验证报告

Verification Report

报告编号 A2220144140102001E
Report No. A2220144140102001E

CENTRE TESTING INTERNATIONAL

报告抬头公司名称 Company Name shown on Report	捷捷半导体有限公司 JIEJIE SEMICONDUCTOR CO.,LTD.
地 址 Address	江苏省南通市苏通科技产业园井冈山路 6 号 NO.6,JINGGANGSHAN ROAD,SU TONG INDUSTRIAL PARK,NANTONG CITY,JIANGSU PROVINCE

****

结论 Conclusion

测试样品 Tested Sample	依据标准/指令 According to standard/directive	结果 Result
提交样品 Submitted Sample	欧盟 RoHS 指令 2011/65/EU 及其修订指令(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863	符合 PASS

****

符合表示检测结果满足欧盟 RoHS 指令 2011/65/EU 及其修订指令(EU) 2015/863 要求的限值。
PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment(EU) 2015/863.

主检 Tested by	夏益瑶	审核 Reviewed by	朱静
批准 Approved by	于茜	日期 Date	2022.05.11

于茜
技术经理 Technical Manager

No. R199371905

天津华测检测认证有限公司
Centre Testing International (Tianjin) Co., Ltd.

天津市东丽开发区先锋东路 99 号三层、五层
3&5/F., No.99, Xianfeng East Road, Dongli Development Area, Tianjin, China

验证报告
Verification Report

报告内容 Report Content

验证报告
Verification Report

以下测试之样品及样品信息由申请者提供并确认 The following sample(s)and sample information was/were submitted and identified by/on the behalf of the applicant

样品名称 Sample Name	T2
样品接收日期	2022.04.18
Sample Received Date	Apr. 18, 2022
样品检测日期	2022.04.18-2022.05.11
Testing Period	Apr. 18, 2022 to May 11, 2022

检测要求	参考欧盟 RoHS 指令 2011/65/EU 及其修订指令(EU) 2015/863, 对所提交样品中的铅(Pb)、镉(Cd)、汞(Hg)、六价铬(Cr(VI))、多溴联苯(PBBs)、多溴二苯醚(PBDEs)和邻苯二甲酸酯【邻苯二甲酸二正丁酯(DBP)、邻苯二甲酸丁基苄酯(BBP)、邻苯二甲酸二 (2-乙基己基)酯(DEHP)和邻苯二甲酸二异丁酯(DIBP)】进行验证测试。
Test Requested	With reference to RoHS Directive 2011/65/EU with amendment (EU) 2015/863, to conduct verification test for Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs) and Phthalates (Dibutyl phthalate(DBP), Benzylbutyl phthalate(BBP), Di-2-ethylhexyl phthalate(DEHP), Diisobutyl phthalate(DIBP)) in the submitted samples.

验证报告
Verification Report

样品图片 Photo(s) of the Sample

成品 Final Product

验证报告
Verification Report

检测依据 Test Method

A. IEC 62321-3-1:2013 对管控元素的筛选限值 Screening limits for regulated elements according to IEC 62321-3-1:2013 (单位 Unit: mg/kg)

测试元素 Element(s)	聚合物 Polymers	金属 Metals	合成材料 Composite material
Pb	BL≤(700-3σ)<X <(1300+3σ)≤OL	BL≤(700-3σ)<X <(1300+3σ)≤OL	BL≤(500-3σ)<X <(1500+3σ)≤OL
Cd	BL≤(70-3σ)<X <(130+3σ) ≤OL	BL≤(70-3σ)<X <(130+3σ) ≤OL	LOD<X<(150+3σ)≤ OL
Hg	BL≤(700-3σ)<X <(1300+3σ)≤OL	BL≤(700-3σ)<X <(1300+3σ)≤OL	BL≤(500-3σ)<X <(1500+3σ)≤OL
Cr	BL≤(700-3σ)< X	BL≤(700-3σ)< X	BL≤(500-3σ)< X
Br	BL≤(300-3σ)< X	N/A	BL≤(250-3σ)< X

B. 邻苯二甲酸酯的筛选限值 Screening limits for Phthalates

测试项目 Test Item(s)	筛选限值 Screening limits(单位 Unit: mg/kg)
邻苯二甲酸二正丁酯 Dibutyl phthalate(DBP)	BL≤600 <X
邻苯二甲酸丁基苄酯 Benzylbutyl phthalate(BBP)	BL≤600 <X
邻苯二甲酸二(2-乙基己基)酯 Di-2-ethylhexyl phthalate(DEHP)	BL≤600 <X
邻苯二甲酸二异丁酯 Diisobutyl phthalate(DIBP)	BL≤600 <X

验证报告
Verification Report

C. 化学测试 Chemical Test

测试项目 Tested Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)	方法检出限 MDL	限值 Limit
铅 Lead (Pb)	IEC 62321-5:2013	ICP-OES	10 mg/kg	1000 mg/kg
	参考 IEC 62321-5:2013 Refer to IEC 62321-5:2013		10 mg/kg	
镉 Cadmium (Cd)	IEC 62321-5:2013	ICP-OES	10 mg/kg	100 mg/kg
	参考 IEC 62321-5:2013 Refer to IEC 62321-5:2013		10 mg/kg	
汞 Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES	10 mg/kg	1000 mg/kg
	参考 Refer to IEC 62321-4:2013+AMD1:2017 CSV		10 mg/kg	
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-2:2017	UV-Vis	20 mg/kg	1000 mg/kg
	IEC 62321-7-1:2015		0.10 μg/cm^2 (LOQ)	
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS	100 mg/kg	1000 mg/kg
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS	100 mg/kg	1000 mg/kg
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS	50 mg/kg	单项 1000 mg/kg 1000 mg/kg for each

备注 Remark:

- BL =低于筛选限值 Under the screening limit
- OL =高于筛选限值 Above the screening limit
- X =需要做进一步测试的范围 The range of needing to do further testing
- 3σ=表明分析仪器的重现性 The reproducibility of analytical instruments
- N/A=不适合 Not applicable
- LOD=方法检出限 Detection limit
- LOQ = 定量限，六价铬的定量限为 0.10μg/cm^2 Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm^2

验证报告
Verification Report

检测结果 Test Result(s)

样品序号 Sample No.	样品描述 Sample Description	测试项目 Tested Items	XRF 扫描结果 XRF Screening Test	邻苯二甲酸酯筛选结果 Phthalates Screening Test	化学测试结果 Chemical Test (mg/kg)	结论 Conclusion	样品提交/再次提交日期 Sample Received/ Resubmitted Date
1.4	带有淡蓝色镀层的金属 Metal with light blue plating	Pb	BL	/	/	符合 PASS	2022.04.23 Apr. 23, 2022
		Cd	BL	/	/		
		Hg	BL	/	/		
		Cr(Cr(VI))	IN	/	N.D. ▼		
		Br(PBBs&PBDEs)	N/A	/	/		
		DBP	N/A	/	/		
		BBP	N/A	/	/		
		DEHP	N/A	/	/		
		DIBP	N/A	/	/		
1.5	白色塑料 White plastic	Pb	BL	/	/	符合 PASS	2022.04.23 Apr. 23, 2022
		Cd	BL	/	/		
		Hg	BL	/	/		
		Cr(Cr(VI))	BL	/	/		
		Br(PBBs&PBDEs)	IN	/	N.D.		
		DBP	N/A	BL	/		
		BBP	N/A	BL	/		
		DEHP	N/A	BL	/		
		DIBP	N/A	BL	/		
1.6	带有银色镀层的金属 Metal with silvery plating	Pb	BL	/	/	符合 PASS	2022.04.23 Apr. 23, 2022
		Cd	BL	/	/		
		Hg	BL	/	/		
		Cr(Cr(VI))	BL	/	/		
		Br(PBBs&PBDEs)	N/A	/	/		
		DBP	N/A	/	/		
		BBP	N/A	/	/		
		DEHP	N/A	/	/		
		DIBP	N/A	/	/		
1.7	带有银色镀层的金属 Metal with silvery plating	Pb	BL	/	/	符合 PASS	2022.04.23 Apr. 23, 2022
		Cd	BL	/	/		
		Hg	BL	/	/		
		Cr(Cr(VI))	BL	/	/		
		Br(PBBs&PBDEs)	N/A	/	/		
		DBP	N/A	/	/		
		BBP	N/A	/	/		
		DEHP	N/A	/	/		
		DIBP	N/A	/	/		

