and Pending Requests at EU Level

Status: 23 June 2008

Package	What exemptions does it include? In which stakeholder consultation?	Status of procedure
1 <sup>st</sup> package	<p>Subject to Stakeholder consultation (deadline 5 July 2004).  <u>Proposal of Exemptions included:</u></p> <ol style="list-style-type: none"> <li>1. Lead used in compliant-pin VHDM (very High Density Medium) connector system.</li> <li>2. Lead as a coating material for a thermal conduction module c-ring.</li> <li>3. Lead and cadmium in optical and filter glass.</li> <li>4. Lead in optical transceivers for industrial applications</li> <li>5. Lead in solders consisting of more that two elements for the connection between the pins and the package of microprocessors with a lead content of more than 85% in proportion to the tin-lead content (exemption until 2010).</li> <li>6. Lead in high melting temperature type solders (i.e. tin-lead solder alloys containing more than 85% lead) and any lower melting temperature solder required to be used with high melting temperature solder to complete a viable electrical connection.</li> <li>7. Lead in solders to complete a viable electrical connection internal to certain Integrated Circuit Packages (Flip Chips) (exemption until 2010).</li> <li>8. Article 4(1) substances in safety equipment for fire and rescue services.</li> <li>9. Lead in lead-bronze bearing-shells and bushes.</li> </ol>	<p><a href="#"><u>COM 2005/747/EC of 21 October 2005:</u></a>            Published in OJ L 280/19, 25 October 2005.</p> <p><u>This decision replaces the former exemptions 7 and 8 by:</u></p> <ol style="list-style-type: none"> <li>7. - Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead),</li> <li>- Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission as well as network management for telecommunications,</li> <li>- Lead in electronic ceramic parts (e.g. piezoelectronic devices).</li> <li>8. Cadmium and its compounds in electrical contacts and cadmium plating except for applications banned under Directive 91/338/EEC amending Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations.</li> </ol> <p><u>This decision grants the following additional exemptions:</u></p> <ol style="list-style-type: none"> <li>11. Lead used in compliant pin connector systems.</li> <li>12. Lead as a coating material for the thermal conduction module c-ring.</li> <li>13. Lead and cadmium in optical and filter glass.</li> <li>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.</li> <li>15. Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages.</li> </ol>
2 <sup>nd</sup> package	<p>Subject to Stakeholder consultation (deadline 11 February 2005).  <u>Proposals of Exemptions included:</u></p> <ol style="list-style-type: none"> <li>1. Lead in tin whisker resistant coatings for fine pitch applications.</li> <li>2. Lead bound in glass, crystal glass, lead crystal or full lead crystal in general.</li> <li>3. Chromium (also in oxidation state (VI)) and Cadmium as colouring batch addition each form up to a content of 2 % in glass, crystal glass, lead crystal or full</li> </ol>	<p><a href="#"><u>COM 2005/717/EC of 13 October 2005:</u></a>            Published in OJ L 271/48, 15 October 2005.</p> <p><u>This decision replaces the former exemption 1:</u>            Applications of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE)</p>

lead crystal used as decorative and / or functional part of electric or electronic equipment.

4. Solders containing lead and/or cadmium for specific applications,
5. Hexavalent chromium (CRVI) passivation coatings.
6. Lead in lead oxide glass plasma display panels.
7. Lead in connectors, flexible printed circuits, flexible flat cables.
8. Lead oxide in lead glass, bonding materials of magnetic heads and magnetic heads.
9. Cadmium as doping material in avalanche photodiodes (APDs) for the optical fiber communication systems.
10. Lead in optical isolators.
11. Lead in sheath heater of Microwaves.
12. Cadmium pigments except for applications banned under Directive 91/338/EEC amending Directive 76/769/EEC relating to the restriction on the marketing and use of certain substances.
13. High Intensity Discharge (HID) lamps for professional U.V. applications, containing lead halide as radiant agent.
14. Discharge lamps for special purposes containing lead as activator in the fluorescent powder (1% lead by weight or less).
15. Discharge lamps containing lead in the form of an amalgam,
16. Mercury free flat panel lamp.
17. Special purposes Black Light Blue (BLB) lamps, containing lead in the glass envelope.
18. Low melting point alloys containing lead.
19. Galvanised steel containing up to 0.35% lead by weight and aluminium with an unintended lead content up to 0.4% lead by weight in electrical and electronic equipment.
20. Lead in solder and hexavalent chromium in surface treatment, in parts recovered from production printers and copying equipment, sold, rented or leased or otherwise returned from professional users other than private households, originally put on the market before 1 July 2006, and reused for the same purpose within the original manufacturer's closed loop system until 1 July 2011. In this context a closed loop system means a system whereby the equipment remains the property of the manufacturer or is subject to other contractual arrangements and is returned to the manufacturer either when the contract expires or at end of life.
21. Cadmium sulphide photocells.
22. Applications of lead, mercury, cadmium, hexavalent chromium, PBBs and PBDEs in electrical and electronic equipment in the aeronautic and aerospace sectors that requires high safety standards.

which are exempted from the requirements of Article 4(1).

