Implementation List B

RoHS Substances and Exemptions List

The EU RoHS Directive continues to be updated over time. As these changes are made, the most current exemption list will be added within the 1752B in a reasonable amount of time. Revision control will be based on the EU Directive document number. Declarations for products that have been previously declared will only be relative to the current EU Exemptions when the data was provided.

On 24 September 2010, the European Commission published Commission Decision 2010/571/EU which **replaced** all previous RoHS exemptions lists. This represents a significant departure from previous Commission Decisions. Prior to September 2010, the Commission published a Decision on the RoHS exemptions list apart from a few well publicized exceptions such as exemptions 9a, 22, 28 and 35. The Decision added new exemptions to the existing list. The list of exemptions in Commission Decision 2010/571/EU is also included in Annex III of the new RoHS Directive 2011/65/EU published 1 July 2011.

Commission Decision 2010/571/EU applies to all equipment which is placed on the EU market for the first time after 24 September 2010, and implements a major revision to the list of allowed RoHS exemptions: 13 exemptions were deleted; there were significant changes to the wording to 2 exemptions, and 38 new exemptions were introduced. Commission Decision 2010/571/EU also includes expiry dates for certain exemptions. The list of valid RoHS exemptions will change every 6 months as certain exemptions reach their expiry date. For example, some RoHS exemptions in the 2010/571/EU list expired in January 2011, some exemptions expired in June 2011, more exemptions expired in December 2011, and so on. The list of valid RoHS exemptions has now become a moving target and companies need to continually review which exemptions are still valid for parts which are used to manufacture new products for sale in the EU.

Table B-4 provides the RoHS exemptions which are included in Commission Decision 2010/571/EU and subsequent Commission Decisions and Commission Delegated Directives, and their expiry dates.

Table B-5 contains the list of RoHS exemptions that were valid before 24 September 2010 and their expiry dates, where applicable. These exemptions can be used for spare parts which are used to repair or refurbish items of equipment that had already been placed on the EU market before 24 September 2010 or before the expiry date of the exemption, where applicable. A component which relies on an exemption for RoHS compliance may require two separate declarations - one declaration for use in new equipment put on the market after 24 September 2010 which references the RoHS exemptions in Table B-4, and a second declaration for use as a spare part to repair or refurbish equipment that had already been placed on the market before 24 September 2010 which references the RoHS exemptions in Table B-5.

Table B-6 contains the list of RoHS exemptions published in Annex IV of the new RoHS Directive 2011/65/EU, and subsequent Commission Decisions and Commission Delegated Directives, which are specific to medical devices and monitoring and control instruments.

Table B-7 contains the RoHS exemptions list which was referenced in the IPC-1752 v1.1 PDF. This list is included in the IPC-1752B standard to assist companies who want to import an IPC-1752 v1.1 XML file into their IPC-1752B software solution and to map any old RoHS exemptions declared in the IPC-1752 v1.1 XML file against the current list of valid RoHS exemptions.

Table B-8 contains the list of ELV exemptions in Commission Directive 2011/37/EU

On 4 June 2015 the European Commission published Delegated Directive 2015/863 which officially adds four new substances and maximum concentration values in homogenous materials to Annex II of the RoHS Directive. Electrical and electronic equipment must comply with these additional substance restrictions by 22 July 2019, except for Medical Devices (Cat. 8) and Monitoring and Control Instruments (Cat. 9) which must comply with these additional substance restrictions by 22 July 2021. The IPC-1752A Committee meeting on 23 February 2015 decided that this should be reported as a separate Substance Category List. The list of new RoHS substances is included in Table B-9.

Table B-1 EUROHS-0508 Substances

Unique ID Authority == IPC
Unique ID == EUROHS-0508
QueryList Revision == 1.0

Identity	Substance Category Name	Reportable Application	Threshold
00001	Cadmium/cadmium compounds	Electrical and electronic equipment	0.01% by weight (100 ppm) of homogeneous materials
00002	Polybrominated biphenyls (PBBs)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogeneous materials
00003	Polybrominated diphenyl ethers (PBDEs)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogeneous materials
00004	Chromium VI compounds	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogeneous materials
00005	Lead/lead compounds	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogeneous materials
00006	Mercury/mercury compounds	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogeneous materials

Table B-2 EUROHS-0508 Class A QueryList statements

Identity	Statement
01	Product(s) meets EU RoHS requirements without any exemptions
02	Product(s) meets EU RoHS requirements by application of the selected exemption(s)
03	Product(s) does not meet EU RoHS requirements and is not under exemptions
04	Product(s) is obsolete, no information is available
05	Product(s) is unknown, no information is available

Table B-3 EUROHS-0508 Reportable Applications

Identity	Statement
01	Electrical and electronic equipment

Table B-4 RoHS exemptions listed in Commission Decision 2010/571/EU published 24 September 2010 (also contained in Annex III of the RoHS Directive 2011/65/EU published 1 July 2011 and in subsequent Commission Decisions and Commission Delegated Directives.

Unique ID Authority == IPC
Unique ID Identity == EL2011/534/EU IPC Revision == 2.0

In 2016 the European Commission started a review process to determine which exemptions in Annex III of the RoHS Directive 2011/65/EU are still needed by industry. As stated in Article 5 paragraph 5, existing exemptions for which a renewal request has been submitted remain valid until a decision on the renewal request is taken by the Commission. The Commission decision on renewal request(s) for an exemption will either indicate the new expiry date in case of renewal, or, in case of rejection, grant a transition before the exemption expires, i.e., a period of minimum 12 months, maximum 18 months following the decision date.

As part of the periodic update to these Appendices, Table B4 may be updated to a new revision when Delegated Directives with renewal or rejection decisions are published. Additional columns have been added to the table to provide links to the Delegated Directives and to indicate what are the applicable product categories and validity dates for the renewed exemptions. If no start date is provided, then the exemption is currently valid unless an expiration date is stated and has passed.

