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RoHS 指令 2011/65/EU

更新日期: 2019/02/12

附錄三 - 一般排外條款

序號	更新指令	排外項目	適用範圍及日期
1		單端省電燈管中所使用的汞含量不得超過(每個燈):	徵詢中 Pack 9 (a-e) 2015/10/16 截止
1(a)		一般照明用途 < 30 W：5 毫克 (mg)	2011/12/31 以前 2011/12/31 ~ 2012/12/31：3.5 mg 2012/12/31：2.5 mg
1(b)		一般照明用途 ≥ 30 W 且 < 50 W：5 毫克 (mg)	2011/12/31 以前 2011/12/31：3.5 mg
1(c)		一般照明用途 ≥ 50 W 且 < 150 W：5 毫克 (mg)	
1(d)		一般照明用途 ≥ 150 W：15 毫克 (mg)	
1(e)		一般照明用途，為圓形或方形結構，且管徑 ≤ 17 mm	2011/12/31：7 mg
1(f)		特殊用途：5 mg	徵詢中 Pack 9 2015/10/16 截止
1(g)	2014/14/EU	一般照明用途<30W 且壽命≧ 20000h：3.5 毫克 (mg)	2017/12/31
2(a)		用於一般照明之雙端直線型省電燈管中，所使用的汞含量不得超過 (每個燈管):	徵詢中 Pack 9 (1-5) 2015/10/16 截止
2(a)(1)		一般壽命之三波長螢光燈，其管徑 < 9 mm (例如 T2)：5 mg	2011/12/31 以前 2011/12/31：4 mg
2(a)(2)		一般壽命之三波長螢光燈，其管徑 ≥ 9 mm 且 ≤ 17 mm (例如 T5)：5 mg	2011/12/31 以前 2011/12/31：3 mg
2(a)(3)		一般壽命之三波長螢光燈，其管徑 > 17 mm 且 ≤ 28 mm (例如 T8)：5 mg	2011/12/31 以前 2011/12/31：3.5 mg
2(a)(4)		一般壽命之三波長螢光燈，其管徑 > 28 mm (例如 T12)：5 mg	2012/12/31 以前 2012/12/31：3.5 mg
2(a)(5)		長壽命(≥ 25 000 h) 之三波長螢光燈：8 mg	2011/12/31 以前 2011/12/31：5 mg
2(b)		用於其他螢光燈管中，所使用的汞含量不得超過 (每個燈管):	
2(b)(1)		直線型磷酸鹽燈管，其管徑 > 28 mm (例如 T10 and T12)：10 mg	2012/4/13
2(b)(2)		非直線型磷酸鹽燈管 (所有管徑 all diameters)：15 mg	2016/4/13
2(b)(3)		非直線型三波長螢光燈，其管徑 > 17 mm (例如 T9)	2011/12/31 以後：15 mg 徵詢中 Pack 9 2015/10/16 截止
2(b)(4)		其他一般照明或者特殊用途燈 (例如：感應燈)	2011/12/31 以後：15 mg 徵詢中 Pack 9 2015/10/16 截止
3		特殊用途之冷陰極螢光燈 (CCFL) 及外部電極螢光燈 (EEFL)，所使用的汞含量不得超過 (每個燈管):	徵詢中 Pack 9 (a-c) 2015/10/16 截止
3(a)		較短長度 (≤ 500 mm)	2011/12/31 以後：3.5 mg
3(b)		中等長度 (> 500 mm and ≤ 1 500 mm)	2011/12/31 以後：5 mg
3(c)		較長長度 (> 1 500 mm)	2011/12/31 以後：13 mg

序號	更新指令	排外項目	適用範圍及日期
4(a)		其他低壓放電燈 (每個燈管)	2011/12/31 以後：15 mg 徵詢中 Pack 9 2015/10/16 截止
4(b)		一般照明用途之高壓鈉 (蒸氣) 燈，其演色性指數 Ra > 60，所使用的汞含量不得超過 (每個燈):	徵詢中 Pack 9 (I-III) 2015/10/16 截止
4(b)-I		P ≤ 155 W	2011/12/31 以後：30 mg
4(b)-II		155 W < P ≤ 405 W	2011/12/31 以後：40 mg
4(b)-III		P > 405 W	2011/12/31 以後：40 mg
4(c)		一般照明用途之高壓鈉 (蒸氣) 燈，所使用的汞含量不得超過 (每個燈):	徵詢中 Pack 9 (I-III) 2015/10/16 截止
4(c)-I		P ≤ 155 W	2011/12/31 以後：25 mg
4(c)-II		155 W < P ≤ 405 W	2011/12/31 以後：30 mg
4(c)-III		P > 405 W	2011/12/31 以後：40 mg
4(d)		高壓汞 (蒸氣) 燈 (HPMV) 中所含的汞:	2015/4/13
4(e)		複金屬燈 (MH) 中所含的汞:	徵詢中 Pack 9 2015/10/16 截止
4(f)		其他未在此附錄中所提及之特殊用途放電燈，其所含之汞	徵詢中 Pack 9 2015/10/16 截止
4(g)	2014/76/EU	汞用於標誌、裝飾或建築和專業照明燈具和使用於手工製作的光藝術品時，其中發光放電管的汞含量應限於如下： (a) 於戶外與室內溫度低於 20℃中使用時，每個燈管 20 mg，每增加 1 公分燈管可增加 0.3mg 汞，但不可以超過 80 mg (b) 於其他室內使用時，每個燈管 15 mg，每增加 1 公分燈管可增加 0.24mg 汞，但不可以超過 80 mg	2018/12/31
5(a)		陰極射線管中的玻璃可含鉛	
5(b)		螢光管中所含的鉛不得超過其重量之 0.2%	徵詢中 Pack 9 2015/10/16 截止
6(a)	Directive (EU) 2018/739	鉛用於加工用途之鋼材及鍍鋅鋼的合金元素之一，其含量最高可達 0.35%	• 除了體外診斷醫療設備和工業監控設備之外的第 8、9 類：2021/07/21 • 第 8 類的體外診斷醫療設備：2023/07/21 • 第 9 類工業監控設備/ 第 11 類：2024/07/21
6(a)-I		鉛用於加工用途之鋼材，含量最高可達 0.35%，用於批量熱浸鍍鋅鋼材，含鉛量最高可達 0.2%	• 第 1-7、10 類：2021/07/21
6(b)	Directive (EU) 2018/740	鉛用於鋁合金，並為其元素之一，含量最高可達 0.4%	• 除了體外診斷醫療設備和工業監控設備之外的第 8、9 類：2021/07/21 • 第 8 類的體外診斷醫療設備：2023/07/21 • 第 9 類工業監控設備/ 第 11 類：2024/07/21
6(b)-I		來源為回收含鉛鋁廢料時，其鉛含量最高可達 0.4%	• 第 1-7、10 類：2021/07/21
6(b)-II		鉛用於加工用途之鋁合金，含量最高可達 0.4%	• 第 1-7、10 類：2021/05/18
6(c)	Directive (EU) 2018/741	銅合金中所含的鉛，最高可達 4%	• 第 1-7、10 類：2021/07/21 • 除了體外診斷醫療設備和工業監