This decision adds the following exemptions:

9b. Lead in lead-bronze bearing shells and bushes

Exemption 9a on [DecaBDE in polymeric applicaltions](#) as granted by this decision has been annulled by the European Court of Justice in its ruling of 1 April 2008.

The Court declares that the effects of this exemption are maintained until 30 June 2008 inclusive.

<p>3<sup>rd</sup> package</p>	<p>Subject to Stakeholder consultation (deadline 28 October 2005).</p> <p><u>Proposals of Exemptions included:</u></p> <ol style="list-style-type: none"> <li>1. Linear incandescent lamp.</li> <li>2. Mercury in switches.</li> <li>3. Special ICs having tin-lead solder plating on leads used in professional equipment.</li> <li>4. Specific modular units including tin-lead solder being used in special professional equipment.</li> <li>5. Solders containing lead and /or cadmium for specific applications where local temperature is higher than 150 deg C and which need to work properly more than 500 hours.</li> <li>6. Lead in solder for printed circuit boards for emergency lighting products.</li> <li>7. Hexavalent chromium (Cr-VI) in chromate conversion coatings as surface treatment.</li> <li>8. Lead in gas sensors.</li> <li>9. Concerning of PbO (Lead in Seal Frit) used for making BLU (Back Light Unit) Lam.</li> <li>10. Cadmium in opto-electronic components.</li> <li>11. Non-consumer mechanical power transmission systems including speed reducers and mechanical couplings which rely on electrical/electronic components for safe control and operation.</li> <li>12. Electrical and electronic components contained in heating ventilating and air conditioning building systems, commercial refrigeration systems and transport refrigeration systems.</li> <li>13. Cadmium-bearing copper alloys.</li> <li>14. Electrical/electronic components contained mobile and stationary air compressors and vacuum systems, compressed air contaminant removal systems and pneumatic contractor's air tools.</li> <li>15. Electrical/electronic equipment that are: used in transport -aviation, aerospace, road, maritime, rail; installed in to the fabric of buildings – elevators, escalators, moving walks, dumb waiters, and heating, cooling and ventilation systems, and fire and security systems; used in the energy generation and transmission; used in mining and mineral processing; used for non-consumer mechanical power transmission systems; industrial process pumps and compressors; used in industrial refrigeration; and used in military applications.</li> <li>16. Lead alloys as electrical/mechanical solder for transducers used in high-powered professional and commercial loudspeakers.</li> <li>17. Cadmium oxide.</li> <li>18. Solder tin of the thermo fuse with a defined low melting point.</li> <li>19. Lead in lead oxide glass used in plasma display panel (PDP).</li> </ol>	<p><u><a href="#">COM 2006/310/EC of 21 April 2006:</a></u> Published in OJ L 115/38, 28 April 2006.</p> <p><u>This decision adds the following exemptions:</u></p> <ol style="list-style-type: none"> <li>16. Lead in linear incandescent lamps with silicate coated tubes.</li> <li>17. Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications.</li> <li>18. 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 (BaSi2O5:Pb) as well as when use as speciality lamps for diazo-printing reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba)2MgSi2O7:Pb).</li> <li>19. Lead in 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).</li> <li>20. Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCD).</li> </ol> <p><u>Note:</u> Exemptions 16-20 voted favourably at TAC meeting on 15 February 2006. Exemption 21 removed form Draft Decision.</p>
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	<p>20. Lead in solder on small PCB and tinned legs of primary components.</p> <p>21. Use of the not lead free component NEC V25 in the Memor 2000.</p> <p>22. Lead used in shielding of radiation for Non Medical X-ray equipment</p> <p>23. Lead based solders sealed or captured within heat-shrinkable components and devices.</p>	
4 <sup>th</sup> package	<p>Subject to Stakeholder consultation (deadline 10 February 2006).</p> <p><u>Proposal of Exemptions included:</u></p> <ol style="list-style-type: none"> <li>1. On-Semi MCR265-10 SCR.</li> <li>2. Components NEC V55.</li> <li>3. The use of lead in solder applications for electronic components of musical instruments having an average lifespan in excess of 10 years.</li> <li>4. Lead solder alloy in Surge protective devices (SPDs).</li> <li>5. Inventory of Special ICs having tin-lead solder on/in leads/balls, used in specialist/professional equipment.</li> <li>6. Lead alloys as electrical/mechanical solder for transducers used in high-powered professional and commercial loudspeakers.</li> <li>7. Solder containing lead for applications where the local temperature exceeds 150 C and reliable operation for a minimum of 30,000 hours is required.</li> <li>8. T in-lead solder in the manufacture of professional audio equipment.</li> <li>9. Specific modular units including tin-lead solder being used in special professional equipment.</li> <li>10. Lead in electronic vacuum tubes.</li> <li>11. Lead in aluminium used in gas valves for domestic cooking appliances.</li> <li>12. “8. Cadmium and its compounds in electrical contacts except for applications of one-shot operation function such as thermal links and cadmium plating except for the applications banned under Directive 91/338/EEC amending Directive 76/769/EEC relating to the restriction on the marketing and use of certain dangerous substances and preparations.”</li> <li>13. Lead in solder of parts recovered from gaming/amusement machines put on the market before 1/07/06 and reused for the same purpose within a manufacturer’s closed loop until July 2014.</li> <li>14. Lead in solders in components and assemblies used in non-consumer products, provided that: - such components and assemblies were purchased or are subject to a proven last-time buy contract placed before 1 July, 2006; and - such components and assemblies are used in models of EEE that were already available on the market before 1 July 2006.</li> <li>15. “8. Cadmium plating as defined in Directive 91/338/EEC except for applications banned under Directive 91/338/EEC amending Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and</li> </ol>	