Identity	Description	Validity dates	Applicable product categories	Delegated Directive
1(a)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):For general lighting purposes less than 30 W: 2.5 mg	Expired 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	All	
1(b)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):For general lighting purposes greater than or equal to 30 W and less than 50 W; 3.5 mg	Expired on 31 December 2011; 3.5 mg may be used per burner after 31 December 2011	All	
1(c)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):For general lighting purposes greater than or equal to 50 W and less than 150 W; 5 mg		All	
1(d)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):For general lighting purposes greater than or equal to 150 W; 15 mg		All	
1(e)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):For general lighting purposes with circular or square structural shape and tube diameter less than or equal to 17 mm: 7 mg	No limitation of use until 31 December 2011; 7 mg may be used per burner after 31 December 2011	All	
1(f)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):For special purposes: 5 mg		All	
1(g)	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):For general lighting purposes less than 30 W with a lifetime equal or above 20,000 h: 3.5 mg	Expired on 31 December 2017	All	
2(a)(1)	Mercury in double-capped linear fluorescent lamps for generation lighting purposes not exceeding (per lamp):Tri-band phosphor with normal lifetime and a tube diameter less than 9 mm (e.g. T2): 4 mg	Expired on 31 December 2011; 4 mg may be used per lamp after 31 December 2011	All	
2(a)(2)	Mercury in double-capped linear fluorescent lamps for generation lighting purposes not exceeding (per lamp):Tri-band phosphor with normal lifetime and a tube diameter greater than or equal to 9 mm and less than or equal to 17 mm (e.g. T5): 3 mg	Expired on 31 December 2011; 3 mg may be used per lamp after 31 December 2011	All	
2(a)(3)	Mercury in double-capped linear fluorescent lamps for generation lighting purposes not exceeding (per lamp):Tri-band phosphor with	Expired on 31 December 2011; 3.5 mg may be used per lamp after 31 December	All	

	normal lifetime and a tube diameter greater than 17 mm and less than or equal to 28 mm (e.g. T8): 3.5 mg	2011		
2(a)(4)	Mercury in double-capped linear fluorescent lamps for generation lighting purposes not exceeding (per lamp):Tri-band phosphor with normal lifetime and a tube diameter greater than 28 mm (e.g. T12): 3.5 mg	Expired on 31 December 2012; 3.5 mg may be used per lamp after 31 December 2012	All	
2(a)(5)	Mercury in double-capped linear fluorescent lamps for generation lighting purposes not exceeding (per lamp):Tri-band phosphor with long lifetime (greater than or equal to 25,000 h): 5 mg	Expired on 31 December 2011; 5 mg may be used per lamp after 31 December 2011	All	
2(b)(1)	Mercury in other fluorescent lamps not exceeding (per lamp):Linear halophosphate lamps with tube greater than 28 mm (e.g. T10 and T12): 10 mg	Expired on 13 April 2012	All	
2(b)(2)	Mercury in other fluorescent lamps not exceeding (per lamp):Non-linear halophosphate lamps (all diameters): 15 mg	Expired on 13 April 2016	All	
2(b)(3)	Mercury in other fluorescent lamps not exceeding (per lamp):Non-linear tri-band phosphor lamps with tube diameter greater than 17 mm (e.g. T9): 15 mg	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011	All	
2(b)(4)	Mercury in other fluorescent lamps not exceeding (per lamp):Lamps for other general lighting and special purposes (e.g. induction lamps): 15 mg	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011	All	
3(a)	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp): Short length (less than or equal to 500 mm): 3.5 mg	No limitation of use until 31 December 2011; 3.5 mg may be used per lamp after 31 December 2011	All	
3(b)	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp): Medium length (greater than 500 mm and less than or equal to 1,500 mm): 5 mg	No limitation of use until 31 December 2011; 5 mg may be used per lamp after 31 December 2011	All	
3(c)	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp): Long length (greater than 1,500 mm): 13 mg	No limitation of use until 31 December 2011; 13 mg may be used per lamp after 31 December 2011	All	
4(a)	Mercury in other low pressure discharge lamps (per lamp): 15 mg	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011	All	
4(b)-I	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra greater than 60: P less than or equal to 155 W: 30 mg	No limitation of use until 31 December 2011; 30 mg may be used per burner after 31 December 2011	All	
4(b)-II	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra greater than 60: P greater than 155 W and less than or equal to 405 W: 40 mg	No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011	All	
4(b)-III	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra greater than 60: P greater than 405 W: 40 mg	No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011	All	
4(c)-I	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner): P less than or equal to 155 W: 25 mg	No limitation of use until 31 December 2011; 25 mg may be used per burner after 31 December 2011	All	
4(c)-II	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not	No limitation of use until 31 December 2011; 30 mg may	All	

	exceeding (per burner): P greater than 155 W and less than or equal to 405 W: 30 mg	be used per burner after 31 December 2011		
4(c)-III	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner): P greater than 405 W: 40 mg	No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011	All	
4(d)	Mercury in High Pressure Mercury (vapour) lamps (HPMV)	Expired on 13 April 2015	All	
4(e)	Mercury in metal halide lamps (MH)		All	
4(f)	Mercury in other discharge lamps for special purposes not specially mentioned in this Annex		All	
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.	Expired on 31 December 2018	All	
5(a)	Lead in glass of cathode ray tubes		All	
5(b)	Lead in glass of fluorescent tubes not exceeding 0.2% by weight		All	
6(a)	Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight	Expired 1 July 2019 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2018/739
		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.	8, 9 and 11	
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	Expires 21 July 2021 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2018/739
6(b)	Lead as an alloying element in aluminium containing up to 0.4% lead by weight	Expired 1 July 2019 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2018/740
		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.	8, 9 and 11	
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	Expires 21 July 2021 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2018/740
6(b)-II	Lead as an alloying element in aluminium for machining purposes with a lead content of up to 0.4% lead by weight	Expires 18 May 2021 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2018/740
6(c)	Copper alloy containing up to 4% lead by weight	Expires on: 21 July 2021 for categories 1-7 and 10, 8	All	Delegated Directive (EU)

		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		2018/741
7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)	Expires on: 21 July 2021 for categories 1-7 and 10, 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	All	Delegated Directive (EU) 2018/742
7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications	Expired on 21 July 2016 for categories 1 to 7 and 10	All	
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	Expires on: 21 July 2021 for categories 1-7 and 10, 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	All	Delegated Directive (EU) 2018/736
7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	Expires on: 21 July 2021 for categories 1-7 and 10, 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	All	Delegated Directive (EU) 2019/169
7(c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	Expired on 1 January 2013	All	
7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors	Expires on: 21 July 2021 for categories 1-7 and 10, 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	All	Delegated Directive (EU) 2019/170

8(a)	Cadmium and its compounds in one shot pellet type thermal cut-offs	Expired on 1 January 2012	All	
8(b)	Cadmium and its compounds in electrical contacts	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 categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments	8, 9 and 11	Delegated Directive (EU) 2019/171
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 greater than or equal to 200 Hz	Expires 21 July 2021 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2019/171
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	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 categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments	8, 9 and 11	
9(b)	Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	Expired on 5 July 2018 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2017/1010
		Expires 21 July 2021 for Categories 8, 9 and 11	8, 9 and 11	
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	Expired on 21 July 2019	1	Delegated Directive (EU) 2017/1010
11(a)	Lead used in C-press compliant pin connector systems	Expired 24 September 2010	All	
11(b)	Lead used in other than C-press compliant pin connector systems	Expired on 1 January 2013	All	
12	Lead as a coating material for the thermal conduction module C-ring	Expired on 24 September 2010	All	
13(a)	Lead in white glasses used for optical applications	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	All	Delegated Directive (EU) 2017/1011
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	Expired on 5 July 2018 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2017/1009
		Expires 21 July 2021 for Categories 8, 9 and 11	8, 9 and 11	
13(b)-(I)	Lead in ion coloured optical filter glass types	Valid for Categories 1 to 7 and 10 from 6 July 2018	1 to 7 and 10	Delegated Directive (EU) 2017/1009