验证报告
Verification Report

样品序号 Sample No.	样品描述 Sample Description	测试项目 Tested Items	XRF 扫描结果 XRF Screening Test	邻苯二甲酸酯筛选结果 Phthalates Screening Test	化学测试结果 Chemical Test (mg/kg)	结论 Conclusion	样品提交/再次提交日期 Sample Received/ Resubmitted Date
1.10	银色金属 Silvery metal	Pb	BL	/	/	符合 PASS	2022.04.23 Apr. 23, 2022
		Cd	BL	/	/		
		Hg	BL	/	/		
		Cr(Cr(VI))	BL	/	/		
		Br(PBBs&PBDEs)	N/A	/	/		
		DBP	N/A	/	/		
		BBP	N/A	/	/		
		DEHP	N/A	/	/		
		DIBP	N/A	/	/		
1.11	芯片 Chip	Pb	OL	/	#1＞50%	符合 PASS	2022.04.23 Apr. 23, 2022
		Cd	BL	/	/		
		Hg	BL	/	/		
		Cr(Cr(VI))	BL	/	/		
		Br(PBBs&PBDEs)	BL	/	/		
		DBP	N/A	BL	/		
		BBP	N/A	BL	/		
		DEHP	N/A	BL	/		
		DIBP	N/A	BL	/		
1.12	铜色金属 Cupreous metal	Pb	BL	/	/	符合 PASS	2022.04.23 Apr. 23, 2022
		Cd	BL	/	/		
		Hg	BL	/	/		
		Cr(Cr(VI))	BL	/	/		
		Br(PBBs&PBDEs)	N/A	/	/		
		DBP	N/A	/	/		
		BBP	N/A	/	/		
		DEHP	N/A	/	/		
		DIBP	N/A	/	/		
1.13	芯片 Chip	Pb	OL	/	#1＞70%	符合 PASS	2022.04.23 Apr. 23, 2022
		Cd	OL	/	N.D.		
		Hg	BL	/	/		
		Cr(Cr(VI))	BL	/	/		
		Br(PBBs&PBDEs)	BL	/	/		
		DBP	N/A	BL	/		
		BBP	N/A	BL	/		
		DEHP	N/A	BL	/		
		DIBP	N/A	BL	/		

验证报告
Verification Report

备注 Remark:

- N.D. = 未检出 (小于方法检出限或定量限)
  N.D. = Not Detected (<MDL or LOQ)
- MDL = Method Detection Limit
- mg/kg = ppm = 百万分之一 parts per million
  mg/kg = ppm = parts per million
- 1000 mg/kg = 0.1%
- / = 未检测 Not tested
  / = Not tested
- IN = 不确定，需要进一步化学测试确认
  IN = Uncertain, Further chemical test
- N/A = 不适合 Not applicable
  N/A = Not applicable
- BL =低于筛选限值
  BL = Under the screening limit
- OL =高于筛选限值，需进一步化学测试确认
  OL = Further chemical test will be conducted while the result is above the screening limit
- ▼六价铬浓度小于 0.10 μg/cm^2，样品未检出六价铬。
  ▼The sample is negative for Cr(VI) − The Cr(VI) concentration is below 0.10 μg/cm^2.
  The coating is considered a non-Cr(VI) based coating.
- 对于多溴联苯（PBBs）和多溴二苯醚（PBDEs），XRF 筛选时其结果显示的是总溴含量；对于六价铬，XRF 筛选时其结果显示的是总铬含量。When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to screen Chromium exclusively.
- #1 根据客户声明，样品涉及欧盟 RoHS 指令 2011/65/EU 豁免项第 7(a)条：高温熔融焊料中的铅（即：铅基合金中铅含量≥85%（Wt））。According to the client's statement, the material of the sample(s) fall into exemption items 7(a) according to EU Directive 2011/65/EU: Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).
- 下表格涉及到引用的样品本次未测试。根据客户声明，"引用报告编号-样品序号"列与"样品序号"列对应的样品为同材质。
  The samples with the reference information in the table below are non-tested in this report. According to the client's statement, the material of the samples in the column "Reference Report No. -Sample No. " in the table above are the same as the "Sample No.".

样品序号 Sample No.	引用报告编号-样品序号 Reference Report No. -Sample No.
1.1	A2220144140101001E-1.1
1.2	A2220144140101001E-1.2

验证报告
Verification Report

样品序号 Sample No.	引用报告编号-样品序号 Reference Report No. -Sample No.
1.3	A2220144140101001E-1.3
1.8	A2220144140101001E-1.5
1.9	A2220144140101001E-1.6
1.14	A2220144140101001E-1.10
1.15	A2220144140101001E-1.12
1.16	A2220144140101001E-1.14

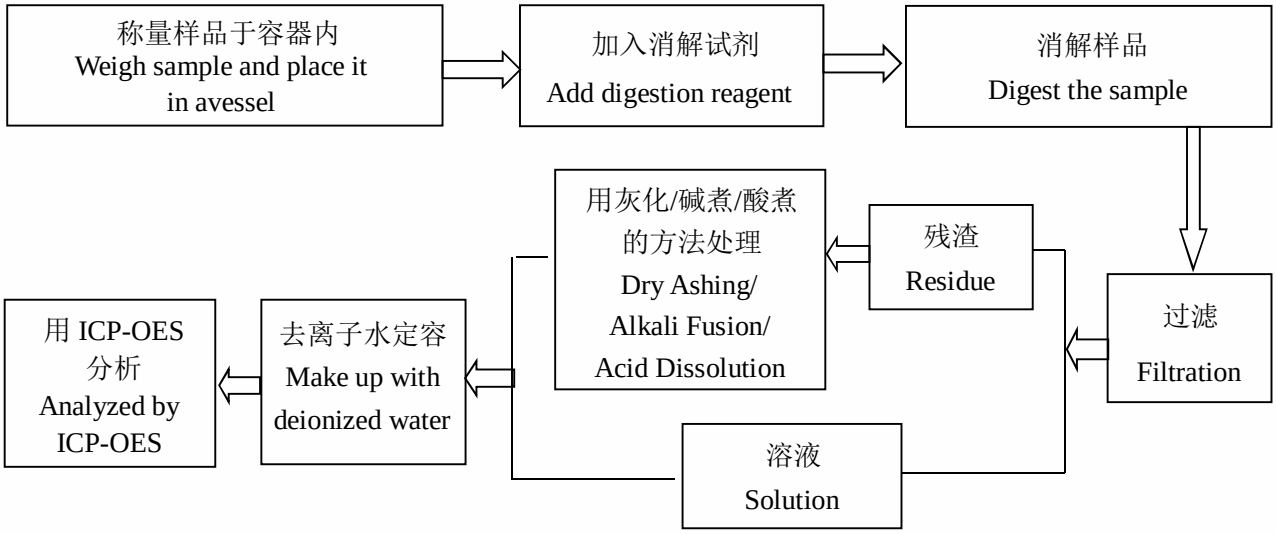
注释： **本报告中的数据结果供科研、教学、企业内部质量控制、企业产品研发等目的用。**

Note: **The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.**

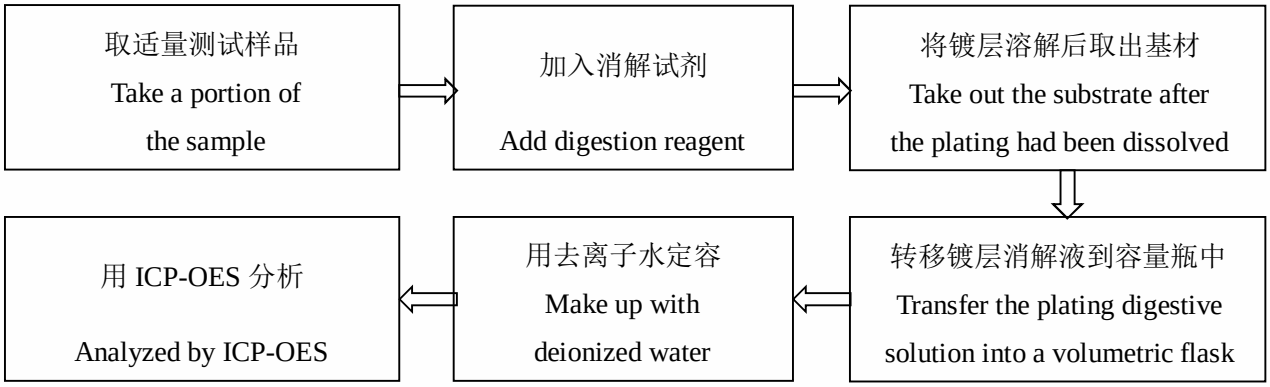
检测流程 Test Process

1. 铅 Lead (Pb), 镉 Cadmium (Cd)