	preparations.”	
5 <sup>th</sup> package	<p>Subject to Stakeholder consultation (from 15 March to 15 May 2006).  <u>Proposal of Exemptions included:</u></p> <ol style="list-style-type: none"> <li>1. Cadmium and cadmium oxide in thick film pastes used on beryllium oxide substrates until January 1, 2008.</li> <li>2. Gaskets of butyl rubber material vulcanised with chinondioxim and lead tetraoxide, for use in Aluminium Electrolytic Capacitors.</li> <li>3. Sharp LQ104X2LX11 (formerly Fujitsu FLC26XGC6R-01).</li> <li>4. Quartz Crystal Resonator and in Fine Pitch Electronics Systems used in the Swiss Watch Industry.</li> <li>5. Cadmium in opto- electronic components.</li> <li>6. Transducers used in professional loudspeaker systems, using tin-lead solder.</li> <li>7. Tin-lead solder in the manufacture of professional audio equipment.</li> <li>8. Components used in the manufacture of the Hog1000, Hog500, Event416, Event408, ESP2-24 and ESP2-48 lighting control consoles.</li> <li>9. Specific modular units, including tin-lead solder, being used in special professional equipment.</li> <li>10. Inventory of special ICS having tin-lead solder on/in leads/balls, used in specialist/professional equipment.</li> <li>11. Cadmium Mercury Telluride.</li> <li>12. Lead contained in Babbit lined bearings.</li> <li>13. Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers.</li> <li>14. Thermal cutoff with a fusible element that contains lead (and possibly cadmium, mercury and hexavalent chromium) for applications where normal operating temperature exceeds 140 C and reliable, predictable, operation for a minimum of 30,000 hours is required.</li> <li>15. Mercury free flat panel lamp.</li> <li>16. Electronic equipment where the reliability, durability and longevity of the equipment is paramount.</li> <li>17. Semi Red Brass C84400, 81-3-7-9 or a similar Brass material. Used on radio frequency line sections.</li> <li>18. Lead is used as an alloy to the copper in 6 to 8 % by weight. Needed for casting and machinability characteristics.</li> <li>19. Lead in solders for electronic equipments used for the monitoring, the protection and the safety of people in healthcare, telecare and emergency calls domains in</li> </ol>	<p><a href="#">COM 2006/691/EC of 12 October 2006</a>  Published in OJ, L 283/48, 14 October 2006</p> <p><u>This decision adds the following exemptions:</u></p> <ol style="list-style-type: none"> <li>21. Lead and cadmium in printing inks for the application of enamels on borosilicate glass.</li> <li>22. Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used for fibre optic communications systems.</li> <li>23. Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with NiFe lead frames and lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with copper lead-frames.</li> <li>24. Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors.</li> <li>25. Lead oxide in plasma display panels (PDP) and surface conduction electron emitter displays (SED) used in structural elements; notably in the front and rear glass dielectric layer, the bus electrode, the black stripe, the address electrode, the barrier ribs, the seal frit and frit ring as well as in print pastes.</li> <li>26. Lead oxide in the glass envelope of Black Light Blue (BLB) lamps.</li> <li>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.</li> </ol>