13(b)-(II)	Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex	Valid for Categories 1 to 7 and 10 from 6 July 2018	1 to 7 and 10	Delegated Directive (EU) 2017/1009
13(b)-(III)	Cadmium and lead in glazes used for reflectance standards	Valid for Categories 1 to 7 and 10 from 6 July 2018	1 to 7 and 10	Delegated Directive (EU) 2017/1009
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 1 January 2011	All	
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	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 categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments	8, 9 and 11	Delegated Directive (EU) 2019/172
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 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	Expires 21 July 2021 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2019/172
16	Lead in linear incandescent lamps with silicate coated tubes	Expired on 1 September 2013	All	
17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications		All	
18(a)	Lead as activator in the fluorescent powder (1% lead by weight or less) of discharge lamps when used as specialty lamps for diazoprinting reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba)2MgSi2O7:Pb)	Expired on 1 January 2011	All	
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)	Expires on: 21 July 2021 for categories 1-7 and 10, 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	All	Delegated Directive (EU) 2019/177
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	Expires 21 July 2021 for Categories 5 and 8	5 and 8, excluding applications covered by entry 34 of Annex IV	Delegated Directive (EU) 2019/177
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)	Expired on 1 June 2011	All	
20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs)	Expired on 1 June 2011	All	

21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	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 categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments	8, 9 and 11	Delegated Directive (EU) 2019/173
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	Expires 21 July 2021 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2019/173
21(b)	Cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	Expires 21 July 2021 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2019/173
21(c)	Lead in printing inks for the application of enamels on other than borosilicate glasses	Expires 21 July 2021 for Categories 1 to 7 and 10	1 to 7 and 10	Delegated Directive (EU) 2019/173
23	Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm and less	Expired 24 September 2010	All	
24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	Expires on: 21 July 2021 for categories 1-7 and 10, 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	All	Delegated Directive (EU) 2018/737
25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring		All	
26	Lead oxide in the glass envelope of black light blue lamps	Expired on 1 June 2011	All	
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 24 September 2010	All	
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	Expires on: 21 July 2021 for categories 1-7 and 10, 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	All	Delegated Directive (EU) 2019/174
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		All	
31	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)		All	
32	Lead oxide in seal frit used for making window	Expires on: 21 July 2021 for	All	Delegated

	assemblies for Argon and Krypton laser tubes	categories 1-7 and 10, 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		Directive (EU) 2019/175
33	Lead in solders for the soldering of thin copper wires of 100 micrometer diameter and less in power transformers		All	
34	Lead in cermet-based trimmer potentiometer elements	Expires on: 21 July 2021 for categories 1-7 and 10, 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	All	Delegated Directive (EU) 2018/738
36	Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display	Expired on 1 July 2010	All	
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	Expires on: 21 July 2021 for categories 1-7 and 10, 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	All	Delegated Directive (EU) 2019/176
38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide		All	
39(a)	Cadmium selenide in downshifting cadmium-based semiconductor nanocrystal quantum dots for use in display lighting applications (less than 0.2 microgram Cd per mm2 of display screen area)	Expired on 31 October 2019	All	
40	Cadmium in photoresistors for analogue optocouplers applied in professional audio equipment	Expired on 31 December 2013	All	
41	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, 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(*)	Expired on 31 December 2018	All	
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 greater than or equal to 15 litres; or with engine	Expires on 21 July 2024	11 excluding applications covered by entry 6(c) of Annex III	Directive (EU) 2019/178

	total displacement less than 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			
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	Expires on 21 July 2024	11	Directive (EU) 2019/1845
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 (*) , installed in equipment used at fixed positions while in operation which is designed for professionals, but also used by non-professional users	Expires on 21 July 2024	11	Directive (EU) 2019/1846

Table B-5 RoHS exemptions that were valid before 24 September 2010

Unique ID Authority == IPC

Unique ID Identity == EL2010/122/EU

IPC Revision == 1.0

Identity	Description	Expiry date
1	Mercury in compact fluorescent lamps not exceeding 5 mg per lamp.	
2a	Mercury in straight fluorescent lamps for general purposes not exceeding 10 mg in halophosphate lamps.	
2b	Mercury in straight fluorescent lamps for general purposes not exceeding 5 mg in triphosphate lamps with a normal lifetime.	
2c	Mercury in straight fluorescent lamps for general purposes not exceeding 8 mg in triphosphate lamps with long lifetime.	
3	Mercury in straight fluorescent lamps for special purposes.	
4	Mercury in other lamps not specifically mentioned in this Annex.	
5	Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.	
6	Lead as an alloying element in steel containing up to 0,35 % lead by weight, aluminium containing up to 0,4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.	
7a	Lead in high melting temperature type solders (i.e. lead based solder alloys containing 85 % by weight or more lead)	
7b	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission as well as network management for telecommunications	
7c	Lead in electronic ceramic parts (e.g. piezoelectronic devices)	

8	Cadmium and its compounds in electrical contacts and cadmium plating except for applications banned under Directive 91/338/EEC (1) amending Directive 76/769/EEC (2) relating to restrictions on the marketing and use of certain dangerous substances and preparations.	
9	Hexavalent chromium as an anti-corrosion of the carbon steel cooling system in absorption refrigerators.	
9a	DecaBDE in polymeric applications	Expired on 30 June 2008
9b	Lead in lead-bronze bearing shells and bushes.	
11	Lead used in compliant pin connector systems.	
12	Lead as a coating material for the thermal conduction module c-ring.	
13	Lead and cadmium in optical and filter glass.	
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.	
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages.	
16	Lead in linear incandescent lamps with silicate coated tubes.	
17	Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications.	
18	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5:Pb) as well as when used as specialty lamps for diazoprinting reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba)2MgSi2O7:Pb).	
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).	
20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCD).	
21	Lead and cadmium in printing inks for the application of enamels on borosilicate glass.	
22	Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used for fibre optic communication systems until 31 December 2009.	Expired on 31 December 2009
23	Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with NiFe lead frames and lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with copper lead frames.	
24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors.	
25	Lead oxide in plasma display panels (PDP) and surface conduction electron emitter displays (SED) used in structural elements; notably in the front and rear glass dielectric layer, the bus electrode, the black stripe, the address electrode, the barrier ribs, the seal frit and frit ring as well as in print pastes.	
26	Lead oxide in the glass envelope of Black Light Blue (BLB) lamps.	
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 24 September 2010
28	Hexavalent chromium in corrosion preventive coatings of unpainted metal sheetings and fasteners used for corrosion protection and Electromagnetic Interference Shielding in equipment falling under category three of Directive 2002/96/EC (IT and telecommunications equipment)	Expired on 1 July 2007
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC.	
30	Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more.	
31	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting).	
32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes.	
33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers.	
34	Lead in cermet-based trimmer potentiometer elements.	
35	Cadmium in photoresistors for optocouplers applied in professional audio equipment until 31 December 2009.	Expired on 31 December 2009
36	Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display until 1 July 2010.	Expired on 1 July 2010
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body.	