序號	更新指令	排外項目	適用範圍及日期
			控設備之外的第 8、9 類：2021/07/21 • 第 8 類的體外診斷醫療設備：2023/07/21 • 第 9 類工業監控設備/ 第 11 類：2024/07/21
7(a)	Directive (EU) 2018/742	高熔點類之銲錫可含鉛（如鉛為基底的合金，其鉛含量大於 85%）	• 第 1-7、10 類(不包含附錄 III 第 24 項的應用)：2021/07/21 • 除了體外診斷醫療設備和工業監控設備之外的第 8、9 類：2021/07/21 • 第 8 類的體外診斷醫療設備：2023/07/21 • 第 9 類工業監控設備/ 第 11 類：2024/07/21
7(b)		於伺服器、儲存裝置或儲存陣列系統裝置中使用的銲錫，或於架設網路配備中用到的如開關，信號裝置、傳輸裝置或電信網路配備中所會用到的銲錫可含鉛。	
7(c)-I	Directive (EU) 2018/736	鉛用於電器及電子元件中之玻璃或陶瓷 (介電陶瓷電容除外)。例如：壓電元件或者玻璃/陶瓷複合材料	• 第 1-7、10 類(不包含附錄 III 第 34 項的應用)：2021/07/21 • 除了體外診斷醫療設備和工業監控設備之外的第 8、9 類：2021/07/21 • 第 8 類的體外診斷醫療設備：2023/07/21 • 第 9 類工業監控設備/ 第 11 類：2024/07/21
7(c)-II	Directive (EU) 2019/169	額定電壓為 125 V AC or 250 V DC 或者更高之介電陶瓷電容中所含的鉛。	不適用本附錄第 7(c)-I 與 7(c)-IV 的應用。 第 1-7、10 類：2021/07/21 第 8 & 9 類的一般醫療設備和監控設備：2021/07/21 第 8 類的體外診斷醫療設備：2023/07/21 第 9 類工業監控設備/第 11 類：2024/07/21
7(c)-III		額定電壓低於 125 V AC or 250 V DC 的介電陶瓷電容中所含的鉛	2013/1/1，之後僅適用於 2013/1/1 前就已置於市場上的電子電機產品之備用零件。
7(c)-IV	Directive (EU) 2019/170	用於製成集成電路或分立半導體的介電陶瓷電容材質 PZT 中的鉛。	第 1-7、10 類：2021/07/21 第 8 & 9 類的一般醫療設備和監控設備：2021/07/21 第 8 類的體外診斷醫療設備 2023/07/21 第 9 類工業監控設備/第 11 類：2024/07/21

序號	更新指令	排外項目	適用範圍及日期
8(a)		鎘及鎘化合物可用於溫度保險絲中。	2012/1/1，之後僅適用於 2012/1/1 就已置於市場上的電子電機產品之備用零件。
8(b)	Directive (EU) 2019/171	鎘及其化合物可用於電子接點。	第 8 & 9 類的一般醫療設備和監控設備：2021/07/21 第 8 類的體外診斷醫療設備：2023/07/21 第 9 類工業監控設備/ 第 11 類 2024/07/21
8(b)-I		鎘及其化合物可用於電子接點。 - 斷路器 Circuit Breaker - 熱感控制器 thermal sensing controls - 馬達過熱保護裝置 (不包含密封式過熱保護裝置) thermal motor protectors - 交流電開關額定值為 ● 當交流電壓為 250V 或更高時，電流達到 6A 或更高。 ● 當交流電壓為 125V 或更高時，電流達到 12A 或更高。 - 當直流電壓為 18 V 或以上時，直流電開關額定電流為 20 A 或更高。 - 用於電源頻率≥200Hz 的開關。	第 1-7、10 類：2021/07/21
9		六價鉻用於吸收式冷藏櫃碳鋼冷卻系統中的防腐蝕劑，其重量佔冷卻液 0.75%。	徵詢中 Pack 9 2015/10/16 截止
9(b)	Directive (EU) 2017/1010	使用於暖氣、通風、空調和冰箱(HVACR)應用的壓縮機軸承殼和襯套中的鉛。	第 8 類體外診斷: 2023/07/21 第 9 類工業用/ 第 11 類: 2024/07/21 其他第 8 / 9 類設備: 2021/07/21
9(b)-(I)		使用於電力輸入等於或低於 9kW 的暖氣、通風、空調和冰箱(HVACR)，包含密閉式渦旋式壓縮機應用的軸承殼和襯套中的鉛。	2019/07/21
11(a)		C-press 順應針(compliant pin) 連接器系統中的應用可含鉛。	僅適用於 2010/9/24 前就已置於市場上的電子電機產品之備用零件。
11(b)		除了 C-press 之外的順應針(compliant pin)連接器系統中所使用的鉛。	2013/1/1，之後僅適用於 2013/1/1 前就已置於市場上的電子電機產品之備用零件。
12		導熱模組 C-ring 中的塗布材質可含鉛。	僅能適用於 2010/9/24 前就已置於市場上的電子電機產品之備用零件。
13(a)	Directive (EU) 2017/1011	用於光學應用的白色眼鏡中的鉛。	第 8 類體外診斷: 2023/07/21 第 9 類工業用/ 第 11 類: 2024/07/21 其他設備: 2021/07/21

