

Appendix 5-2 RoHS Directive Annex IV Applications exempted from the restriction

- Since the RoHS directive of the Annex will be revised on an ongoing basis, you need to check for the latest version.
- Exemptions without the "date of the scope and application."
 - Vitro diagnostic category 8: Valid until July 21, 2023
 - Industrial category 9: Valid until July 21, 2024.

No	Applications exempted from the restriction	Scope and dates of applicability
Equipment utilising or detecting ionising radiation		
1	Lead, cadmium and mercury in detectors for ionising radiation.	
2	Lead bearings in X-ray tubes	
3	Lead in electromagnetic radiation amplification devices: micro-channel plate and capillary plate.	
4	Lead in glass frit of X-ray tubes and image intensifiers and lead in glass frit binder for assembly of gas lasers and for vacuum tubes that convert electromagnetic radiation into electrons.	
5	Lead in shielding for ionising radiation.	
6	Lead in X-ray test objects.	
7	Lead stearate X-ray diffraction crystals.	
8	Radioactive cadmium isotope source for portable X-ray fluorescence spectrometers.	
Sensors, detectors and electrodes		
1a	Lead and cadmium in ion selective electrodes including glass of pH electrodes.	
1b	Lead anodes in electrochemical oxygen sensors.	
1c	Lead, cadmium and mercury in infra-red light detectors.	
1d	Mercury in reference electrodes: low chloride mercury chloride, mercury sulphate and mercury oxide.	
Others		
9	Cadmium in helium-cadmium lasers.	
10	Lead and cadmium in atomic absorption spectroscopy lamps.	
11	Lead in alloys as a superconductor and thermal conductor in MRI.	
12	Lead and cadmium in metallic bonds creating superconducting magnetic circuits in MRI, SQUID, NMR (Nuclear Magnetic Resonance) or FTMS (Fourier Transform Mass Spectrometer) detectors.	Expires on 30 June 2021.
13	Lead in counterweights.	
14	Lead in single crystal piezoelectric materials for ultrasonic transducers.	
15	Lead in solders for bonding to ultrasonic transducers.	
16	Mercury in very high accuracy capacitance and loss measurement bridges and in high frequency RF switches and relays in monitoring and control instruments not exceeding 20mg of mercury per switch or relay.	
17	Lead in solders in portable emergency defibrillators.	
18	Lead in solders of high performance infrared imaging modules to detect in the range 8-14 μ m.	
19	Lead in Liquid crystal on silicon (LCoS) displays.	
20	Cadmium in X-ray measurement filters.	
21	Cadmium in phosphor coatings in image intensifiers for X-ray images	until 31 December 2019 and in spare parts for X-ray systems placed on the EU market before 1 January 2020.
22	Lead acetate marker for use in stereotactic head frames for use with CT and MRI and in positioning systems for gamma beam and particle therapy equipment.	Expires on 30 June 2021.
23	bearings and wear surfaces in medical equipment exposed to ionising radiation.	Expires on 30 June 2021.
24	Lead enabling vacuum tight connections between aluminium and steel in X-ray image intensifiers.	Expires on 31 December 2019.
25	Lead in the surface coatings of pin connector systems requiring nonmagnetic connectors which are used durably at a temperature below - 20 ° C under normal operating and storage conditions.	Expires on 30 June 2021.
26	Lead in <ul style="list-style-type: none"> - solders on printed circuit boards, - termination coatings of electrical and electronic components and coatings of printed circuit boards, - solders for connecting wires and cables, - solders connecting transducers and sensors, that are used durably at a temperature below -20 ° C under normal operating and storage conditions. Lead in solders of electrical connections to temperature measurement sensors in devices which are designed to be used periodically at temperatures below - 150 ° C.	Expires on 30 June 2021
27	Lead in <ul style="list-style-type: none"> - solders, - termination coatings of electrical and electronic components and printed circuit boards, - connections of electrical wires, shields and enclosed connectors, which are used in <ul style="list-style-type: none"> (a) magnetic fields within the sphere of 1 m radius around the isocentre of the magnet in medical magnetic resonance imaging equipment, including patient monitors designed to be used within this sphere, or (b) magnetic fields within 1 m distance from the external surfaces of cyclotron magnets, magnets for beam transport and beam direction control applied for particle therapy. 	Expires on 30 June 2020