38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide.	
39	Cadmium in colour-converting II-VI LEDs (< 10 µg Cd per mm 2 of light-emitting area) for use in solid state illumination or display systems	

Table B-6 RoHS exemptions published in Annex IV of the new RoHS Directive 2011/65/EU which are specific to medical devices and monitoring and control instruments

Unique ID Authority == IPC

Unique ID Identity == EL2011/65/EU_ANNEX_IV

IPC Revision == 1.0

Identity	Description	Expiry Date
1	Lead, cadmium and mercury in detectors for ionising radiation	
1a	Lead and cadmium in ion selective electrodes including glass of pH electrodes.	
1b	Lead anodes in electrochemical oxygen sensors.	
1c	Lead, cadmium and mercury in infra-red light detectors.	
1d	Mercury in reference electrodes: low chloride mercury chloride, mercury sulphate and mercury oxide.	
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.	
9	Cadmium in helium-cadmium lasers.	
10	Lead and cadmium in atomic absorption spectroscopy lamps.	
11	Lead in alloys as a superconductor and thermal conductor in MRI.	
12	Lead and cadmium in metallic bonds creating superconducting magnetic circuits in MRI, SQUID, NMR (Nuclear Magnetic Resonance) or FTMS (Fourier Transform Mass Spectrometer) detectors. Expires on 30 June 2021.	Expires on 30 June 2021
13	Lead in counterweights.	
14	Lead in single crystal piezoelectric materials for ultrasonic transducers.	
15	Lead in solders for bonding to ultrasonic transducers.	
16	Mercury in very high accuracy capacitance and loss measurement bridges and in high frequency RF switches and relays in monitoring and control instruments not exceeding 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 micrometre.	
19	Lead in Liquid crystal on silicon (LCoS) displays.	
20	Cadmium in X-ray measurement filters.	
21	Cadmium in phosphor coatings in image intensifiers for X-ray images until 31 December 2019 and in spare parts for X-ray systems placed on the EU market before 1 January 2020.	Expired on 31 December 2019
22	Lead acetate marker for use in stereotactic head frames for use with CT and MRI and in positioning systems for gamma beam and particle therapy equipment. Expires on 30 June 2021.	Expires on 30 June 2021
23	Lead as an alloying element for bearings and wear surfaces in medical equipment exposed to ionising radiation. Expires on 30 June 2021.	Expires on 30 June 2021
24	Lead enabling vacuum tight connections between aluminium and steel in X-ray image intensifiers. Expires on 31 December 2019.	Expired on 31 December 2019

25	Lead in the surface coatings of pin connector systems requiring nonmagnetic connectors which are used durably at a temperature below -20°C under normal operating and storage conditions. Expires on 30 June 2021.	Expires on 30 June 2021
~~26~~	~~Lead in solders on printed circuit boards, termination coatings of electrical and electronic components and coatings of printed circuit boards, solders for connecting wires and cables, solders connecting transducers and sensors, that are used durably at a temperature below -20°C under normal operating and storage conditions. Expires on 30 June 2021.~~	
26	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. These exemptions expire on 30 June 2021.	Expires on 30 June 2021
27	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 isocenter of the magnet in medical magnetic resonance imaging equipment, including patient monitors designed to be used within this sphere, or (b) magnetic fields within 1 m distance from the external surfaces of cyclotron magnets, magnets for beam transport and beam direction control applied for particle therapy. Expires on 30 June 2020.	Expired on 30 June 2020
28	Lead in solders for mounting cadmium telluride and cadmium zinc telluride digital array detectors to printed circuit boards. Expires on 31 December 2017.	Expired on 31 December 2017
29	Lead in alloys, as a superconductor or thermal conductor, used in cryo-cooler cold heads and/or in cryo-cooled 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 30 June 2021.	Expires on 30 June 2021
30	Hexavalent chromium in alkali dispensers used to create photocathodes in X-ray image intensifiers until 31 December 2019 and in spare parts for X-ray systems placed on the EU market before 1 January 2020.	Expired on 31 December 2019
~~31~~	~~Lead, cadmium and hexavalent chromium in reused spare parts, recovered from medical devices placed on the market before 22 July 2014 and used in category 8 equipment placed on the market before 22 July 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 21 July 2021.~~	
31a	Lead, cadmium, hexavalent chromium, and polybrominated diphenyl ethers (PBDE) in spare parts recovered from and used for the repair or refurbishment of medical devices, including in vitro diagnostic medical devices, or electron microscopes and their accessories, provided that the reuse takes place in auditable closed-loop business-to-business return systems and that each reuse of parts is notified to the customer. Expires on: (a) 21 July 2021 for the use in medical devices other than in vitro diagnostic medical devices; (b) 21 July 2023 for the use in in vitro diagnostic medical devices; (c) 21 July 2024 for the use in electron microscopes and their accessories.	Expires on 21 July 2021
32	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 31 December 2019.	Expired on 31 December 2019
33	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. Expires on 30 June 2016 for class IIa and on 31 December 2020 for class IIb.	Expired on 30 June 2016
34	Lead as an activator in the fluorescent powder of discharge lamps when used for extracorporeal photopheresis lamps containing BSP (BaSi2O5:Pb) phosphors. Expires on 22 July 2021.	Expires on 22 July 2021
35	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 21 July 2024.	Expires on 21 July 2024
36	Lead used in other than C-press compliant pin connector systems for industrial monitoring and control instruments. Expires on 31 December 2020. May be used after that date in spare parts for industrial monitoring and control instruments placed on the market before 1 January 2021.	Expires on 31 December 2020