1) IEC 62321-5:2013

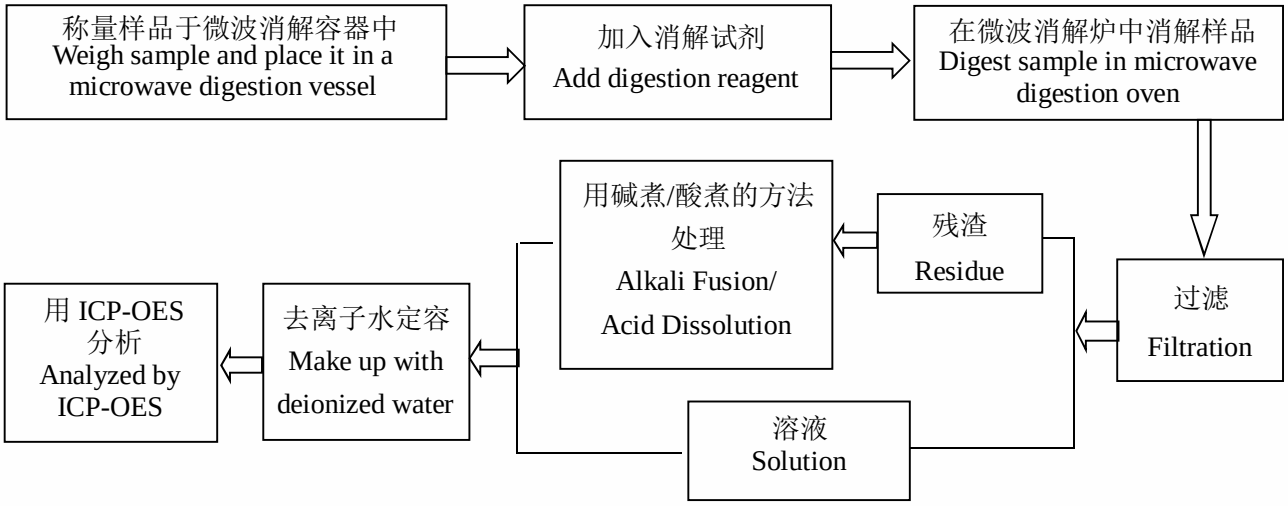


2) 参考 Refer toIEC 62321-5:2013

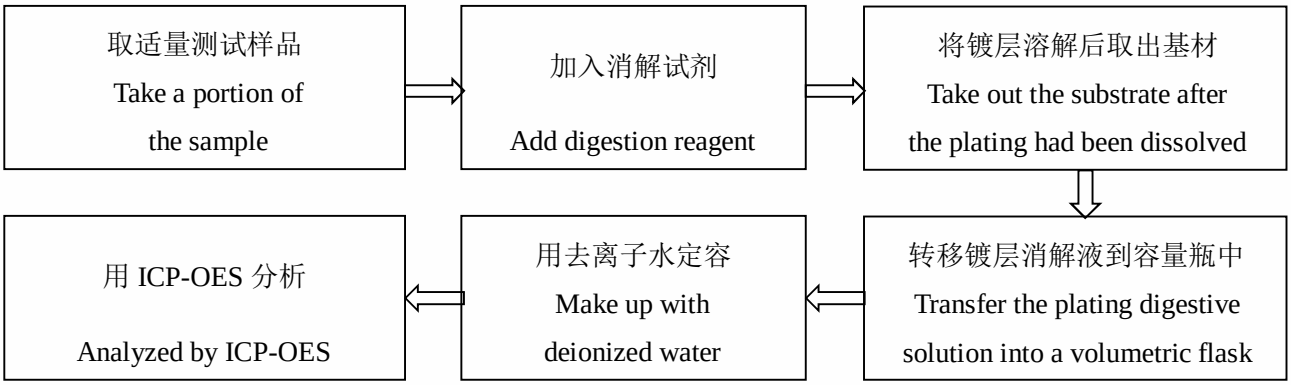


2. 汞 Mercury(Hg)

1) IEC 62321-4:2013+AMD1:2017 CSV

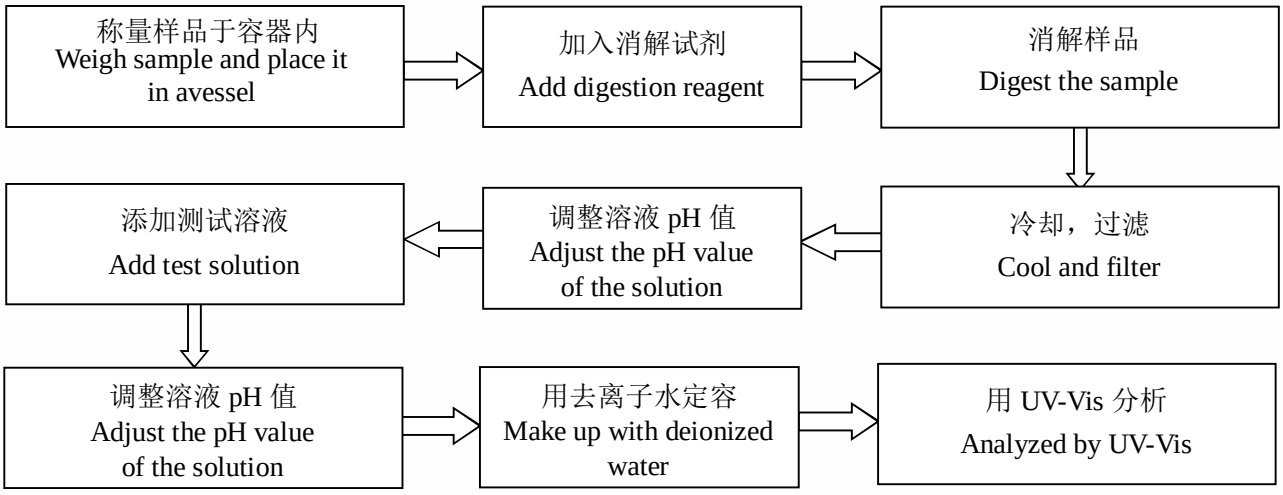


2) 参考 Refer to IEC 62321-4:2013+AMD1:2017 CSV

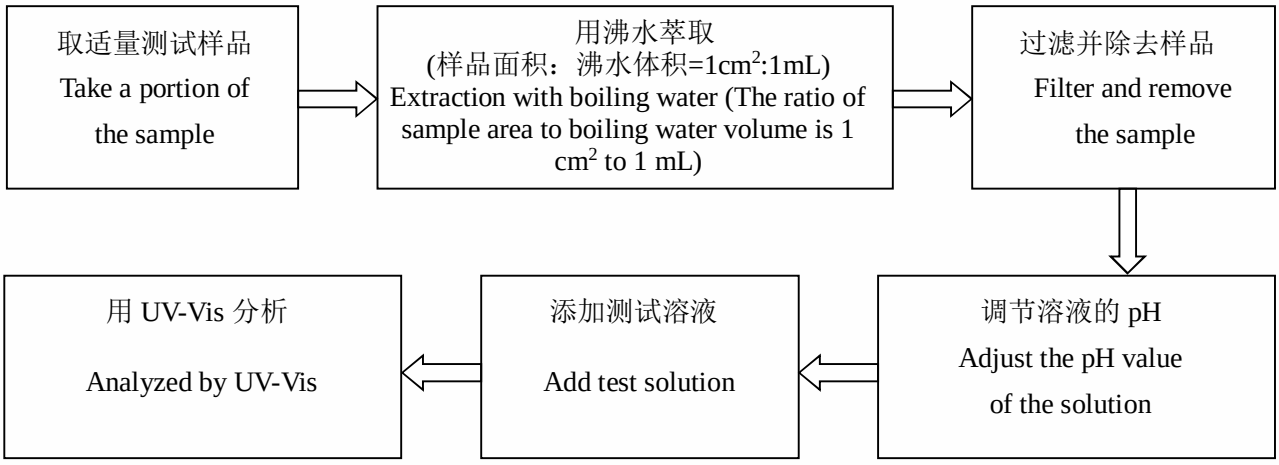


3. 六价铬(Cr(VI)) Hexavalent Chromium (Cr(VI))