28	Lead in solders for mounting cadmium telluride and cadmiumzinc telluride digital array detectors to printed circuit boards.	Expires on 31 December 2017.
29	Lead in alloys, as a superconductor or thermal conductor, used in cryo-cooler cold heads and/or in cryo-cooled coldprobes and/or in cryo-cooled equipotential bonding systems, in medical devices (category 8) and/or in industrial monitoringand control instruments.	Expires on 30 June 2021.
30	Hexavalent chromium in alkali dispensers used to createphotocathodes in X-ray image intensifiers until 31 December2019 and in spare parts for X-ray systems placed on the EUmarket before 1 January 2020.	until 31 December 2019 and in spare partsfor X-ray systems placed on the EU marketbefore 1 January 2020.
31a	Lead, cadmium, hexavalent chromium, and polybrominated diphenyl ethers (PBDE) in spare parts recovered from and used for the repair or refurbishment of medical devices, including in vitro diagnostic medical devices, or electron microscopes and their accessories, provided that the reuse takes place in auditable closed-loop business-to-business return systems and that each reuse of parts is notified to the customer.	Expires on: (a)21 July 2021 for the use in medical devices other than in vitro diagnostic medical devices; (b)21 July 2023 for the use in in vitro diagnostic medical devices; (c)21 July 2024 for the use in electron microscopes and their accessories.
32	Lead in solders on printed circuit boards of detectors and dataacquisition units for Positron Emission Tomographs which areintegrated into Magnetic Resonance Imaging equipment.	Expires on 31 December 2019.
33	Lead in solders on populated printed circuit boards used inDirective 93/42/EEC class IIa and IIb mobile medical devicesother than portable emergency defibrillators.	Expires on 30 June 2016 for class IIa and on31 December 2020 for class IIb.
34	Lead as an activator in the fluorescent powder of dischargelamps when used for extracorporeal photopheresis lampscontaining BSP (BaSi ₂ O ₅ :Pb) phosphors.	Expires on 22 July 2021.
35	Mercury in cold cathode fluorescent lamps for back-lightingliquid crystal displays, not exceeding 5 mg per lamp, used inindustrial monitoring and control instruments placed on themarket before 22 July 2017.	Expires on 21 July 2024.
36	LeadusedinotherthanC-presscompliantpinconnectorsystems for industrial monitoring and control instruments.	Expires on 31 December 2020. May be usedafter that date in spare parts for industrialmonitoring and control instruments placedon the market before 1 January 2021.
37	Lead in platinized platinum electrodes used for conductivitymeasurements where at least one of the following conditionsapplies: (a)wide-range measurements with a conductivity rangecovering more than 1 order of magnitude (e.g. range between0,1 mS/m and 5 mS/m) in laboratory applications for unknownconcentrations; (b)measurements of solutions where an accuracy of +/- 1 % ofthe sample range and where high corrosion resistance of theelectrode are required for any of the following: (i) solutions with an acidity < pH 1; (ii) solutions with an alkalinity > pH 13; (iii) corrosive solutions containing halogen gas; (c)measurements of conductivities above 100 mS/m that mustbe performed with portable instruments.Expires on 31December 2018.	Expires on 31 December 2018.
38	Lead in solder in one interface of large area stacked dieelements with more than 500 interconnects per interfacewhich are used in X-ray detectors of computed tomographyand X-ray systems.	Expires on 31 December 2019. May be usedafter that date in spare parts for CT and X-ray systems placed on the market before 1January 2020.
39	Lead in micro-channel plates (MCPs) used in equipment whereat least one of the following properties is present: (a) a compact size of the detector for electrons or ions, wherethe space for the detector is limited to a maximum of 3mm/MCP (detector thickness + space for installation of theMCP), a maximum of 6 mm in total, and an alternative designyielding more space for the detector is scientifically andtechnically impracticable; (b) a two-dimensional spatial resolution for detecting electronsor ions, where at least one of the following applies: (i) a response time shorter than 25 ns; (ii) a sample detection area larger than 149 mm ² ; (iii) a multiplication factor larger than 1,3 × 10 ⁷ . (c) a response time shorter than 5 ns for detecting electronsor ions; (d) a sample detection area larger than 314 mm ² for detectingelectrons or ions; (e) a multiplication factor larger than 4,0 × 10 ⁷ .	The exemption expires on the followingdates:(a) 21 July 2021 for medical devices andmonitoring and control instruments;(b) 21 July 2023 for in-vitro diagnosticmedical devices;(c) 21 July 2024 for industrial monitoring andcontrol instruments.
40	Lead in dielectric ceramic in capacitors for a rated voltage ofless than 125 V AC or 250 V DC for industrial monitoring andcontrol instruments.	Expires on 31 December 2020. May be usedafter that date in spare parts for industrialmonitoring and control instruments placedon the market before 1 January 2021.
41	Lead as a thermal stabiliser in polyvinyl chloride (PVC) used asbase material in amperometric, potentiometric andconductometric electrochemical sensors which are used in in-vitro diagnostic medical devices for the analysis of blood andother body fluids and body gases.	Expires on 31 Decembre 2018.
42	Mercury in electric rotating connectors used in intravascularultrasound imaging systems capable of highoperating frequency (> 50 MHz) modes of operation.	Expires on 30 June 2019.
43	Cadmium anodes in Hersch cells for oxygen sensors used in industrial monitoring and control instruments, where sensitivity below 10 ppm is required.	Expires on 15 July 2023.