37	Lead in platinized platinum electrodes used for conductivity measurements where at least one of the following conditions applies: (a) 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; (b) 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; (c) measurements of conductivities above 100 mS/m that must be performed with portable instruments. Expires on 31 December 2025.	
38	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. Expires on 31 December 2019. May be used after that date in spare parts for CT and X-ray systems placed on the market before 1 January 2020.	Expired on 31 December 2019
39	Lead in micro-channel plates (MCPs) used in equipment where at least one of the following properties is present: (a) a compact size of the detector for electrons or ions, where the space for the detector is limited to a maximum of 3 mm/MCP (detector thickness + space for installation of the MCP), a maximum of 6 mm in total, and an alternative design yielding more space for the detector is scientifically and technically impracticable; (b) a two-dimensional spatial resolution for detecting electrons or ions, where at least one of the following applies: (i) a response time shorter than 25 ns; (ii) a sample detection area larger than 149 mm^2; (iii) a multiplication factor larger than 1.3×10^3. (c) a response time shorter than 5 ns for detecting electrons or ions; (d) a sample detection area larger than 314 mm2 for detecting electrons or ions; (e) a multiplication factor larger than 4.0×10^7. The exemption expires on the following dates: (a) 21 July 2021 for medical devices and monitoring and control instruments; (b) 21 July 2023 for in-vitro diagnostic medical devices; (c) 21 July 2024 for industrial monitoring and control instruments.	
40	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. Expires on 31 December 2020. May be used after that date in spare parts for industrial monitoring and control instruments placed on the market before 1 January 2021.	Expires on 31 December 2020
41	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.	
42	Mercury in electric rotating connectors used in intravascular ultrasound imaging systems capable of high operating frequency (greater than 50 MHz) modes of operation. Expires on 30 June 2019.	Expired on 30 June 2019
43	Cadmium anodes in Hersch cells for oxygen sensors used in industrial monitoring and control instruments, where sensitivity below 10 ppm is required. Expires on 15 July 2023.	Expires on 15 July 2023
44	Cadmium in radiation tolerant video camera tubes designed for cameras with a centre resolution greater than 450 TV lines which are used in environments with ionising radiation exposure exceeding 100 Gy/hour and a total dose in excess of 100kGy.	

Table B-7 RoHS exemptions list which was referenced in the IPC-1752 v1.1 PDF form

Unique ID Authority == IPC

Unique ID Identity == EL2006/690/EC

IPC Revision == 1.0

This is the RoHS exemptions list which was referenced in the IPC-1752 v1.1 PDF. This list is included in the IPC 1752B standard to assist companies who want to import an IPC-1752 v1.1 XML file into their IPC 1752B software solution and to map any old RoHS exemptions declared in the IPC-1752 v1.1 XML file against the current list of valid RoHS exemptions.

Identity	Description
1	Mercury in compact fluorescent lamps not exceeding 5 mg per lamp
2a	Mercury in straight fluorescent lamps for general purposes not exceeding 10 mg in halophosphate lamps.
2b	Mercury in straight fluorescent lamps for general purposes not exceeding 5 mg in triphosphate lamps with a normal lifetime.

2c	Mercury in straight fluorescent lamps for general purposes not exceeding 8 mg in triphosphate lamps with long lifetime.
3	Mercury in straight fluorescent lamps for special purposes
4	Mercury in other lamps not specifically mentioned in this Annex
5	Lead in glass of cathode ray tubes, electronic components and fluorescent tubes
6a	Lead as an alloying element in steel containing up to 0.35 % lead by weight
6b	Lead as an alloying element in aluminum containing up to 0.4 % lead by weight
6c	Lead as an alloying element in copper containing up to 4 % lead by weight
7a	Lead in high melting temperature type solders (i.e. lead based solder alloys containing 85 % by weight or more lead)
7b	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission as well as network management for telecommunications
7c	Lead in electronic ceramic parts (e.g. piezoelectronic devices)
8	Cadmium and its compounds in electrical contacts and cadmium plating except for applications banned under Directive 91/338/EEC amending Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations
9	Hexavalent chromium as an anti-corrosion of the carbon steel cooling system in absorption refrigerators.
9a	DecaBDE in polymeric applications
9b	Lead in lead-bronze bearing shells and bushes
11	Lead used in compliant pin connector systems
12	Lead as a coating material for a thermal conduction module c-ring.
13a	Lead in optical and filter glass
13b	Cadmium in optical and filter glass
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
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages
16	Lead in linear incandescent lamps with silicate coated tubes.
17	Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications.
18	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5:Pb) as well as when used as specialty lamps for diazo-printing reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba)2MgSi2O7:Pb).
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).
20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCD).
21	Lead and cadmium in printing inks for the application of enamels on borosilicate glass.
22	Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used for fiber optic communications systems.
23	Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with NiFe lead frames and lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with copper lead frames.
24	Lead in solders for the soldering to machined through-hole discoidal and planar array ceramic multilayer capacitors.
25	Lead oxide in plasma display panels (PDP) and surface conduction electron emitter displays (SED) used in structural elements; notably in the front and rear glass dielectric layer, the bus electrode, the black stripe, the address electrode, the barrier ribs, the seal frit and frit ring as well as in print pastes.
26	Lead oxide in the glass envelope of Black Light Blue (BLB) lamps.
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.
28	Hexavalent chromium in corrosion preventive coatings of unpainted metal sheetings and fasteners used for corrosion protection and Electromagnetic Interference Shielding in equipment falling under category three of Directive 2002/96/EC (IT and telecommunications equipment). Exemption granted until 1 July 2007.
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC (*).

Table B-8 ELV exemptions listed in Commission Directive 2016/774 published 18 May 2016

Unique ID Authority == IPC
Unique ID Identity == EL2016/774
IPC Revision == 1.0

The list of ELV exemptions in Commission Directive EL2016/774 is divided into groups of exemptions which can be claimed for specific substance applications. For example, the following extract from Commission Directive 2011/37/EU states that exemptions 1(a) and 1(b) can be claimed for the substance application "Lead as an alloying element".

Lead as an alloying element

1(a).	Steel for machining purposes and batch hot dip galvanised steel components containing up to 0,35 % lead by weight	
1(b).	Continuously galvanised steel sheet containing up to 0,35 % lead by weight	Vehicles type approved before 1 January 2016 and spare parts for these vehicles

For clarity, the substance application is included at the beginning of description text for each exemption, separated by a colon ":".