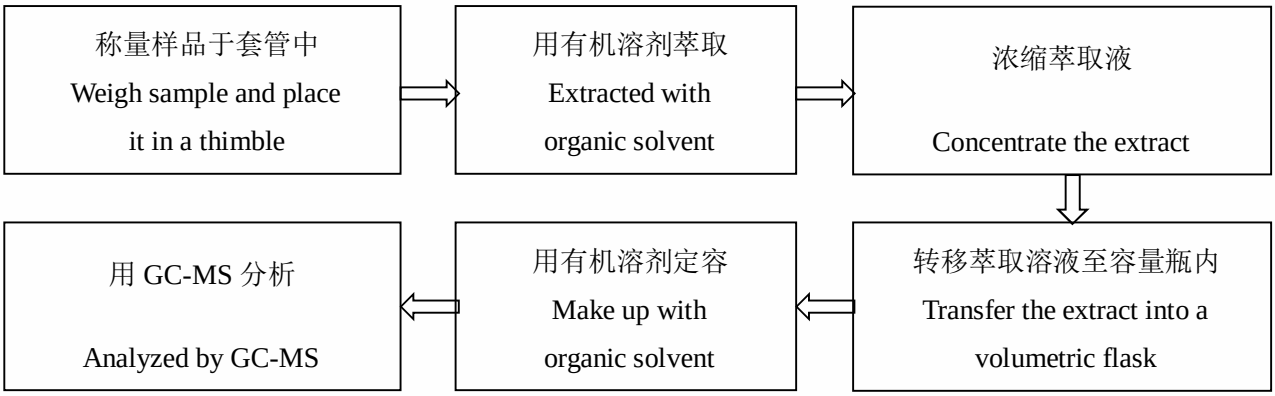
1) IEC62321-7-2:2017



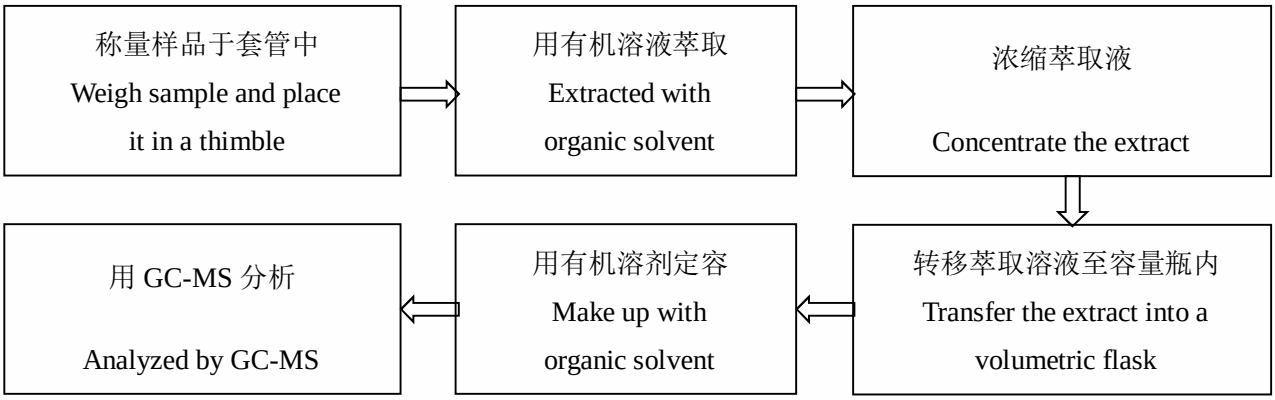
2) IEC 62321-7-1:2015



4. 多溴联苯 Polybrominated Biphenyls (PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)

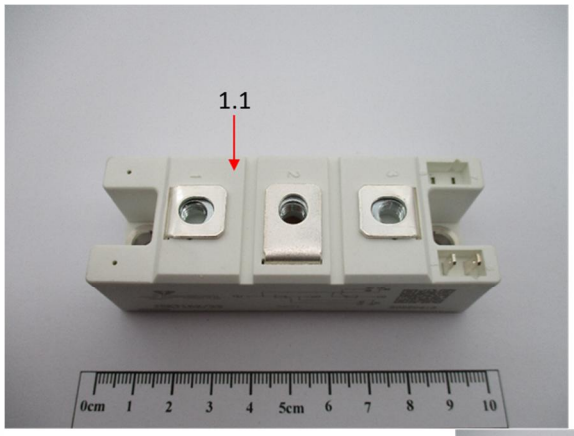


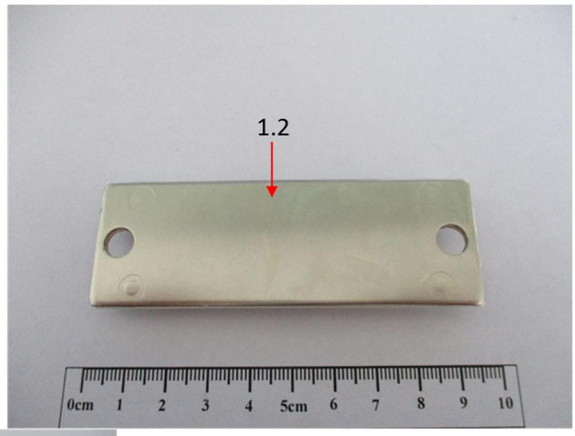
5. 邻苯二甲酸酯 Phthalates(DBP, BBP, DEHP, DIBP)

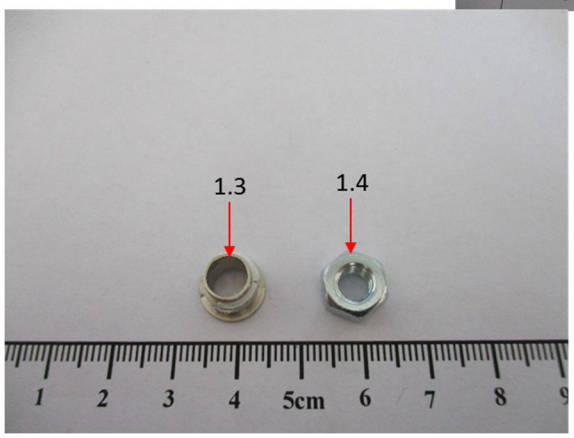


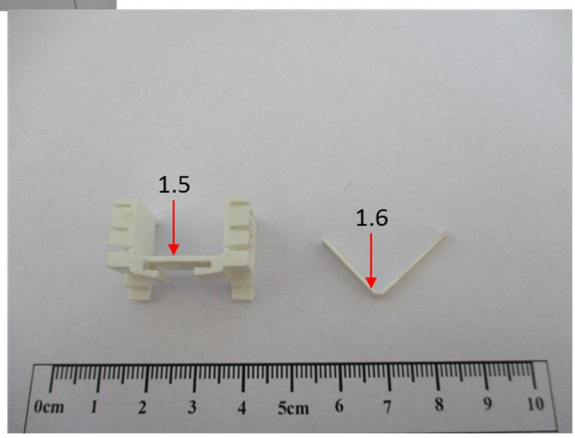
验证报告
Verification Report

测试部件图片 Photo(s) of the Tested Component(s)



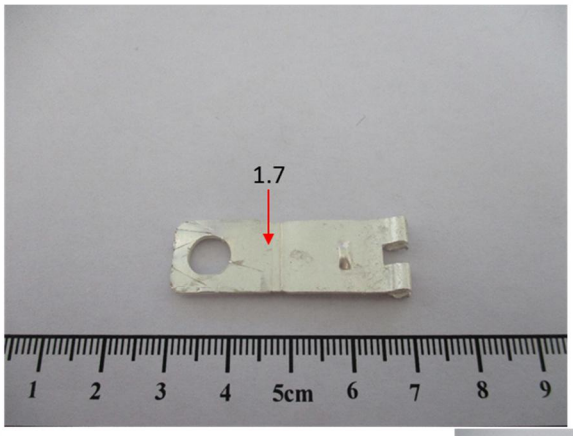


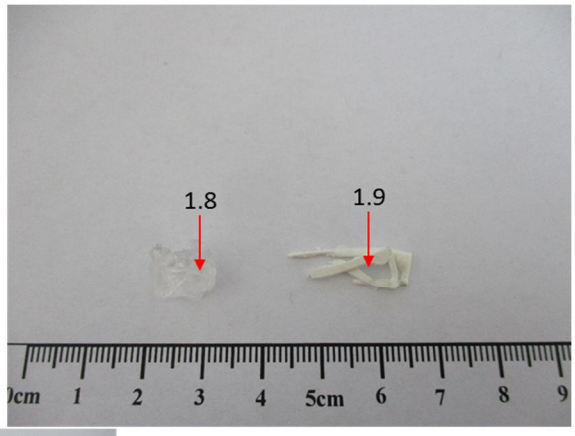


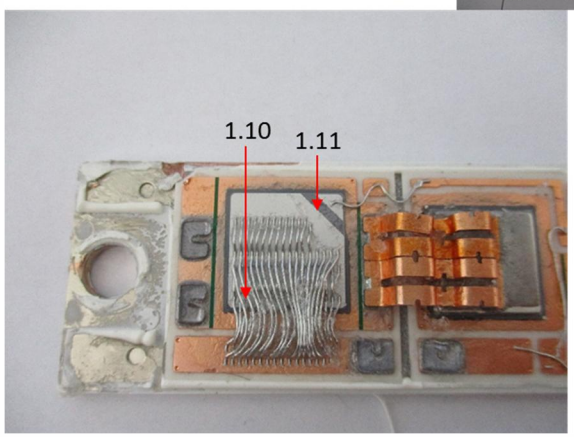


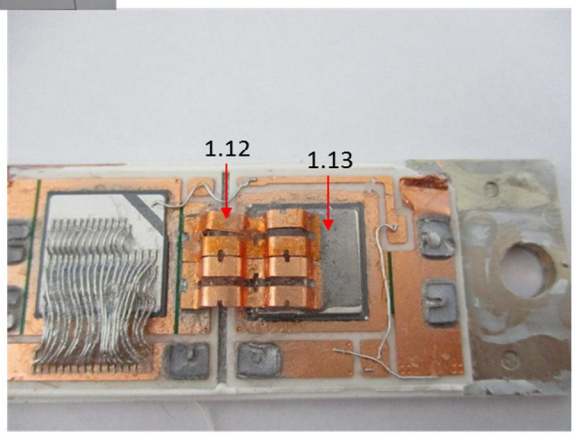
验证报告
Verification Report

测试部件图片 Photo(s) of the Tested Component(s)