序號	更新指令	排外項目	適用範圍及日期
13(b)	Directive (EU) 2017/1009	用於反射標準的過濾眼鏡和眼鏡中的鎘和鉛。	第 8 類體外診斷: 2023/07/21 第 9 類工業用/ 第 11 類: 2024/07/21 其他第 8 / 9 類設備: 2021/07/21
13(b)-(I)		用於離子色濾光玻璃(ion coloured optical filter glass)類型中的鉛。	1-7、10: 2021/07/21
13(b)-(II)		用於鐳射濾光玻璃(striking optical filter glass)類型中的鎘，不包括 Annex III 第 39 點。	
13(b)-(III)		用於反射率標準釉料中的鉛和鎘。	
14		用於連接接腳及封裝後的微處理器的銲錫，若此銲錫為兩種以上之元素組成，則其含鉛量可介於 80%~85% 之間。	2011/1/1，之後僅適用於 2011/1/1 前就已置於市場上的電子電機產品之備用零件。
15	Directive (EU) 2019/172	用於積體電路覆晶封裝流程中，為連接半導體晶片及載體間，以完成電力連結的銲錫可含鉛。	第 8 & 9 類的一般醫療設備和監控設備：2021/07/21 第 8 類的體外診斷醫療設備：2023/07/21 第 9 類工業監控設備/ 第 11 類：2024/07/21
15(a)		用於積體電路覆晶封裝流程中，為連接半導體晶片及載體間，以完成電力連結的銲錫可含鉛。 - 大於或等於 90nm 半導體技術製程。 - 單個晶圓尺寸大於或等於 300 mm2 的半導體技術製程。 - 以大於或等於 300 mm2 的晶圓堆疊封裝(stacked die packages)或大於或等於 300 mm2 的矽載板(silicon interposers)。	第 1-7、10 類：2021/07/21
16		直立式的鎢絲燈，若其燈管含有矽酸鹽塗佈，則可含鉛。	2013/9/1
17		鹵化鉛作為發光源，並用於專業複印設備的 HID 燈中，則可含鉛。	
18(a)		特殊用途之放電燈，例如用於含二氮化合物之電子翻印、平板印刷、補蟲燈、光化學或樹脂硬化過程，其中含有磷，例如 SMS ((Sr,Ba)2MgSi2O7:Pb)，則放電燈中的螢光粉，其鉛作為觸發源，鉛含量可佔 1%或更少。	2011/1/1
18(b)	Directive (EU) 2019/177	彷日曬之放電燈，其中含有磷，例如 BSP (BaSi2O5:Pb)，則放電燈中的螢光粉，其鉛作為觸發源，鉛含量可佔 1%或更少。	第 1-7、10 類：2021/07/21 第 8 & 9 類的一般醫療設備和監控設備：2021/07/21 第 8 類的體外診斷醫療設備：2023/07/21 第 9 類工業監控設備/ 第 11 類：2024/07/21
18(b)-I		做為醫學用光療機之放電燈，其中含有磷，例如 BSP (BaSi2O5:Pb)，則放電燈中的螢光粉，其鉛作為觸發源，鉛含量可佔 1%或更少。	第 5 類與第 8 類：2021/07/21，不包含附錄 4 第 34 項
19		鉛作為汞齊 (即汞合金) 中的特定成分，如 PbBiSn-Hg 或	2011/6/1

序號	更新指令	排外項目	適用範圍及日期
		PbInSn-Hg 中，且此汞齊作為主要汞齊，或如 PbSn-Hg 用於輔助汞齊中，且這些汞齊使用於節能燈泡(ESL) 中，則可含鉛。	
20		LCD 中用於保護平面螢光燈之前後支撐物的玻璃中可含氧化鉛。	2011/6/1
21	Directive (EU) 2019/173	用於硼硅酸鹽玻璃瓷漆的印墨所含的鉛及鎘。	第 8 & 9 類的一般醫療設備和監控設備：2021/07/21 第 8 類的體外診斷醫療設備：2023/07/21 第 9 類工業監控設備/ 第 11 類 2024/07/21
21(a)		鎘應用在 EEE 顯示器和控制面板中照明應用組件提供濾鏡功能的彩色印刷玻璃。	第 1-7、10 類：2021/07/21，不包含本附錄第 21(b)項與第 39 項應用。
21(b)		鎘應用於玻璃上瓷漆印刷油墨，例如硼矽酸鹽和鈉鈣玻璃。	第 1-7、10 類：2021/07/21，不包含本附錄第 21(b)項與第 39 項應用。
21(c)		鉛應用於硼矽酸鹽玻璃以外使用的瓷漆印刷油墨。	第 1-7、10 類：2021/07/21。
23		鉛用於細間距零件零件之表面處理，但不包括間距等於或小於 0.65mm 之連接器。	僅能適用於 2010/9/24 前就已置於市場上的電子電機產品之備用零件。
24	Directive (EU) 2018/737	通孔盤狀及平面陣列陶瓷多層電容器焊料所含的鉛	• 第 1-7、10 類：2021/07/21 • 除了體外診斷醫療設備和工業監控設備之外的第 8、9 類：2021/07/21 • 第 8 類的體外診斷醫療設備：2023/07/21 • 第 9 類工業監控設備/ 第 11 類：2024/07/21
25		表面傳導式電子發射顯示器 (SED) 的構件所用的氧化鉛，尤其是密封玻璃 (seal frit) 及 玻璃環 (frit ring) 中。	
26		紫外線藍黑燈管 (BLB)玻璃外罩所含的氧化鉛	2011/6/1
27		在大功率揚聲器 (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) 中作為轉換器焊料的鉛合金	2010/9/24
29	Directive (EU) 2019/174	第 69/493/EEC 號指令附件 1(第一、二、三及四類所指水晶玻璃含有的鉛)	第 1-7、10 類：2021/07/21 第 8 & 9 類的一般醫療設備和監控設備：2021/07/21 第 8 類的體外診斷醫療設備：2023/07/21 第 9 類工業監控設備/ 第 11 類：2024/07/21
30		音壓大於 100dB(A) 的大功率揚聲器中，與音圈轉換器連接電導體之電機/機械銲料中的鎘合金。	
31		無汞平板螢光燈(例如用於液晶螢幕、設計或工業照明)中的銲料所含的鉛 。	
32	Directive (EU) 2019/175	氪及氪雷射管中，使用於視窗結構的密封玻璃中的氧化鉛。	第 1-7、10 類：2021/07/21