Identity	Description	Scope and expiry date
1(a)	Lead as an alloying element: Steel for machining purposes and batch hot dip galvanised steel components containing up to 0,35% lead by weight	
1(b)	Lead as an alloying element: Continuously galvanised steel sheet containing up to 0,35% lead by weight	Vehicles type-approved before 1 January 2016 and spare parts for these vehicles
2(a)	Lead as an alloying element: Aluminium for machining purposes with a lead content up to 2% by weight	As spare parts for vehicles put on the market before 1 July 2005
2(b)	Lead as an alloying element: Aluminium with a lead content up to 1,5% by weight	As spare parts for vehicles put on the market before 1 July 2008
2(c)	Lead as an alloying element: Aluminium with a lead content up to 0,4% by weight	This exemption shall be reviewed in 2015.
3	Lead as an alloying element: Copper alloy containing up to 4% lead by weight	This exemption shall be reviewed in 2015.
4(a)	Lead as an alloying element: Bearing shells and bushes	As spare parts for vehicles put on the market before 1 July 2008
4(b)	Lead as an alloying element: Bearing shells and bushes in engines, transmissions and air conditioning compressors	Spare parts for vehicles put on the market before 1 July 2011
5	Lead and lead compounds in components: Batteries	This exemption shall be reviewed in 2015.
6	Lead and lead compounds in components: Vibration dampers	Vehicles type-approved before 1 January 2016 and spare parts for these vehicles
7(a)	Lead and lead compounds in components: Vulcanising agents and stabilisers for elastomers in brake hoses, fuel hoses, air ventilation hoses, elastomer/metal parts in the chassis applications, and engine mountings	As spare parts for vehicles put on the market before 1 July 2005
7(b)	Lead and lead compounds in components: Vulcanising agents and stabilisers for elastomers in brake hoses, fuel hoses, air ventilation hoses, elastomer/metal parts in the chassis applications, and engine mountings containing up to 0,5% lead by weight	As spare parts for vehicles put on the market before 1 July 2006
7(c)	Lead and lead compounds in components: Bonding agents for elastomers in powertrain applications containing up to 0,5% lead by weight	As spare parts for vehicles put on the market before 1 July 2009
8(a)	Lead and lead compounds in components: Lead in solders to attach electrical and electronic components to electronic circuit boards and lead in finishes on terminations of components other than electrolyte aluminium capacitors, on component pins and on electronic circuit boards	Vehicles type-approved before 1 January 2016 and spare parts for these vehicles

8(b)	Lead and lead compounds in components: Lead in solders in electrical applications other than soldering on electronic circuit boards or on glass	Vehicles type-approved before 1 January 2011 and spare parts for these vehicles
8(c)	Lead and lead compounds in components: Lead in finishes on terminals of electrolyte aluminium capacitors	Vehicles type-approved before 1 January 2013 and spare parts for these vehicles
8(d)	Lead and lead compounds in components: Lead used in soldering on glass in mass airflow sensors	Vehicles type-approved before 1 January 2015 and spare parts of such vehicles
8(e)	Lead and lead compounds in components: Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)	This exemption shall be reviewed in 2019.
8(f)(a)	Lead and lead compounds in components: Lead in compliant pin connector systems	Vehicles type-approved before 1 January 2017 and spare parts for these vehicles
8(f)(b)	Lead and lead compounds in components: Lead in compliant pin connector systems other than the mating area of vehicle harness connnectors	This exemption shall be reviewed in 2019.
8(g)	Lead and lead compounds in components: Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	This exemption shall be reviewed in 2019
8(h)	Lead and lead compounds in components: Lead in solder to attach heat spreaders to the heat sink in power semiconductor assemblies with a chip size of at least 1 cm2 of projection area and a nominal current density of at least 1 A/mm2 of silicon chip area	Vehicles type-approved before 1 January 2016 and spare parts for these vehicles
8(i)	Lead and lead compounds in components: Lead in solders in electrical glazing applications on glass except for soldering in laminated glazing	Vehicles type-approved before 1 January 2016 and spare parts for these vehicles
8(j)	Lead and lead compounds in components: Lead in solders for soldering in laminated glazing	Vehicles type-approved before 1 January 2020 and spare parts for these vehicles
9	Lead and lead compounds in components: Valve seats	As spare parts for engine types developed before 1 July 2003
10(a)	Lead and lead compounds in components: Electrical and electronic components which contain lead in a glass or ceramic, in a glass or ceramic matrix compound, in a glass-ceramic material, or in a glass-ceramic matrix compound. This exemption does not cover the use of lead in: - glass in bulbs and glaze of spark plugs, - dielectric ceramic materials of components listed under 10(b), 10(c) and 10(d).	
10(b)	Lead and lead compounds in components: Lead in PZT based dielectric ceramic materials of capacitors being part of integrated circuits or discrete semiconductors	
10(c)	Lead and lead compounds in components: Lead in dielectric ceramic materials of capacitors with a rated voltage of less than 125 V AC or 250 V DC	Vehicles type approved before 1 January 2016 and spare parts for these vehicles
10(d)	Lead and lead compounds in components: Lead in the dielectric ceramic materials of capacitors compensating the temperature-related deviations of sensors in ultrasonic sonar systems	Vehicles type-approved before 1 January 2017 and spare parts for these vehicles
11	Lead and lead compounds in components: Pyrotechnic initiators	Vehicles type approved before 1 July 2006 and spare parts for these vehicles
12	Lead and lead compounds in components: Lead-containing thermoelectric materials in automotive electrical applications to reduce CO2 emissions by recuperation of exhaust heat	Vehicles type approved before 1 January 2019 and spare parts for these vehicles
Hexavalent chromium		
13(a)	Hexavalent chromium: Corrosion preventive coatings	As spare parts for vehicles put on the market before 1 July 2007
13(b)	Hexavalent chromium: Corrosion preventive coatings related to bolt and nut assemblies for chassis applications	As spare parts for vehicles put on the market before 1 July 2008
14	Hexavalent chromium: As an anti-corrosion agent of the carbon steel cooling system in absorption refrigerators in motor-caravans up to 0,75 weight-% in the cooling solution except where the use of other cooling technologies is practicable (i.e. available on the market for	

	the application in motor caravans) and does not lead to negative environmental, health and/or consumer safety impacts	
Mercury		
15(a)	Mercury: Discharge lamps for headlight application	Vehicles type approved before 1 July 2012 and spare parts for these vehicles
15(b)	Mercury: Fluorescent tubes used in instrument panel displays	Vehicles type approved before 1 July 2012 and spare parts for these vehicles
Cadmium		
16	Cadmium: Batteries for electrical vehicles	As spare parts for vehicles put on the market before 31 December 2008

Table B-9 new substances added to Annex II of the RoHS Directive by Commission Delegated Directive 2015/863 published 4 June 2015

Unique ID Authority == IPC
Unique ID Identity == EUROHS-1506
QueryList Revision == 1.0

On 4 June 2015 the European Commission published Delegated Directive 2015/863 which officially adds four new substances and maximum concentration values in homogenous materials to Annex II of the RoHS Directive. Electrical and electronic equipment must comply with these additional substance restrictions from 22 July 2019, except for Medical Devices (Category 8) and Monitoring and Control Instruments (Category 9) which must comply with these additional substance restrictions from 22 July 2021. The IPC 1752A Committee Meeting on 23 February 2015 decided that this should be reported as a separate Substance Category List.