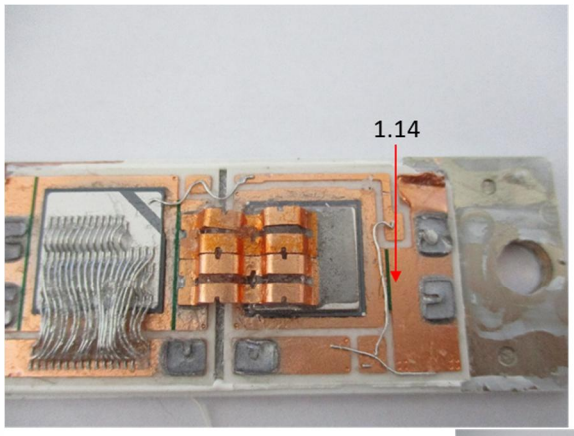


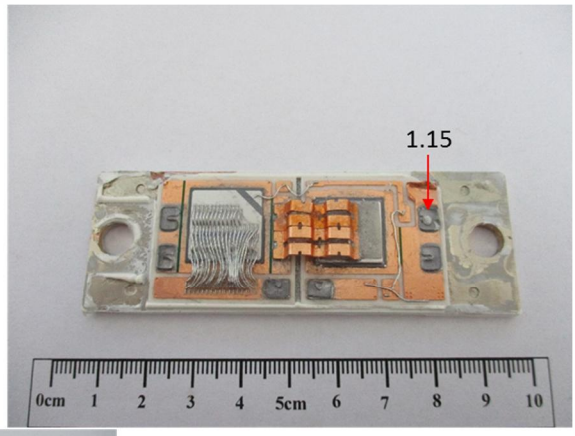


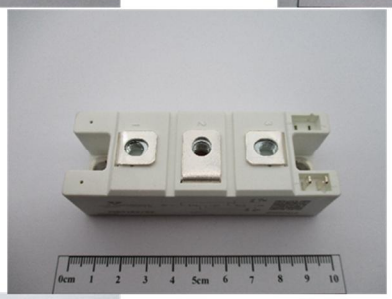


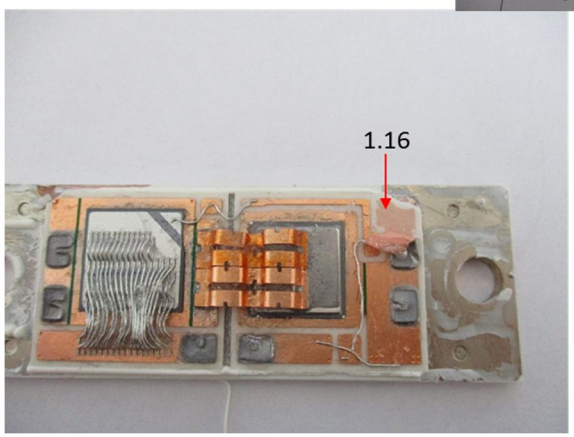
验证报告
Verification Report

测试部件图片 Photo(s) of the Tested Component(s)









验证报告
Verification Report

RoHS 指令豁免项目 Exempted Items of RoHS Directive

根据2011/65/EU及其修订指令，目前附件III豁免列表共计45项。

In accordance with Directive 2011/65/EU as amended, there are 45 exemption items in Annex III of 2011/65/EU altogether.

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner) : 单端（紧凑）荧光灯中的汞含量不得超过（每灯）：	
1(a)	For general lighting purposes < 30 W: 5 mg 一般照明用途，小于 30W: 5mg	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 2011 年 12 月 31 日到期；2011 年 12 月 31 日至 2012 年 12 月 31 日按照 3.5mg/灯；2012 年 12 月 31 日之后按照 2.5mg/灯
1(b)	For general lighting purposes ≥ 30 W and < 50 W: 5 mg 一般照明用途，30 W≤功率<50W：5mg	Expires on 31 December 2011; 3,5 mg may be used per burner after 31 December 2011 2011 年 12 月 31 日到期; 2011 年 12 月 31 日后按照 3.5mg/灯
1(c)	For general lighting purposes ≥ 50 W and < 150 W: 5 mg 一般照明用途，50 W≤功率<150W：5mg	
1(d)	For general lighting purposes ≥ 150 W: 15 mg 一般照明用途，功率≥150W：15mg	
1(e)	For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm 一般照明用途，圆形或者方形结构，且管直径≤17mm	No limitation of use until 31 December 2011; 7 mg may be used per burner after 31 December 2011 2011 年 12 月 31 日前没有使用限制; 2011 年 12 月 31 日后按照 7mg/灯。
1(f)	For special purposes: 5 mg 特殊用途：5mg	
1(g)	For general lighting purposes < 30 W with a lifetime equal or above 20 000 h: 3,5 mg 一般照明用途，功率小于 30W、使用寿命大于 20000 小时：3.5mg	Expires on 31 December 2017 2017 年 12 月 31 日到期
2(a)	Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp): 用于一般照明用途的双端线性荧光灯中汞的含量不超过（每灯）：	
2(a)(1)	Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2): 5 mg 正常寿命的三基色粉和管直径<9mm（如 T2）：5mg	Expires on 31 December 2011; 4 mg may be used per lamp after 31 December 2011 2011 年 12 月 31 日到期; 2011 年 12 月 31 日后按照 4mg/灯

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
2(a)(2)	Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5): 5 mg 正常寿命的三基色粉和 9mm≤管直径≤17mm（如 T5）：5mg	Expires on 31 December 2011; 3 mg may be used per lamp after 31 December 2011 2011 年 12 月 31 日到期； 2011 年 12 月 31 日后按照 3mg/灯
2(a)(3)	Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8): 5 mg 正常寿命的三基色粉和 17mm<管直径≤28mm（如 T8）：5mg	Expires on 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011 2011 年 12 月 31 日到期； 2011 年 12 月 31 日后按照 3.5mg/灯
2(a)(4)	Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12): 5 mg 正常寿命的三基色粉和管直径＞28mm（如 T12）：5mg	Expires on 31 December 2012; 3,5 mg may be used per lamp after 31 December 2012 2012 年 12 月 31 日到期； 2012 年 12 月 31 日后按照 3.5mg/灯
2(a)(5)	Tri-band phosphor with long lifetime (≥ 25 000 h): 8 mg 长寿命（≥25000 小时）的三基色粉：8mg	Expires on 31 December 2011; 5 mg may be used per lamp after 31 December 2011 2011 年 12 月 31 日到期； 2011 年 12 月 31 日后按照 5mg/灯
2(b)	Mercury in other fluorescent lamps not exceeding (per lamp): 其他荧光灯中汞含量不超过（每灯）：	
2(b)(1)	Linear halophosphate lamps with tube > 28 mm (e.g. T10 and T12): 10 mg 管直径＞28mm 的线性卤磷酸盐灯（如 T10 和 T12):10mg	Expires on 13 April 2012 2012 年 4 月 13 日到期
2(b)(2)	Non-linear halophosphate lamps (all diameters): 15 mg 非线性卤磷酸盐灯（所有直径）：15mg	Expires on 13 April 2016 2016 年 4 月 13 日到期
2(b)(3)	Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9) 管直径＞17mm 的非线性三基色粉灯(如 T9）	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 15mg/灯
2(b)(4)	Lamps for other general lighting and special purposes (e.g. induction lamps) 其他一般照明和特殊用途的灯（如感应灯）。	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 15mg/灯
3	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp): 特殊用途的冷阴极荧光灯和外部电极荧光灯中汞的含量不超过（每灯）：	

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
3(a)	Short length (≤ 500 mm)短尺寸（≤500mm）	No limitation of use until 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 3.5mg/灯
3(b)	Medium length (> 500 mm and ≤ 1 500 mm)中等尺寸（>500mm 且≤1500mm）	No limitation of use until 31 December 2011; 5 mg may be used per lamp after 31 December 2011 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 5mg/灯
3(c)	Long length (> 1 500 mm) 长尺寸（大于 1500mm)	No limitation of use until 31 December 2011; 13 mg may be used per lamp after 31 December 2011 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 13mg/灯
4(a)	Mercury in other low pressure discharge lamps (per lamp) 其他低压放电灯中汞的含量（每灯）。	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 15mg/灯
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: 一般照明用途的高压钠（蒸汽）灯，改进显色指数 Ra>60，其中汞含量不超过：	
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 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 30mg/灯
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 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 40mg/灯
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 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 40mg/灯
4(c)	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner): 一般照明用途的其他高压钠（蒸汽）灯中的汞含量不超过（每灯）：	

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
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 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 25mg/灯
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 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 30mg/灯
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 2011 年 12 月 31 日前没有使用限制； 2011 年 12 月 31 日后按照 40mg/灯
4(d)	Mercury in High Pressure Mercury (vapour) lamps (HPMV) 高压汞（蒸汽）灯中汞的含量。	Expires on 13 April 2015 2015 年 4 月 13 日到期
4(e)	Mercury in metal halide lamps (MH) 金属卤化灯中汞的含量	
4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex 未在此附录中特别提及的用于特殊用途的其他放电灯中汞的含量	
4(g)	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: (a) 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; (b) 15 mg per electrode pair + 0,24 mg per tube length in cm, but not more than 80 mg, for all other indoor applications. 用于标牌、装饰或建筑和专业照明和灯光艺术品中手工制作的发光放电管（HLDTs）中的汞，其中汞含量应符合如下限值： (a) 用于户外和温度低于 20℃的室内环境的，20 mg 每电极对+0.3 mg 每 cm 灯管长度，但总含量不能超过 80 mg； (b) 用于其他所有室内环境的，15 mg 每电极对+0.24 mg 每 cm 灯管长度，但总含量不能超过 80 mg。	Expires on 31 December 2018 2018 年 12 月 31 日到期