	<p>professional and private sectors.</p> <p>20. FPGA devices manufactured by Xilinx (XC5202-6VQ100C, XC4003E-3VQ100C and XC4013E-3PQ240C) containing lead solder (Pb) used in the plating of the device terminations.</p> <p>21. Lead oxide in seal frit used for making window assemblies for argon and krypton laser tubes.</p> <p>22. Smart card readers (product: GemSelf700-MS2, GCR700-3ZS, Vodafone D2, GCR760 and GemSelf750 SV).</p> <p>23. Use of mercury in Babcock's DC plasma displays and use of Lead Oxide (PbO) in Babcock's DC plasma displays frit seal.</p>	
6 <sup>th</sup> package		<p><a href="#">COM 2006/692/EC of 12 October 2006</a> Published in OJ, L 283/50, 14 October 2006</p> <p><u>This decision adds the following exemption</u> 28. Hexavalent chromium in corrosive preventive coatings of unpainted metal sheetings and fasteners used for corrosion protection and Electromagnetic Interface Shielding in equipment falling under category three of Directive 2002/96/EC (IT and telecommunications equipment). Exemption granted until 1 July 2007</p> <p><a href="#">COM 2006/690/EC of 12 October 2006</a> Published in OJ, L 283/47, 14 October 2006</p> <p><u>This decision adds the following exemption</u> 29. Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC</p>
7 <sup>th</sup> package		<p><a href="#">COM 2008/385/EC of 24 January 2008</a> Published on OJ, L 136/9, 24 January 2008</p> <p><u>This decision adds the following exemption</u> 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.'</p>

8 <sup>th</sup> package	<p>Subject to Stakeholder consultation (closed on 10 January 2007).</p> <p><u>Proposal of Exemptions included:</u></p> <ol style="list-style-type: none"> <li>1. Lead used for shielding of x-radiation emissions for CRT;</li> <li>2. Lead as soldering alloy in high performance communication electronic board and hexavalent chromium (Cr-VI);</li> <li>3. GemCore 410 EMV;</li> <li>4. SAVBIT solder;</li> <li>5. Sn-Pb soldering used in Ground-based Aeronautical Communication Equipment Manufacturing;</li> <li>6. Transducers used in professional loudspeaker systems, using tin-lead solder;</li> <li>7. Tin-lead solder in the manufacture of professional audio equipment;</li> <li>8. Inventory of special ICS having tin-lead solder on/in leads/balls, used in specialist/professional equipment;</li> <li>9. Crystal Stones within the battery operated watch;</li> <li>10. EEE used for the broadcast and homeland security sector;</li> <li>11. AM186ES-V40 containing lead in used in the leads over plating and AM79C961AKC containing lead in used in the leads over plating;</li> <li>12. Cadmium sulphide or cadmium selenide in polymer based thin film transistor;</li> <li>13. Lead used in the soldering for surface finishing at the electric pole terminal on the electronic parts;</li> <li>14. Cadmium contained in the cadmium oxide of a thick film ceramic substrate;</li> <li>15. All electronics assemblies using lead in solder;</li> <li>16. Lead in electric overblankets for Hot Spot detection;</li> <li>17. MPC10 used in automatic vending machines to achieve the payment by card;</li> <li>18. Hexavalent Chrome Cr-VI when used as a passivate;</li> <li>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;</li> <li>20. Component used in the manufacture of electric blankets and heating pads.</li> <li>21. Request to delete exemption for "Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used for fibre optic communications systems."</li> <li>22. Lead in Trimmer Potentiometer elements.</li> <li>23. Cadmium in opto-electronic components.</li> </ol>	
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Requests before 12/2005		Regarding exemption request that arrived at the Commission until December 2005, the Commission would launch another new stakeholder consultation.
Requests after 12/2005		Regarding exemption requests posted after that date, also a stakeholder consultation would need to take place. It would be unlikely to expect a decision on these before 1 July 2006.