Identity	Substance Category Name	Reportable Application	Threshold
00001	Bis(2-ethylhexyl) phthalate (DEHP)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogenous materials
00002	Butyl benzyl phthalate (BBP)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogenous materials
00003	Dibutyl phthalate (DBP)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogenous materials
00004	Diisobutyl phthalate (DIBP)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogenous materials

Table B-10 EUROHS-1506 Class A QueryList statements

Identity	Statement
01	Product(s) meets EU RoHS requirements
02	Product(s) is obsolete, no information is available
03	Product(s) is unknown, no information is available

Table B-11 EUROHS-1506 Reportable Applications

Identity	Statement
01	Electrical and electronic equipment

Table B12 consolidated list of substances in Annex II of the RoHS Directive as provided in Commission Delegated Directive 2015/863 published 4 June 2015

Unique ID Authority == IPC
Unique ID Identity == EUROHS-1907
QueryList Revision == 1.0

On 4 June 2015 the European Commission published Delegated Directive 2015/863 which officially adds four new substances and maximum concentration values in homogenous materials to Annex II of the RoHS Directive. Electrical and electronic equipment must comply with these additional substance restrictions by 22 July 2019, except for Medical Devices (Category 8) and Monitoring and Control Instruments (Category 9) which must comply with these additional substance restrictions by 22 July 2021. The IPC 1752A Committee Meeting on 30 January 2019 decided that an additional consolidated list of all ten substances should be added to these Appendices for companies who want to report against all ten substances in one Substance Category List.

The existing EUROHS-0508 list remains as a separate list in these Appendices as this allows companies to collect data from their supply chains for the original 6 EU RoHS substances which are currently the only substances restricted under other global RoHS regulations in China, India, and other countries around the world where their legislation does not immediately synchronize with the EU regulations. The existing EUROHS-1506 list remains as a separate list in these Appendices as this allows companies in Categories 8 & 9 to continue collecting data on the 4 phthalate substances separately from EUROHS- 0508 since the phthalate substances are not restricted for Categories 8 & 9 until July 2021.

Table B-13 EUROHS-1907 Reportable Applications

Identity	Substance Category Name	Reportable Application	Threshold
00001	Cadmium/cadmium compounds	Electrical and electronic equipment	0.01% by weight (100 ppm) of homogeneous materials
00002	Polybrominated biphenyls (PBBs)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogeneous materials
00003	Polybrominated diphenyl ethers (PBDEs)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogeneous materials
00004	Chromium VI compounds	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogeneous materials
00005	Lead/lead compounds	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogeneous materials
00006	Mercury/mercury compounds	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogeneous materials
00007	Bis(2-ethylhexyl) phthalate (DEHP)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogenous materials
00008	Butyl benzyl phthalate (BBP)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogenous materials
00009	Dibutyl phthalate (DBP)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogenous materials
00010	Diisobutyl phthalate (DIBP)	Electrical and electronic equipment	0.1% by weight (1 000 ppm) of homogenous materials

Table B-14 EUROHS-1907 Class A QueryList statements

Identity	Statement
01	Product(s) meets EU RoHS requirements without any exemptions
02	Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder '7b' exemption (other selected exemptions may also apply)
03	Product(s) meets EU RoHS requirements by application of the selected exemption(s)
04	Product(s) does not meet EU RoHS requirements and is not under exemptions
05	Product(s) is obsolete, no information is available
06	Product(s) is unknown, no information is available

Table B-15 EUROHS-1907 Reportable Applications

Identity	Statement
01	Electrical and electronic equipment

Implementation List C
REACH Candidate List Substances

C1 REACH Candidate List Substances, 19 January 2021

Unique ID Authority == IPC
Unique ID Identity == EUREACH-0121
QueryList Revision == 1.0

The REACH Candidate List is updated periodically by the European Chemicals Agency (ECHA). A list of these substances can be found at the ECHA website (at publication): http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

The Unique ID for each date issue of the REACH Candidate List is provided in the table below and includes all substance category names that were included in the Candidate List up to that date. For example, Unique ID == EUREACH-0310 includes the 30 substance category names that were included in the REACH Candidate List as at 30 March 2010.

NOTE 1: In the June 2012 update to the REACH Candidate List the ECHA consolidated the entries for Aluminosilicate Refractory Ceramic Fibres and Zirconia Aluminosilicate Refractory Ceramic Fibres which were included in the List in January 2010 and also in December 2011. The ECHA Press Release[1] notes that the scope of the more recent Aluminosilicate Refractory Ceramic Fibres and Zirconia Aluminosilicate Refractory Ceramic Fibres entries in the December 2011 List fully covers the earlier entries in the January 2010 List, and so these earlier entries are now consolidated into the December 2011 List. The REACH Candidate List published by ECHA now has only one entry for Aluminosilicate Refractory Ceramic Fibres and only one entry for Zirconia Aluminosilicate Refractory Ceramic Fibres, and these entries are included in the December 2011 List. The January 2010 List no longer includes Refractory Ceramic Fibres, Zirconia Aluminosilicate and Refractory Ceramic Fibres, Aluminosilicate.

NOTE 2: IPC-1752A with Amendment 1 was published November 2012 and supersedes IPC-1752A February 2010. Amendment 1 amends Section 7.2, Rule 29 and allows the use of a CAS number to uniquely identify a REACH Candidate List substance in a Class C XML. All CAS numbers published by ECHA for a REACH Candidate List substance are included in the table below to enable software systems to make use of this amended Rule 29, as required. Note that ECHA has not published CAS numbers for some REACH Candidate List Substances.

NOTE 3: On 10 September the European Court of Justice (ECJ) published their ruling on how notification obligations in REACH Article 7(2) and communication obligations in REACH Article 33 must be interpreted in the case of a complex product which contains several articles. The ECJ press release summarizing the ruling is published at **http://curia.europa.eu/jcms/upload/docs/application/pdf/2015- 09/cp150100en.pdf**. On 17 December 2015, the ECHA published updated guidance on requirements for substances in articles which confirms that “the substance concentration threshold of 0.1% (w/w) applies to every article supplied. This threshold applies to each article of an object made up of more than one article, which are joined or assembled together.” The ECHA guidance is published at **http://echa.europa.eu/documents/10162/13632/articles_en.pdf**. In view of this, the January 2016 update to these Appendices, and all subsequent updates, includes a new threshold of “0.1% by weight (1 000 ppm) of any article” in place of the old threshold previously used of “0.1% by weight (1 000 ppm) of the product”.