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
5(a)	Lead in glass of cathode ray tubes 阴极射线管的玻璃内的铅含量	
5(b)	Lead in glass of fluorescent tubes not exceeding 0,2 % by weight 荧光管的玻璃内的铅含量不超过其重量的 0.2%	
6(a)	Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0,35 % lead by weight 机械加工中用作合金的钢和镀锌钢中的铅含量不超过 0.35%（Wt）	Expires on: -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11. -第 8、9 类产品截止至 2021-07-21 -第 8 类中体外诊断医疗设备截止至 2023-07-21 -第 9 类中工业监控设备和第 11 类截止至 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 机械加工中用作合金的钢，铅含量不超过 0.35%（Wt），批热处理镀锌钢组件中的铅含量不超过 0.2%（Wt）	Expires on 21 July 2021 for categories 1-7 and 10. 第 1-7 类及第 10 类截止至 2021-07-21
6(b)	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight 铝合金中的铅含量不超过 0.4%（Wt）	Expires on: -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11. -除体外诊断医疗设备和工业监控设备外的第 8、9 类产品截止至 2021-07-21 -第 8 类中体外诊断医疗设备截止至 2023-07-21 -第 9 类中工业监控设备和第 11 类截止至 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 回收的含铅废铝里面，铅作为合金元素含量不超过 0.4%（Wt）	Expires on 21 July 2021 for categories 1-7 and 10. 第 1-7 类及第 10 类截止至 2021-07-21

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
6(b)-II	Lead as an alloying element in aluminium for machining purposes with a lead content up to 0,4 % by weight 用于机械加工目的的铝，铅作为合金元素含量不超过 0.4%（Wt）	Expires on 18 May 2021 for categories 1-7 and 10. 第 1-7 类及第 10 类，截止至 2021-05-18
6(c)	Copper alloy containing up to 4 % lead by weight 铜合金中的铅含量不应该超过 4%（Wt）	Expires on: -21 July 2021 for categories 1-7 and 10, -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11. 1~7 类及 10 类，截止至 2021-07-21 -除体外诊断医疗器械和工业监控设备外的其他 8、9 类产品，截止至 2021-07-21 -第 8 类体外诊断医疗设备，截止至 2023-07-21 -第 9 类工业监控设备及第 11 类，截止至 2024-07-21
7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead) 高温熔融焊料中的铅（即：铅基合金中铅含量≥85%（Wt））	Applies to categories 1-7 and 10 (except applications covered by point 24 of this Annex) and expires on 21 July 2021. For categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments expires on 21 July 2021. For category 8 in vitro diagnostic medical devices expires on 21 July 2023. For category 9 industrial monitoring and control instruments, and for category 11 expires on 21 July 2024. 1~7 类及 10 类（除条款 24 涵盖的应用外），截止至 2021-07-21 --除体外诊断医疗设备和工业监控设备外的其他 8、9 类产品，截止至 2021-07-21 --第 8 类体外诊断医疗设备，截止至 2023-07-21 --第 9 类工业监控设备及第 11 类，截止至 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 用于服务器，存储器和存储阵列系统焊料中的铅，用于交换，信号产生和传输，以及电信网络管理的网络基础设施设备中焊料中的铅	

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
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 电气电子元件的玻璃或陶瓷中的铅，电容器的介电陶瓷除外，如压电玻璃或陶瓷装置	Applies to categories 1-7 and 10 (except applications covered under point 34) and expires on 21 July 2021. For categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments expires on 21 July 2021. For category 8 in vitro diagnostic medical devices expires on 21 July 2023. For category 9 industrial monitoring and control instruments, and for category 11 expires on 21 July 2024. 1~7 类及 10 类（除条款 34 涵盖的应用外），截止至 2021-07-21 --除体外诊断医疗设备和工业监控设备外的其他 8、9 类产品，截止至 2021-07-21 --第 8 类体外诊断医疗设备，截止至 2023-07-21 --第 9 类工业监控设备及第 11 类，截止至 2024-07-21 （该条款生效日期为 2019 年 7 月 1 日）
7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher 额定电压 125V AC 或者 250V DC 或更高的电容器的介电陶瓷中的铅	Does not apply to applications covered by point 7(c)-I and 7(c)-IV of this Annex. Expires on: -21 July 2021 for categories 1-7 and 10; -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11 不适用于本附件 7(c)-I 及 7(c)-IV 中的应用。 -第 1-7 类及第 10 类，截止至 2021 年 7 月 21 日。 -除体外诊断医疗设备和工业监控设备外的第 8、9 类产品截止至 2021 年 7 月 21 日； -第 8 类体外诊断医疗设备，截止至 2023 年 7 月 21 日； -第 9 类工业监控设备和第 11 类，截止至 2024 年 7 月 21 日。
7(c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC 额定电压小于 125V AC 或者 250V DC 的电容器的介电陶瓷中的铅	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 2013 年 1 月 1 日到期，之后可用于在 2013 年 1 月 1 日前投放市场电子电气设备的备用部件

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors which are part of integrated circuits or discrete semiconductors 集成电路或分立式半导体的电容器部件中使用的 PZT 介电陶瓷材料中的铅	-21 July 2021 for categories 1-7 and 10; -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11 -第 1-7 类及第 10 类，截止至 2021 年 7 月 21 日。 -除体外诊断医疗设备和工业监控设备外的第 8、9 类产品截止至 2021 年 7 月 21 日； -第 8 类体外诊断医疗设备，截止至 2023 年 7 月 21 日； -第 9 类工业监控设备和第 11 类，截止至 2024 年 7 月 21 日。
8(a)	Cadmium and its compounds in one shot pellet type thermal cut-offs 热镕断体中的镉及镉化合物	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 2012 年 1 月 1 日到期，之后可用于在 2012 年 1 月 1 日前投放市场电子电气设备的备用部件
8(b)	Cadmium and its compounds in electrical contacts 电气触点中的镉及镉化合物	Applies to categories 8, 9 and 11 and expires on: -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11 适用于第 8、9 及 11 类，到期日： -除体外诊断医疗设备和工业监控设备外的第 8、9 类产品截止至 2021 年 7 月 21 日； -第 8 类体外诊断医疗设备，截止至 2023 年 7 月 21 日； -第 9 类工业监控设备和第 11 类，截止至 2024 年 7 月 21 日。

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
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 电气触点中的镉及镉化合物用于： -断路器 -热感应控制 -热马达保护器(不包括密封式热马达保护器); -交流开关额定在: -6A 及以上在 250V 交流电及以上;或 -12A 及以上在 125V 交流电及以上; -直流开关额定在 20A 及以上在 18V 及以上; 以及 -电压电源频率≥200 Hz 使用的开关	Applies to categories 1 to 7 and 10 and expires on 21 July 2021 第 1-7 类及第 10 类，截止至 2021 年 7 月 21 日
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 在吸收式电冰箱中作为碳钢冷却系统的防腐剂的六价铬的重量比不超过 0.75%	Applies to categories 8, 9 and 11 and expires on: —21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, —21 July 2023 for category 8 in vitro diagnostic medical devices, —21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11. 适用于类别 8、9 和 11；并于以下日期到期： -2021 年 7 月 21 日，除体外诊断医疗设备和工业监测和控制仪器外，第 8 和第 9 类; -2023 年 7 月 21 日，第 8 类体外诊断医疗设备; -2024 年 7 月 21 日，工业监测和控制仪器第 9 类和第 11 类。

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
9(a)-I	Up to 0,75 % hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators (including minibars) designed to operate fully or partly with electrical heater, having an average utilised power input < 75 W at constant running conditions 冷却系统设计成完全或部分与电暖器一起工作，在恒定的运行条件下，平均功率输入<75W 的吸收式冰箱(包括小型冰箱)，用作碳钢冷却系统中的防腐剂的六价铬重量比不超过 0.75%	Applies to categories 1-7 and 10 and expires on 5 March 2021. 适用于第 1-7 和第 10 类，有效期至 2021 年 3 月 5 日。
9(a)-II	Up to 0,75 % hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators: —designed to operate fully or partly with electrical heater, having an average utilised power input ≥ 75 W at constant running conditions, —designed to fully operate with non-electrical heater. 在吸收式电冰箱中作为碳钢冷却系统的防腐剂的六价铬的重量比不超过 0.75%	Applies to categories 1-7 and 10 and expires on 21 July 2021. 适用于第 1-7 和第 10 类，有效期至 2021 年 7 月 21 日
9(b)	Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications 采暖、通风、空调和制冷（HVACR）设备中的含制冷剂压缩机上的轴承壳和衬套中使用的铅	Applies to categories 8, 9 and 11; expires on: -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments and for category 11, -21 July 2021 for other subcategories of categories 8 and 9. 适用于类别 8,9 和 11；并于以下日期到期： -类别 8 的体外诊断医疗器械于 2023 年 7 月 21 日到期； -类别 9 的工业控制设备以及类别 11 于 2024 年 7 月 21 日到期； -类别 8 和 9 的其他子类别于 2021 年 7 月 21 日到期
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 采暖、通风、空调和制冷（HVACR）设备中申明了电功率输入小于等于 9KW 的含制冷剂涡旋式压缩机上的轴承壳和衬套中使用的铅	Applies to category 1; expires on 21 July 2019. 适用于类别 1；于 2019 年 7 月 21 日到期