序號	更新指令	排外項目	適用範圍及日期
			第 8 & 9 類的一般醫療設備和監控設備：2021/07/21 第 8 類的體外診斷醫療設備：2023/07/21 第 9 類工業監控設備/ 第 11 類：2024/07/21
33		用以焊接電源變壓器中直徑 100 微米及以下的幼身銅線的焊料中的鉛	
34	Directive (EU) 2018/738	水泥製微調電位器組件中的鉛	• 第 1-7、10 類：2021/07/21 • 除了體外診斷醫療設備和工業監控設備之外的第 8、9 類：2021/07/21 • 第 8 類的體外診斷醫療設備：2023/07/21 • 第 9 類工業監控設備/ 第 11 類：2024/07/21
36		直流等離子顯示器中，作為陰極濺射抑制劑中的汞含量最高可達 30 毫克	2010/7/1
37	Directive (EU) 2019/176	以硼酸鋅玻璃體為基礎的高壓二極體的電鍍層的鉛含量	第 1-7、10 類：2021/07/21 第 8 & 9 類的一般醫療設備和監控設備：2021/07/21 第 8 類的體外診斷醫療設備：2023/07/21 第 9 類工業監控設備/ 第 11 類：2024/07/21
38		用氧化鈹連接鋁製成的厚膜漿料中鎘和氧化鎘的含量	
39(a)		硒化鎘用於顯示照明應用中使用的鎘基半導體納米晶體量子點(< 0.2 µg Cd / mm2 顯示屏幕面積)	所有類別均為 2019/10/31
40	2012/51/EU	用於光敏電阻的模擬光耦合器專業音頻設備中的鎘	2013/12/31
41	2014/72/EU	使用於點火模組和其他電子電氣發動機控制系統中，電子電氣元件的焊料和最終表面材料以及使用於印刷電路板表面材料中的鉛	2018/12/31
42	Directive (EU) 2019/178	鉛應用於非道路專業用途設備的柴油或氣體燃料動力內燃機的軸承和襯套中： - 發動機總排量≥15 升; 或是 - 發動機總排量<15 升，發動機設計用於需要信號啟動和滿載之間的時間小於 10 秒的應用; 或定期維護通常在惡劣和骯髒的戶外環境中進行，例如採礦，建築和農業應用。	第 11 類：2024/07/21，不包括本附錄第 6(c)項所涵蓋的應用

附錄四 醫療設備和監測/控制設備中不受第 4(1)條款規定限制的應用

序號	更新指令	排外項目	適用範圍及日期
利用或檢測電離輻射的設備			
1		電離輻射檢測器中的鉛、鎘和汞	
2		X 射線管中軸承的鉛	
3		應用於電磁輻射擴大器的微通道板和毛細板中的鉛	
4		X 射線管和圖像增強器的玻璃熔合劑中的鉛，用於組合氣體雷射器和將電磁輻射轉換為電子的真空管的部件所用的玻璃熔合劑中的鉛。	
5		遮蔽電離輻射裝置中的鉛	
6		用以測試 X 射線物質中的鉛	
7		硬脂酸鉛 X 射線衍射晶體	
8		應用於可攜式 XRF 光譜感測器、感應器、偵測器和電極的鎘放射性同位素源，及以下應用	
8(1a)		應用於包含 pH 電極玻璃的離子選擇電極中的鉛和鎘	
8(1b)		應用於電化學氧檢測器中的鉛陽極	
8(1c)		應用於紅外線檢測器中的鉛、鎘和汞	
8(1d)		應用於低氯氯化汞、硫酸汞和氧化汞的參考電極中的汞	
其他應用			
9		氦鎘雷射中的鎘	
10		使用於原子吸收光譜儀光源燈中的鉛和鎘	
11		核磁共振造影儀(MRI)中作為超導和熱導合金中的鉛	
12	2014/9/EU	用於 MRI、SQUID 與 NMR(核磁共振儀)或 FTMS(傅立葉轉換質譜儀)偵測器中用來產生超導磁路金屬線的鉛和鎘。	2021/6/30
13		砝碼中的鉛。	
14		用於超音波轉換器的單晶壓電材料中的鉛。	
15		用於超音波轉換器的焊料中的鉛。	
16		用於高精密容量電容、損害測定電橋、高頻射頻(RF)開關、顯示器的繼電器中的汞與控制儀器中不超過 20mg 汞的繼電器。	
17		用於可攜式緊急除顫器焊料中的鉛。	
18		用於檢測範圍 8-14 μm 的高性能紅外線成像模組焊料中的鉛。	
19		用於 LCoS 顯示器中矽基液晶的鉛。	
20		用於 X 射線量測濾波器中的鎘。	
21	2014/2/EU	用於 X 射線影像/圖像增強器螢光塗料中的鎘成分。	2019/12/31 與 2020/1/1 以前就已投放到市場的 X 光系統備用零件。
22	2014/3/EU	用於 CT 和 MRI 的立體定位頭架與用於γ射線和粒子治療設備定位系統用的醋酸鉛標記。	2021/6/30
23	2014/1/EU	用於暴露在電離輻射的醫療器械的軸承磨損表面的合金鉛成分。	2021/6/30
24	2014/4/EU	用於 X 射線圖像增強器中密封鋁和鋼真空連接用的鉛元素。	2019/12/31

