

Subject: RoHS Exemptions in Radisys Products

Radisys Product Family: All

Revision Date: November 30, 2012

Radisys Corporation has analyzed the RoHS Exemptions per Directive 2011/65/EU, Annex III as they relate to Radisys products. The following table contains the Exemption number, description (abbreviated for brevity in some cases), whether or not the Exemption is used in Radisys products and the expiry date (as stated in Annex III).

Radisys certifies that it gathered the information it provides in this document concerning RoHS Exemptions using appropriate methods to ensure accuracy and that such information is true and correct to the best of its knowledge and belief, as of this documents revision date.

Questions about this information should be sent to orgRoHS@radisys.com.

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Exemption Number and Description	Use in Radisys Product	Expiry Date
1a-1f. Mercury in single capped (compact) fluorescent lamps not exceeding documented values per burner.	None (for brevity not all of the Exemptions are listed because they do not apply to Radisys products)	Expired
2a-2b. Mercury in double capped linear fluorescent lamps for general purposes not exceeding documented values.	None (for brevity not all of the Exemptions are listed because they do not apply to Radisys products)	Most have expired
3a-3c. Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding documented values per lamp.	None (for brevity not all of the Exemptions are listed because they do not apply to Radisys products)	Expired
4a-4f. Mercury in other low pressure discharge lamps.	None (for brevity not all of the Exemptions are listed because they do not apply to Radisys products)	Most have expired
5a. Lead in glass of cathode ray tubes.	None	
5b. Lead in glass of fluorescent tubes not exceeding 0.2% by weight	None	
6a. Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight	Some steel parts may use this exemption.	
6b. Lead as an alloying element in aluminum containing up to 0.4% lead by weight.	Some aluminum parts may use this exemption.	
6c. Copper alloy containing up to 4% lead by weight.	Some copper parts may use this exemption.	
7a. Lead in high melting temperature type solders (i.e. lead based alloys containing 85% by weight or more lead)	Some components use this exemption.	
7b. Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission and network management for telecommunications	Some PCBAs use tin/lead solders (5/6). This is noted on our certificate of conformance.	
7c-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	Some components use this exemption.	
7c-II. Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher.	Some components use this exemption.	

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7c-III. Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC.	None	January 2013
8a. Cadmium and its compounds in one shot pellet type thermal cut-offs.	None	Expired
8b. Cadmium and its compounds in electrical contacts.	Some components use this exemption.	
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.	None	
9b. Lead in bearing shells and bushes for refrigerant containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications.	None	
10. Left blank intentionally		Expired
11a. Lead used in C-press compliant pin connector systems.	None	Expired
11b. Lead used in other than C-press compliant pin connector systems.	None	January 2013
12. Lead as a coating material for the thermal conduction module c-ring.	None	Expired
13a. Lead in white glasses used for optical applications.	None	
13b. Cadmium and lead in filter glasses and glasses used for reflectance standards.	None	
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.	None. Only applies to pin grid array microprocessors from AMD, which Radisys does not use.	Expired
15. Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages.	Some components use this exemption.	
16. Lead in linear incandescent lamps with silicate coated tubes.	None	September 2013
17. Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications.	None	
18a. Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as speciality lamps for diazoprinting	None	Expired

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reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba)2MgSi2O7:Pb).		
18b. 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).	None	
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).	None	Expired
20. Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCD).	None	Expired
21. Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses.	None	
22. Left blank intentionally		Expired
23. Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm and less.	None	Expired
24. Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors.	None	
25. Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring.	None	
26. Lead oxide in the glass envelope of Black Light Blue (BLB) lamps.	None	Expired
27. Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125dB SPL and above) loudspeakers.	None	Expired
28. Left blank intentionally		Expired
29. Lead bound in crystal glass as defined in Annex 1 (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC.	None	
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.	None	
31. Lead in soldering materials in mercury free	None	

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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.	None	
33. Lead in solders for the resoldering of thin copper wires of 100 µm diameter and less in power transformers.	None	
34. Lead in cermet-based trimmer potentiometer elements.	Some components use this exemption.	
35. Left blank intentionally		Expired
36. Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30mg per display.	None	Expired
37. Lead in the plating area of high voltage diodes on the basis of a zinc borate glass body.	None	
38. Cadmium and cadmium oxide in thick film pastes used on aluminum bonded beryllium oxide.	None	
39. Cadmium in color converting II-VI LEDs (<10 µg Cd per mm ² of light-emitting area) for use in solid state illumination or display systems.	None	July 2014