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
11(a)	Lead used in C-press compliant pin connector systems C-press 顺应针联接系统中使用的铅	May be used in spare parts for EEE placed on the market before 24 September 2010 可用于在 2010 年 9 月 24 日前投放市场的电子电气设备的备用部件
11(b)	Lead used in other than C-press compliant pin connector systems 除 C-press 以外顺应针联接系统中使用的铅	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 2013 年 1 月 1 日到期，之后可用于 2013 年 1 月 1 日之前投放市场的电子电气设备的备用部件
12	Lead as a coating material for the thermal conduction module C-ring 用于热传导模块 C-环的被覆材料中的铅	May be used in spare parts for EEE placed on the market before 24 September 2010 可用于 2010 年 9 月 24 日前投放市场的电子电气设备的备用部件
13(a)	Lead in white glasses used for optical applications 光学应用的白色玻璃中的铅	Applies to all categories; expires on: -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments and for category 11; -21 July 2021 for all other categories and subcategories 适用于所有类别，并于以下日期到期： -类别 8 的体外诊断医疗器械于 2023 年 7 月 21 日到期； -类别 9 的工业监控设备以及类别 11 于 2024 年 7 月 21 日到期； -其他类别于 2021 年 7 月 21 日到期
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards 滤光玻璃及用于反射标准片玻璃中的铅和镉	Applies to categories 8, 9 and 11; expires on: -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments and for category 11; -21 July 2021 for other subcategories of categories 8 and 9 适用于类别 8,9 和 11；并于以下日期到期： -类别 8 的体外诊断医疗器械于 2023 年 7 月 21 日到期； -类别 9 的工业控制设备以及类别 11 于 2024 年 7 月 21 日到期； -类别 8 和 9 的其他子类别于 2021 年 7 月 21 日到期
13(b)-I	Lead in ion coloured optical filter glass types 离子彩色光学滤光玻璃中的铅	Applies to categories 1 to 7 and 10; expires on 21 July 2021 for categories 1 to 7 and 10

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
13(b)-II	Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex 光学滤光玻璃中的镉；不包括本附件第 39 条款中的设备	适用于类别 1~7 和类别 10；对于类别 1~7 和类别 10 将于 2021 年 7 月 21 日到期
13(b)-III	Cadmium and lead in glazes used for reflectance standards 反射标准片中釉料中的镉和铅	
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 微处理器针脚及封装联接所使用的含两种以上组分的焊料中的铅（铅含量在 80%与 85%之间）	Expired on 1 January 2011 and after that date may be used in spare parts for EEE placed on the market before 1 January 2011 2011 年 1 月 1 日到期，之后可用于 2011 年 1 月 1 日前投放市场的电子电气设备的备用部件
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages 集成电路倒装芯片封装中半导体芯片及载体之间形成可靠联接所用焊料中的铅	Applies to categories 8, 9 and 11 and expires on: -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11 适用于第 8、9 及 11 类，到期日： -除体外诊断医疗设备和工业监控设备外的第 8、9 类产品截止至 2021 年 7 月 21 日 -第 8 类体外诊断医疗设备，截止至 2023 年 7 月 21 日； -第 9 类工业监控设备和第 11 类，截止至 2024 年 7 月 21 日。

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
15(a)	Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies: -a semiconductor technology node of 90 nm or larger; -a single die of 300 mm^2 or larger in any semiconductor technology node; -stacked die packages with die of 300 mm^2 or larger, or silicon interposers of 300 mm^2 or larger 集成电路倒装芯片封装中半导体芯片及载体之间形成可靠联接所用焊料中的铅，至少适用下列标准之一: -90 纳米或以上的半导体技术节点; -任何半导体技术节点中的 300mm^2 及以上的单个芯片; -堆叠芯片封装，芯片尺寸为 300mm^2 或以上，或硅转接板尺寸为 300mm^2 或以上	Applies to categories 1 to 7 and 10 and expires on 21 July 2021 第 1-7 类及第 10 类，截止至 2021 年 7 月 21 日
16	Lead in linear incandescent lamps with silicate coated tubes 带有硅酸盐灯管的线型白炽灯中的铅	Expires on 1 September 2013 2013 年 9 月 1 日到期
17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional repro-graphy applications 用于专业复印设备的高强度放电灯(HID)中用作激发的卤素铅	
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)2MgSi2O7:Pb) 当放电灯被用作重氮复印、平版印刷、捕虫器、光化学和固化工艺的特种灯，含有磷光粉时，比如 SMS ((Sr,Ba)2MgSi2O7:Pb)，放电灯中的荧光粉触媒剂的铅含量在其重量的 1%或以下	Expired on 1 January 2011 2011 年 1 月 1 日到期

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
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 (BaSi2O5:Pb) 当放电灯被用作含磷光粉的仿日晒灯，比如含有 BSP (BaSi2O5 :Pb)，放电灯中的荧光粉触媒剂的铅含量在其重量的 1%或以下	-21 July 2021 for categories 1-7 and 10; -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11 -第 1-7 类及第 10 类，截止至 2021 年 7 月 21 日。 -除体外诊断医疗设备和工业监控设备外的第 8、9 类产品截止至 2021 年 7 月 21 日 -第 8 类体外诊断医疗设备，截止至 2023 年 7 月 21 日； -第 9 类工业监控设备和第 11 类，截止至 2024 年 7 月 21 日
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 当放电灯被用作含磷光粉的医疗光疗设备，比如含有 BSP (BaSi2O5 :Pb)，放电灯中的荧光粉触媒剂的铅含量在其重量的 1%或以下。	Applies to categories 5 and 8, excluding applications covered by entry 34 of Annex IV, and expires on 21 July 2021 适用于第 5 类和第 8 类，不包括附件 IV 第 34 项条款中的应用，于 2021 年 7 月 21 日到期
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) 紧凑型节能灯(ESL)中作为主要汞合金的特定的 PbBiSn-Hg 和 PbInSn-Hg 中的铅，以及作为辅助汞合金的 PbSn-Hg 中的铅	Expires on 1 June 2011 2011 年 6 月 1 日到期
20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs) 液晶显示器(LCD)用于连接平面荧光灯前后基片用的玻璃中的氧化铅	Expires on 1 June 2011 2011 年 6 月 1 日到期

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses 用在玻璃表面瓷釉，如硼硅酸盐玻璃和碱石灰玻璃上的印刷油墨中的铅和镉	Applies to categories 8, 9 and 11 and expires on: -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11 适用于第 8、9 及 11 类，到期日： -除体外诊断医疗设备和工业监控设备外的第 8、9 类产品截止至 2021 年 7 月 21 日 -第 8 类体外诊断医疗设备，截止至 2023 年 7 月 21 日； -第 9 类工业监控设备和第 11 类，截止至 2024 年 7 月 21 日
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 在彩色印刷玻璃中使用镉来提供过滤功能，用作安装在显示器和电子电器产品控制面板上的照明应用组件	Applies to categories 1 to 7 and 10 except applications covered by entry 21(b) or entry 39 and expires on 21 July 2021 适用于第 1-7 类及第 10 类除第 21(b)项或第 39 项中的应用外，截止至 2021 年 7 月 21 日
21(b)	Cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses 用在玻璃表面瓷釉，如硼硅酸盐玻璃和碱石灰玻璃上的印刷油墨中的镉	Applies to categories 1 to 7 and 10 except applications covered by entry 21(a) or 39 and expires on 21 July 2021 适用于第 1-7 类及第 10 类除第 21(a)项或第 39 项中的应用外，截止至 2021 年 7 月 21 日
21(c)	Lead in printing inks for the application of enamels on other than borosilicate glasses 用于硼硅酸盐玻璃以外的瓷釉的印刷油墨中的铅	Applies to categories 1 to 7 and 10 and expires on 21 July 2021 第 1-7 类机及第 10 类，截止至 2021 年 7 月 21 日
23	Lead in finishes of fine pitch components other than connectors with a pitch of 0,65 mm and less 小螺距零部件表面处理中的铅（螺距不超过 0.65mm 的连接器不在豁免之内）	May be used in spare parts for EEE placed on the market before 24 September 2010 可用于 2010 年 9 月 24 日前投放市场的电子电气设备的备用部件