25	2014/6/EU	須持續用於-20 °C 之以下之正常操作和儲存用途的非磁性連接用針腳連接器系統的表面塗料鉛元素。	2021/6/30
26	2014/5/EU 2016/1028/EU	須持續用於-20 °C 之以下之正常操作和儲存用途的鉛元素： 用於印刷電路板的焊料； 用於電子電器零部件的端子塗層和印刷電路板的塗層； 用於連接電線與電纜的焊料； 用於連接傳感器和感應器的焊料； 鉛用於以下用途，且在-20°C 環境正常操作下能持續使用和儲存： 印刷電路板的焊料； 電子電器零件的終端塗層和印刷電路板的塗料； 用於連接電線與電纜的焊料； 用於連接傳感器和感應器的焊料； 對於設計用以在-150°C 週期性使用的裝置，其中測溫感測器電子連接部分使用的含鉛焊料。	2021/6/30
27	2014/7/EU	使用於 (a) 醫用磁共振成像設備為中心半徑 1 米為範圍的磁域，包括設計為此區域內這用於病人監護設備；或 (b) 用於粒子治療的迴旋加速器磁鐵，粒子束傳輸和方向控制的磁鐵表面 1 米距離的磁域。 鉛用於 焊料， 電子電氣零部件和印刷電路板的端子塗層， 連接電線、外殼和密封式連接器。	2020/6/30
28	2014/8/EU	將使用碲化鎘和碲鋅鎘的數字陣列探測器與印刷電路板焊接焊料的鉛。	2017/12/31
29	2014/10/EU	作為超導或熱導，用於醫療器材(第 8 類)和/或在工業監測和控制儀器，低溫致冷器(cryo-cooler)的冷頭(cold heads)和/或低溫致冷器的冷探針和/或低溫致冷器的等電位聯結系統中合金的鉛元素。	2021/6/30
30	2014/11/EU	用於 X 光圖像增強器中產生光陰極的鹼金屬釋放器(alkali dispensers)中的六價鉻。	2019/12/31 與在 2020/1/1 以前就已投放到市場作為 X 光系統備用零件
31	2014/15/EU	用於重複使用備件(reused spare parts)中的鉛、鎘和六價鉻，回收於 2014/7/22 前投放到歐盟市場的醫療器材和 2021/7/22 前投放到歐盟市場的第 8 類設備。	2021/7/21
31(a)	2016/585/EU	回收來自且用於醫療設備，包括體外診斷醫療設備或電子顯微鏡及其附件的維修和更新的備用部件中的鉛、鎘、六價鉻和多溴聯苯醚，如果再使用部件是在能追溯的 B to B 封閉回收系統中並且已向消費者通報者，豁免至： (a) 用於除體外診斷醫療設備外的醫療設備 2021/7/21 (b) 用於體外診斷醫療設備 2023/7/21； (c) 用於電子顯微鏡及其附件 2024/7/21。	刪除 31 點，新增 31(a)
32	2014/12/EU	用於正子放射斷層攝影整合磁共振成像設備的偵測器和數據擷取單元印刷電路板焊料中的鉛。	2019/12/31

33	2014/13/EU	用於指令 93/42/EEC 的歸類為第 IIa 和 IIb 類移動醫療設備的印刷電路板(攜帶式緊急除顫器除外)焊料中的鉛。	IIa 類：2016/6/30 IIb 類：2020/12/31
34	2014/16/EU	使用於體外光化學療法含有 BSP(BaSi2O5:Pb)磷的放電燈中螢光粉的活化劑鉛元素。	2021/6/22
35	2014/75/EU	於 2017/7/22 之前投放到市場上並用於工業監測和控制儀器中 LCD 背光模組中 CCFL 的汞不得超過 5 毫克。	2024/7/21
36	2014/74/EU	工業監測和控制儀器中，除了 C-press 之外其它他順應針連接系統中使用的鉛。	2020/12/31 與在 2021/1/1 以前就已投放於市場作為工業監測和控制儀器的備用零件.
37	2014/73/EU	使用於以下傳導係數量測應用鍍鉑的鉑電極中的鉛 針對實驗室量測未知濃度時使用大於一個級距以上的寬量測範圍應用(例如：範圍 0.1 mS/m 與 5 mS/m) 量測精確度須達+/– 1 %且需抗以下腐蝕性的電極 (i) 酸性溶液 pH < 1 (ii) 鹼性溶液 pH > 13 (iii) 含鹵素氣體的腐蝕性溶液 需測量高於 100 mS/m 的手持式設備	2018/12/31
38	2014/71/EU	應用於 X-ray 斷層掃描或是 X-ray 系統中，每個介面超過 500 個連接點的大面積晶元堆疊時，晶元界面間焊料中的鉛。	2019/12/31 與在 2020/1/1 以前就已投放於市場作為斷層掃描與 X 射線系統備用零件.
39	2014/70/EU	微通道面板中的鉛	醫療設備與監控控制設備：2021/7/21 體外診斷醫療器材：2023/7/21 工業用監控與控制設備：2024/7/21
40	2014/69/EU	工業監測和控制儀器中，額定電壓小於 125V AC 或 250V DC 之介電陶瓷電容器中的鉛	2020/12/31 與在 2021/1/1 以前就已投放於市場作為工業監測和控制儀器中的備用零件。
41	2015/573/EU	體外診療儀器中用於導電或電化學傳感器設備，使用鉛為熱安定劑的聚氯乙烯(Polyvinylchloride,PVC)材料。	2018/12/31
42	2015/574/EU	汞用於頻率大 50 MHz 的血管內超音波影像系統中電動旋轉連接器中。	2019/6/30
43	2016/1029/EU	工業用監控和控制儀器中，用來監測氧氣的赫希電池中的鎘陽極，靈敏度須達 10ppm 以下。	2023/7/15