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors 通孔盘状及平面阵列陶瓷多层电容器焊料所含的铅	Expires on: -21 July 2021 for categories 1-7 and 10, -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11 -1~7 类及 10 类，截止至 2021-07-21 -除体外诊断医疗设备和工业监控设备外的其他 8、9 类产品，截止至 2021-07-21 -第 8 类体外诊断医疗设备，截止至 2023-07-21 -第 9 类工业监控设备及第 11 类，截止至 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 表面传导式电子发射显示器（SED）构件中所用的氧化铅，特别是封装玻璃和环状玻璃中的氧化铅	
26	Lead oxide in the glass envelope of black light blue lamps 黑蓝灯（BLB）玻璃封装中的氧化铅	Expires on 1 June 2011 2011 年 6 月 1 日到期
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 用作大功率扬声器（用在长时间操作 125 分贝以上的音响系统）的换能器中焊料的铅合金	Expired on 24 September 2010 2010 年 9 月 24 日到期
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC 理事会第 69/493/EEC *号指令附件 I(第 1、2、3 和 4 类)所界定的水晶玻璃中的铅	-21 July 2021 for categories 1-7 and 10; -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11 -第 1-7 类及第 10 类，截止至 2021 年 7 月 21 日。 -除体外诊断医疗设备和工业监控设备外的第 8、9 类产品截止至 2021 年 7 月 21 日 -第 8 类体外诊断医疗设备，截止至 2023 年 7 月 21 日； -第 9 类工业监控设备和第 11 类，截止至 2024 年 7 月 21 日

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
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 电导体直接与音压大于或等于 100 分贝大功率扬声器的换能器上音圈进行电气或机械焊接时，所用焊料中的镉合金	
31	Lead in soldering materials in mercury free flat fluorescent lamps (which, e.g. are used for liquid crystal displays, design or industrial lighting) 无汞平板荧光灯内焊接材料中的铅（例如用于液晶显示器、设计或工业用照明	
32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes 窗体装配中，用于氩和氪激光管的密封玻璃中的氧化铅	-21 July 2021 for categories 1-7 and 10, -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11 -第 1-7 类及第 10 类，截止至 2021 年 7 月 21 日。 -除体外诊断医疗设备和工业监控设备外的第 8、9 类产品截止至 2021 年 7 月 21 日 -第 8 类体外诊断医疗设备，截止至 2023 年 7 月 21 日； -第 9 类工业监控设备和第 11 类，截止至 2024 年 7 月 21 日
33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power trans formers 用来焊接电源变压器中直径不大于 100 微米的细铜线的焊料中的铅	

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
34	Lead in cermet-based trimmer potentiometer elements 金属陶瓷质的微调电位器元件中的铅	Applies to all categories; expires on: -21 July 2021 for categories 1-7 and 10, -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11. -1~7 类及 10 类，截止至 2021-07-21 –除体外诊断医疗设备和工业监控设备外的其他 8、9 类产品，截止至 2021-07-21 -第 8 类体外诊断医疗设备，截止至 2023-07-21 -第 9 类工业监控设备及第 11 类，截止至 2024-07-21
36	Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display 直流等离子显示器中，作为阴极溅射抑制剂中的汞在每个显示器中的含量不得超过 30 mg	Expired on 1 July 2010 2010 年 7 月 1 日到期
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body 以硼酸锌玻璃体为基材的高压二极管的电镀层的铅	-21 July 2021 for categories 1-7 and 10; -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11 -第 1-7 类及第 10 类，截止至 2021 年 7 月 21 日 -除体外诊断医疗设备和工业监控设备外的第 8、9 类产品截止至 2021 年 7 月 21 日 -第 8 类体外诊断医疗设备，截止至 2023 年 7 月 21 日； -第 9 类工业监控设备和第 11 类，截止至 2024 年 7 月 21 日
38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide 用在铝键合氧化铍上的厚膜浆料中的镉和氧化镉	
39(a)	Cadmium selenide in downshifting cadmium-based semiconductor nanocrystal quantum dots for use in display lighting applications (< 0,2 µg Cd per mm^2 of display screen area) 用于显示照明设备中降低镉基半导体纳米晶量子点的硒化镉（显示区域中每平方毫米的镉小于 0.2 微克）	-Expires for all categories on 31 October 2019 -所有产品截止 2019 年 10 月 31 日到期

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
40	Cadmium in photoresistors for analogue optocouplers applied in professional audio equipment 专业音频设备的模拟光耦合器中使用的光敏电阻中的镉	Expires on 31 December 2013 2013 年 12 月 31 日到期
41	Lead in solders and termination finishes of elec- trical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council (2)) 由于技术原因必须直接安装在便携式内燃机(欧洲议会和欧盟理事会指令 97/68/EC 中分类为 SH:1、SH:2、SH:3)的曲轴箱或汽缸上的，点火模块和其他电子电气发动机控制系统中使用的电子电气元件的焊料及终端处理和 PCB 的表面处理中的铅	Applies to all categories and expires on: —31 March 2022 for categories 1 to 7, 10 and 11; —21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; —21 July 2023 for category 8 in vitro diagnostic medical devices; —21 July 2024 for category 9 industrial monitoring and control instruments. 适用于所有类别，并于以下日期到期： -2022 年 3 月 31 日，第 1 至 7、10 和 11 类； -2021 年 7 月 21 日，除体外诊断医疗设备和工业监测和控制仪器外，第 8 和第 9 类； -2023 年 7 月 21 日，第 8 类体外诊断医疗设备； -2024 年 7 月 21 日，第 9 类工业监测和控制仪器。
42	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 适用于非道路专业使用设备的柴油或燃气内燃机轴承和衬套中的铅: -发动机总排量≥15 升;或 -发动机总排量< 15 升，发动机适用于信号启动和满载之间的时间要求小于 10 秒的应用时;或者在恶劣和肮脏的户外环境中进行定期维护，例如采矿、建筑和农业应用	Applies to category 11, excluding applications covered by entry 6(c) of this Annex. Expires on 21 July 2024 适用于第 11 类，除本附件第 6(c)项中的应用，截止至 2024 年 7 月 21 日

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
43	Bis(2-ethylhexyl) phthalate in rubber components in engine systems, designed for use in equipment that is not intended solely for consumer use and provided that no plasticised material comes into contact with human mucous membranes or into prolonged contact with human skin and the concentration value of bis(2-ethylhexyl) phthalate does not exceed: (a)30 % by weight of the rubber for (i)gasket coatings; (ii)solid-rubber gaskets; or (iii)rubber components included in assemblies of at least three components using electrical, mechanical or hydraulic energy to do work, and attached to the engine. (b)10 % by weight of the rubber for rubber-containing components not referred to in point (a). For the purposes of this entry, "prolonged contact with human skin" means continuous contact of more than 10 minutes duration or intermittent contact over a period of 30 minutes, per day. 设计用于并非只供消费者使用的设备中的发动机系统的橡胶部件，非人体粘膜接触或人体皮肤长时间接触的塑料中的邻苯二甲酸二(2-乙基己基)酯，并且邻苯二甲酸二(2-乙基己基)酯的浓度值不超过: (a)橡胶重量的 30 %，用于 (I)垫圈涂层 (ii)固体橡胶垫圈；或者 (iii)连接到发动机上并至少三个部件组成的使用电能、机械能或液压能工作的橡胶部件。 (b)橡胶重量的 10%，针对(a)条中未提及的橡胶部件。 在本条目中，"长时间接触人体皮肤"是指每天持续接触超过 10 分钟或间歇接触超过 30 分钟。	Applies to category 11 and expires on 21 July 2024. —适用于第 11 类产品，截止至 2024 年 7 月 21 日。
44	Lead in solder of sensors, actuators, and engine control units of combustion engines within the scope of Regulation (EU) 2016/1628 of the European Parliament and of the Council (*1), installed in equipment used at fixed positions while in operation which is designed for professionals, but also used by non-professional users 在欧洲议会和欧盟理事会法规(EU) 2016/1628 范围内的内燃机传感器、执行器和发动机控制单元焊料中铅，安装在固定位置使用设备中，专为专业人员设计，但也适用于非专业人员。	Applies to category 11 and expires on 21 July 2024. 适用于第 11 类产品，截止至 2024 年 7 月 21 日。

	Exemption **豁免**	**Scope and dates of applicability** **范围和应用日期**
45	Lead diazide, lead styphnate, lead dipicramate, orange lead (lead tetroxide), lead dioxide in electric and electronic initiators of explosives for civil (professional) use and barium chromate in long time pyrotechnic delay charges of electric initiators of explosives for civil (professional) use 民用（专业）炸药电子起爆器中的叠氮化铅、收敛酸铅、二苦氨酸铅、铅橙（四氧化三铅）、二氧化铅以及民用（专业）炸药电子起爆器的长时间爆破延时药剂中的铬酸钡	Applies to category 11 and expires on 20 April 2026. 适用于第 11 类产品，截止至 2026 年 4 月 20 日。

注释: 以上豁免项目，若中文译文与英文原文意思上不一致，以英文原文为准。
Note: The above exemptions item, if the Chinese translation is inconsistent with the English meaning of the original text, the English original shall prevail.

声明 Statement：

1. 检测报告无批准人签字、“专用章”及报告骑缝章无效；
   This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 报告抬头公司名称及地址、样品及样品信息由申请者提供，申请者应对其真实性负责，CTI 未核实其真实性；
   The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn’t verified;
3. 本报告检测结果仅对受测样品负责；
   The result(s) shown in this report refer(s) only to the sample(s) tested;
4. 未经 CTI 书面同意，不得部分复制本报告；
   Without written approval of CTI, this report can’t be reproduced except in full;
5. 如检测报告中的英文内容与中文内容有差异，以中文为准。
   In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** 报告结束 ***
*** End of Report ***