Annex III - Exemption of RoHS Directive 2011/65/EU

No	Directive	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 2011/12/31; 3.5 mg may be used per burner after 2011/12/31 until 2012/12/31; 2.5 mg shall be used per burner after 2012/12/31
1(b)		For general lighting purposes ≥ 30 W and < 50 W：5 mg	Expires on 2011/12/31; 3.5 mg may be used per burner after 2011/12/31
1(c)		For general lighting purposes ≥ 50 W and < 150 W：5 mg	
1(d)		For general lighting purposes ≥ 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 2011/12/31; 7 mg may be used per burner after 2011/12/31
1(f)		For special purposes：5 mg	
1(g)	2014/14/EU	For general lighting purposes < 30 W with a lifetime equal or above 20 000 h: 3.5 mg	Expires on 2017/12/31
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 2011/12/31; 4 mg may be used per lamp after 2011/12/31
2(a)(2)		Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5)：5 mg	Expires on 2011/12/31; 3 mg may be used per lamp after 2011/12/31
2(a)(3)		Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8)：5 mg	Expires on 2011/12/31; 3.5 mg may be used per lamp after 2011/12/31
2(a)(4)		Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12)：5 mg	Expires on 2012/12/31; 3.5 mg may be used per lamp after 2012/12/31
2(a)(5)		Tri-band phosphor with long lifetime (≥ 25 000 h)：8 mg	Expires on 2011/12/31; 5 mg may be used per lamp after 2011/12/31
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 2012/4/13
2(b)(2)		Non-linear halophosphate lamps (all diameters)：15 mg	Expires on 2016/4/13
2(b)(3)		Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9)	No limitation of use until 2011/12/31; 15 mg may be used per lamp after 2011/12/31
2(b)(4)		Lamps for other general lighting and special purposes (e.g. induction lamps)	No limitation of use until 2011/12/31; 15 mg may be used per lamp after 2011/12/31
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 (≤ 500 mm)	No limitation of use until 2011/12/31; 3.5 mg may be used per lamp after 2011/12/31
3(b)		Medium length (> 500 mm and ≤ 1 500 mm)	No limitation of use until 2011/12/31; 5 mg may be used per lamp after

No	Directive	Exemption	Scope and dates of applicability
			2011/12/31
3(c)		Long length (> 1 500 mm)	No limitation of use until 2011/12/31; 13 mg may be used per lamp after 2011/12/31
4(a)		Mercury in other low pressure discharge lamps (per lamp)	No limitation of use until 2011/12/31; 15 mg may be used per lamp after 2011/12/31
4(b)		Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60:	
4(b)-I		P ≤ 155 W	No limitation of use until 2011/12/31; 30 mg may be used per burner after 2011/12/31
4(b)-II		155 W < P ≤ 405 W	No limitation of use until 2011/12/31; 40 mg may be used per burner after 2011/12/31
4(b)-III		P > 405 W	No limitation of use until 2011/12/31; 40 mg may be used per burner after 2011/12/31
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 2011/12/31; 25 mg may be used per burner after 2011/12/31
4(c)-II		155 W < P ≤ 405 W	No limitation of use until 2011/12/31; 30 mg may be used per burner after 2011/12/31
4(c)-III		P > 405 W	No limitation of use until 2011/12/31; 40 mg may be used per burner after 2011/12/31
4(d)		Mercury in High Pressure Mercury (vapour) lamps (HPMV)	Expires on 2015/4/13
4(e)		Mercury in metal halide lamps (MH)	
4(f)		Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	
4(g)	2014/76/EU	Mercury in hand crafted luminous discharge tubes used for signs, decorative or architectural and specialist lighting and light-artwork, where the mercury content shall be limited as follows: 20 mg per electrode pair + 0,3 mg per tube length in cm, but not more than 80 mg, for outdoor applications and indoor applications exposed to temperatures below 20 °C; 15 mg per electrode pair + 0,24 mg per tube length in cm, but not more than 80 mg, for all other indoor applications.	Expires on 2018/12/31
5(a)		Lead in glass of cathode ray tubes	
5(b)		Lead in glass of fluorescent tubes not exceeding 0.2 % by weight	

No	Directive	Exemption	Scope and dates of applicability
6(a)	Directive (EU) 2018/739	Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0.35 % lead by weight	• Categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments : 2021/07/21 • Category 8 in vitro diagnostic medical devices : 2023/07/21 • Category 9 industrial monitoring and control instruments, and for category 11 : 2024/07/21
6(a)-I		Lead as an alloying element in steel for machining purposes containing up to 0.35 % lead by weight and in batch hot dip galvanised steel components containing up to 0.2 % lead by weight	Categories 1-7 and 10 : 2021/07/21
6(b)	Directive (EU) 2018/740	Lead as an alloying element in aluminium containing up to 0.4 % lead by weight	• Categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments : 2021/07/21 • Category 8 in vitro diagnostic medical devices :2023/07/21 • Category 9 industrial monitoring and control instruments, and for category 11 : 2024/07/21
6(b)-I		Lead as an alloying element in aluminium containing up to 0.4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling	Categories 1-7 and 10 : 2021/07/21
6(b)-II		Lead as an alloying element in aluminium for machining purposes with a lead content up to 0.4 % by weight	Categories 1-7 and 10 : 2021/05/18
6(c)	Directive (EU) 2018/741	Copper alloy containing up to 4 % lead by weight	• Categories 1-7 and 10 : 2021/07/21 • Categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments : 2021/07/21 • Category 8 in vitro diagnostic medical devices : 2023/07/21 • Category 9 industrial monitoring and control instruments, and for category 11 : 2024/07/21
7(a)	Directive (EU) 2018/742	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)	• Categories 1-7 and 10 (except applications covered by point 24 of this Annex) : 2021/07/21 • Categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments : 2021/07/21 • Category 8 in vitro diagnostic medical devices : 2023/07/21 • Category 9 industrial monitoring and control instruments, and for category 11 : 2024/07/21
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	Directive (EU) 2018/736	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	• Categories 1-7 and 10 (except applications covered under point 34) : 2021/07/21

No	Directive	Exemption	Scope and dates of applicability
			• Categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments : 2021/07/21 • Category 8 in vitro diagnostic medical devices : 2023/07/21 • Category 9 industrial monitoring and control instruments, and for category 11 : 2024/07/21
7(c)-II	Directive (EU) 2019/169	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	Does not apply to applications covered by point 7(c)-I and 7(c)-IV of this Annex. Expires on: For Cat. 1-7 and 10: 2021/07/21 For Cat. 8 & 9: 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial/ Cat. 11: 2024/07/21
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 2013/1/1 and After that date may be used in spare parts for EEE placed on the market before 2013/1/1
7(c)-IV	Directive (EU) 2019/170	Lead in PZT based dielectric ceramic materials for capacitors which are part of integrated circuits or discrete semiconductors.	For Cat. 1-7 and 10: 2021/07/21 For Cat. 8 & 9: 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial/ Cat. 11: 2024/07/21
8(a)		Cadmium and its compounds in one shot pellet type thermal cut-offs	Expires on 2012/1/1 and After that date may be used in spare parts for EEE placed on the market before 2012/1/1
8(b)	Directive (EU) 2019/171	Cadmium and its compounds in electrical contacts	For Cat. 8 & 9: 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial/ Cat. 11: 2024/07/21

8(b)-I		Cadmium and its compounds in electrical contacts used in:
		- circuit breakers,
		- thermal sensing controls,
		- thermal motor protectors (excluding hermetic thermal motor protectors),
		- AC switches rated at:
		  ● 6 A and more at 250 V AC and more, or
		  ● 12 A and more at 125 V AC and more,
		- DC switches rated at 20 A and more at 18 V DC and more, and
		- switches for use at voltage supply frequency ≥ 200 Hz.
			For Cat. 1-7 and 10: 2021/07/21

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)	Directive (EU) 2017/1010	Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	For Cat. 8 & 9: 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial/ Cat. 11: 2024/07/21
9(b)-(I)		Lead in bearing shells and bushes for refrigerant-containing hermetic scroll compressors with a stated electrical power input equal or below 9 kW for heating, ventilation, air conditioning and refrigeration (HVACR) applications	For Cat. 1: 2019/07/21
11(a)		Lead used in C-press compliant pin connector systems	May be used in spare parts for EEE

No	Directive	Exemption	Scope and dates of applicability
			placed on the market before 2010/9/24
11(b)		Lead used in other than C-press compliant pin connector systems	Expires on 2013/1/1 and After that date may be used in spare parts for EEE placed on the market before 2013/1/1
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 2010/9/24
13(a)	Directive (EU) 2017/1011	Lead in white glasses used for optical applications	For other than below Cat. : 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial/ Cat. 11: 2024/07/21
13(b)	Directive (EU) 2017/1009	Cadmium and lead in filter glasses and glasses used for reflectance standards	For Cat. 8 & 9: 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial: 2024/07/21
13(b)-(I)		Lead in ion coloured optical filter glass types	For Cat. 1 to 7 & 10: 2021/07/21
13(b)-(II)		Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex	
13(b)-(III)		Cadmium and lead in glazes 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	Expired on 2011/1/1 and After that date may be used in spare parts for EEE placed on the market before 2011/1/
15	Directive (EU) 2019/172	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	For Cat. 8 & 9: 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial: 2024/07/21
15(a)		Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages - a semiconductor technology node of 90 nm or larger; - a single die of 300 mm2 or larger in any semiconductor technology node; - stacked die packages with die of 300 mm2 or larger, or silicon interposers of 300 mm2 or larger.	For Cat. 1 to 7 & 10: 2021/07/21
16		Lead in linear incandescent lamps with silicate coated tubes	Expires on 2013/9/1
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)2 MgSi2O7:Pb)	Expired on 2011/1/1
18(b)	Directive (EU) 2019/177	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)	For Cat. 1-7 and 10: 2021/07/21 For Cat. 8 & 9: 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial/ Cat. 11: 2024/07/21
18(b)-I		Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps containing phosphors such as BSP (BaSi2O5:Pb) when used in medical phototherapy equipment	Excluding applications covered by entry 34 of Annex IV For Cat. 5 & 8 : 2021/07/21
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 2011/6/1
20		Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal	Expires on 2011/6/1

No	Directive	Exemption	Scope and dates of applicability
		Displays (LCDs)	
21	Directive (EU) 2019/173	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	For Cat. 8 & 9: 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial/ Cat. 11: 2024/07/21
21(a)		Cadmium when used in colour printed glass to provide filtering functions, used as a component in lighting applications installed in displays and control panels of EEE	Applies to Cat. 1-7 and 10 except applications covered by entry 21(b) or entry 39 and expires on 2021/07/21.
21(b)		Cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	Applies to Cat. 1-7 and 10 except applications covered by entry 21(b) or entry 39 and expires on 2021/07/21
21(c)		Lead in printing inks for the application of enamels on other than borosilicate glasses	Applies to Cat. 1-7 and 10 and expires on 2021/07/21.
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 2010/9/24
24	Directive (EU) 2018/737	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	• Categories 1-7 and 10 : 2021/07/21 • Categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments : 2021/07/21 • Category 8 in vitro diagnostic medical devices : 2023/07/21 • Category 9 industrial monitoring and control instruments, and for category 11 : 2024/07/21
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 2011/6/1
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 2010/9/24
29	Directive (EU) 2019/174	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	For Cat. 1-7 and 10: 2021/07/21 For Cat. 8 & 9: 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial/ Cat. 11: 2024/07/21
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	Directive (EU) 2019/175	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	For Cat. 1-7 and 10: 2021/07/21 For Cat. 8 & 9: 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial/ Cat. 11: 2024/07/21
33		Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers	
34	Directive (EU) 2018/738	Lead in cermet-based trimmer potentiometer elements	• Categories 1-7 and 10 : 2021/07/21 • Categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and

No	Directive	Exemption	Scope and dates of applicability
			control instruments : 2021/07/21 • Category 8 in vitro diagnostic medical devices : 2023/07/21 • Category 9 industrial monitoring and control instruments, and for category 11 : 2024/07/21
36		Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display	Expired on 2010/7/1
37	Directive (EU) 2019/176	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	For Cat. 1-7 and 10: 2021/07/21 For Cat. 8 & 9: 2021/07/21; For Sub-Cat. 8 in-vitro: 2023/07/21; For Sub-Cat. 9 industrial/ Cat. 11: 2024/07/21
38		Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	
39(a)		Cadmium selenide in downshifting cadmium-based semiconductor nanocrystal quantum dots for use in display lighting applications (< 0.2 µg Cd per mm2 of display screen area)	Expires for all categories on 2019/10/31
40	2012/51/EU	Cadmium in photoresistors for analogue opto couplers applied in professional audio equipment	Expires on 2013/12/31
41	2014/72/EU	lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems.	Expires on 2018/12/31
42	Directive (EU) 2019/178	Lead in bearings and bushes of diesel or gaseous fuel powered internal combustion engines applied in non-road professional use equipment: - with engine total displacement ≥ 15 litres; or - with engine total displacement < 15 litres and the engine is designed to operate in applications where the time between signal to start and full load is required to be less than 10 seconds; or regular maintenance is typically performed in a harsh and dirty outdoor environment, such as mining, construction, and agriculture applications.	Applies to category 11, excluding applications covered by entry 6(c) of this Annex. Expires on 2024/07/21

Annex IV –

Applications exempted from the restriction in Article 4(1) specific to medical devices and monitoring and control instruments

No	Directive	Exemption	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	
8(1a)		Lead and cadmium in ion selective electrodes including glass of pH electrodes.	
8(1b)		Lead anodes in electrochemical oxygen sensors.	
8(1c)		Lead, cadmium and mercury in infra-red light detectors.	
8(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	2014/9/EU	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 2021/6/30
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 20 mg 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 μm.	
19		Lead in Liquid crystal on silicon (LCoS) displays.	
20		Cadmium in X-ray measurement filters.	
21	2014/2/EU	Cadmium in phosphor coatings in image intensifiers for X-ray images until Dec 31, 2019 and in spare parts for X-ray systems placed on the EU market before Jan 01, 2020.	
22	2014/3/EU	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 2021/6/30
23	2014/1/EU	Lead as an alloying element for bearings and wear surfaces in medical equipment exposed to ionising radiation.	Expires on 2021/6/30
24	2014/4/EU	Lead enabling vacuum tight connections between aluminium and steel in X-ray image intensifiers. (Directive)	Expires on 2019/12/31
25	2014/6/EU	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 2021/6/30

No	Directive	Exemption	Scope and dates of applicability
26	2014/5/EU 2016/1028/EU	Lead in the following applications that are used durably at a temperature below – 20 °C under normal operating and storage conditions: (a) solders on printed circuit boards; (b) termination coatings of electrical and electronic components and coatings of printed circuit boards; (c) solders for connecting wires and cables; (d) solders connecting transducers and sensors. 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 2021/6/30
27	2014/7/EU	Lead in solders, termination coatings of electrical and electronic components and printed circuit boards, connections of electrical wires, shields and enclosed connectors, which are used in (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 2020/6/30
28	2014/8/EU	Lead in solders for mounting cadmium telluride and cadmium zinc telluride digital array detectors to printed circuit boards.	Expires on 2017/12/31
29	2014/10/EU	Lead in alloys, as a superconductor or thermal conductor, used in cryo-cooler cold heads and/or in cryo-cooled cold probes and/or in cryo-cooled equipotential bonding systems, in medical devices (category 8) and/or in industrial monitoring and control instruments.	Expires on 2021/6/30
30	2014/11/EU	Hexavalent chromium in alkali dispensers used to create photocathodes in X-ray image intensifiers until Dec 31, 2019 and in spare parts for X-ray systems placed on the EU market before Jan 01, 2020.	
31	2014/15/EU	Lead, cadmium and hexavalent chromium in reused spare parts, recovered from medical devices placed on the market before Jul 22, 2014 and used in category 8 equipment placed on the market before Jul 22, 2021, provided that reuse takes place in auditable closed-loop business-to-business return systems, and that the reuse of parts is notified to the consumer.	Expires on 2021/7/21
31(a)	2016/585/EU	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) 2021/07/21 for the use in medical devices other than in vitro diagnostic medical devices; (b) 2023/07/21 for the use in in vitro diagnostic medical devices; (c) 2024/07/21 for the use in electron microscopes and their accessories.’	point 31 is deleted
32	2014/12/EU	Lead in solders on printed circuit boards of detectors and data acquisition units for Positron Emission Tomographs which are integrated into Magnetic Resonance Imaging equipment.	Expires on 2019/12/31

No	Directive	Exemption	Scope and dates of applicability
33	2014/13/EU	Lead in solders on populated printed circuit boards used in Directive 93/42/EEC class IIa and IIb mobile medical devices other than portable emergency defibrillators.	Class IIa: 2016/6/30 Class IIb: 2020/12/31
34	2014/16/EU	Lead as an activator in the fluorescent powder of discharge lamps when used for extracorporeal photopheresis lamps containing BSP (BaSi2O5: Pb) phosphors.	Expires on 2021/7/22
35	2014/75/EU	Mercury in cold cathode fluorescent lamps for back-lighting liquid crystal displays, not exceeding 5 mg per lamp, used in industrial monitoring and control instruments placed on the market before 22 July 2017.	Expires on 2024/7/21
36	2014/74/EU	Lead used in other than C-press compliant pin connector systems for industrial monitoring and control instruments.	2020/12/31 May be used in spare parts for industrial monitoring and control instruments placed on the market before 2021/1/1.
37	2014/73/EU	Lead in platinized platinum electrodes used for conductivity measurements where at least one of the following conditions applies: wide-range measurements with a conductivity range covering more than 1 order of magnitude (e.g. range between 0,1 mS/m and 5 mS/m) in laboratory applications for unknown concentrations; measurements of solutions where an accuracy of +/– 1 % of the sample range and where high corrosion resistance of the electrode 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; measurements of conductivities above 100 mS/m that must be performed with portable instruments.	Expires on 2018/12/31
38	2014/71/EU	Lead in solder in one interface of large area stacked die elements with more than 500 interconnects per interface which are used in X-ray detectors of computed tomography and X-ray systems.	2019/12/31 May be used in spare parts for CT and X-ray systems placed on the market before 2020/1/1
39	2014/70/EU	Lead in micro-channel plates (MCPs) used in equipment.	medical devices and monitoring and control instruments: 2021/7/21 in-vitro diagnostic medical devices: 2023/7/21 industrial monitoring and control instruments: 2024/7/21
40	2014/69/EU	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC for industrial monitoring and control instruments.	2020/12/31 May be used in spare parts for industrial monitoring and control instruments placed on the market before 2021/1/1
41	2015/573/EU	Lead as a thermal stabiliser in polyvinyl chloride (PVC) used as base material in amperometric, potentiometric and conductometric electrochemical sensors which are used in in-vitro diagnostic medical devices for the analysis of blood and other body fluids and body gases.	Expires on 2018/12/31
42	2015/574/EU	Mercury in electric rotating connectors used in intravascular ultrasound imaging systems capable of high operating frequency (> 50 MHz) modes of operation.	Expires on 2019/6/30
43	2016/1029/EU	Cadmium anodes in Hersch cells for oxygen sensors used in industrial monitoring and control instruments, where sensitivity below 10 ppm is required.	Expires on 2023/7/15