[1] http://echa.europa.eu/web/guest/view-article/-/journal_content/6fd1bfe8-8618-4b9b-b0ef-30234108c7f4

Table C-1 REACH Candidate List Substances with CAS numbers as provided by ECHA

Identity	Substance Category Name	CAS number(s) published by ECHA	Reportable Application	Threshold
Included in REACH Candidate List on 28 October 2008: Unique ID == EUREACH-1008				
00001	Triethyl arsenate	15606-95-8	All	0.1% by weight (1 000 ppm) of any article
00002	Sodium dichromate, dihydrate	7789-12-0, 10588-01-9	All	0.1% by weight (1 000 ppm) of any article
00003	Lead hydrogen arsenate	7784-40-9	All	0.1% by weight (1 000 ppm) of any article
00004	Hexabromocyclododecane (HBCDD) and all major diastereoisomers	25637-99-4, 3194-55-6, 134237-50-6, 134237-51-7, 134237-52-8	All	0.1% by weight (1 000 ppm) of any article
00005	Dibutyl phthalate (DBP)	84-74-2	All	0.1% by weight (1 000 ppm) of any article
00006	Diarsenic trioxide	1327-53-3	All	0.1% by weight (1 000 ppm) of any article
00007	Diarsenic pentoxide	1303-28-2	All	0.1% by weight (1 000 ppm) of any article
00008	Tributyl tin oxide (TBTO)	56-35-9	All	0.1% by weight (1 000 ppm) of any article
00009	Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	All	0.1% by weight (1 000 ppm) of any article
00010	Benzyl butyl phthalate (BBP)	85-68-7	All	0.1% by weight (1 000 ppm) of any article
00011	Anthracene	120-12-7	All	0.1% by weight (1 000 ppm) of any article
00012	Shortchain Chlorinated Paraffins (C10 - C13)	85535-84-8	All	0.1% by weight (1 000 ppm) of any article
00013	5-tert-butyl-2,4,6-trinitro-m-xylene	81-15-2	All	0.1% by weight (1 000 ppm) of any article
00014	4,4'-Diaminodiphenylmethane	101-77-9	All	0.1% by weight (1 000 ppm) of any article
00015	Cobalt dichloride (CoCl2)	7646-79-9	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 13 January 2010: Unique ID == EUREACH-0110				
	~~*Refractory Ceramic Fibres, Zirconia Aluminosilicate*~~ ***see NOTE 3***		All	~~*0.1% by weight (1 000 ppm) of any article*~~
	~~*Refractory Ceramic Fibres, Aluminosilicate*~~ ***see NOTE 3***		All	~~*0.1% by weight (1 000 ppm) of any article*~~
00016	Tris (2-chloroethyl) phosphate (TCEP)	115-96-8	All	0.1% by weight (1 000 ppm) of any article
00017	Coal tar pitch, high temperature	65996-93-2	All	0.1% by weight (1 000 ppm) of any article
00018	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	All	0.1% by weight (1 000 ppm) of any article
00019	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	12656-85-8	All	0.1% by weight (1 000 ppm) of any article
00020	Lead chromate	7758-97-6	All	0.1% by weight (1 000 ppm) of any article
00021	Diisobutyl phthalate (DIBP)	84-69-5	All	0.1% by weight (1 000 ppm) of any article
00022	Anthracene oil,anthracene paste, distn. Lights	91995-17-4	All	0.1% by weight (1 000 ppm) of any article
00023	Anthracene oil,anthracene paste,anthracene fraction	91995-15-2	All	0.1% by weight (1 000 ppm) of any article
00024	Anthracene oil,anthracene paste	90640-81-6	All	0.1% by weight (1 000 ppm) of any article
00025	Anthracene oil, anthracene-low	90640-82-7	All	0.1% by weight (1 000 ppm) of any article
00026	Anthracene oil	90640-80-5	All	0.1% by weight (1 000 ppm) of any article
00027	2,4-Dinitrotoluene	121-14-2	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 30 March 2010: Unique ID == EUREACH-0310				
00028	Acrylamide	79-06-1	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 18 June 2010: Unique ID == EUREACH-0610				
00029	Sodium chromate	7775-11-3	All	0.1% by weight (1 000 ppm) of any article
00030	Potassium chromate	7789-00-6	All	0.1% by weight (1 000 ppm) of any article
00031	Ammonium dichromate	7789-09-5	All	0.1% by weight (1 000 ppm) of any article

00032	Potassium dichromate	7778-50-9	All	0.1% by weight (1 000 ppm) of any article
00033	Tetraboron disodium heptaoxide, hydrate	12267-73-1	All	0.1% by weight (1 000 ppm) of any article
00034	Disodium tetraborate, anhydrous	1303-96-4, 1330-43-4, 12179-04-3	All	0.1% by weight (1 000 ppm) of any article
00035	Boric acid	10043-35-3, 11113-50-1	All	0.1% by weight (1 000 ppm) of any article
00036	Trichlorethylene	79-01-6	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 15 December 2010: Unique ID == EUREACH-1210				
00037	Chromium Trioxide	1333-82-0	All	0.1% by weight (1 000 ppm) of any article
00038	Acids generated from chromium trioxide and their oligomers	7738-94-5, 13530-68-2	All	0.1% by weight (1 000 ppm) of any article
00039	2-Ethoxyethanol	110-80-5	All	0.1% by weight (1 000 ppm) of any article
00040	2-Methoxyethanol	109-86-4	All	0.1% by weight (1 000 ppm) of any article
00041	Cobalt(II) Diacetate	71-48-7	All	0.1% by weight (1 000 ppm) of any article
00042	Cobalt(II) Carbonate	513-79-1	All	0.1% by weight (1 000 ppm) of any article
00043	Cobalt(II) Dinitrate	10141-05-6	All	0.1% by weight (1 000 ppm) of any article
00044	Cobalt(II) Sulphate	10124-43-3	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 20 June 2011: Unique ID == EUREACH-0611				
00045	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	All	0.1% by weight (1 000 ppm) of any article
00046	1,2,3-Trichloropropane	96-18-4	All	0.1% by weight (1 000 ppm) of any article
00047	1-Methyl-2-pyrrolidone	872-50-4	All	0.1% by weight (1 000 ppm) of any article
00048	Hydrazine	302-01-2, 7803-57-8	All	0.1% by weight (1 000 ppm) of any article
00049	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	All	0.1% by weight (1 000 ppm) of any article
00050	Strontium chromate	7789-06-2	All	0.1% by weight (1 000 ppm) of any article
00051	2-Ethoxyethyl acetate	111-15-9	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 19 December 2011: Unique ID == EUREACH-1211				
00052	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	All	0.1% by weight (1 000 ppm) of any article
00053	Bis(2-methoxyethyl) phthalate	117-82-8	All	0.1% by weight (1 000 ppm) of any article
00054	Bis(2-methoxyethyl) ether	111-96-6	All	0.1% by weight (1 000 ppm) of any article
00055	Calcium arsenate	7778-44-1	All	0.1% by weight (1 000 ppm) of any article
00056	Potassium hydroxyoctaoxodizincatedichromate	11103-86-9	All	0.1% by weight (1 000 ppm) of any article
00057	Lead dipicrate	6477-64-1	All	0.1% by weight (1 000 ppm) of any article
00058	N,N-dimethylacetamide	127-19-5	All	0.1% by weight (1 000 ppm) of any article
00059	Arsenic acid	7778-39-4	All	0.1% by weight (1 000 ppm) of any article
00060	2-Methoxyaniline; o-Anisidine	90-04-0	All	0.1% by weight (1 000 ppm) of any article
00061	Trilead diarsenate	3687-31-8	All	0.1% by weight (1 000 ppm) of any article
00062	1,2-dichloroethane	107-06-2	All	0.1% by weight (1 000 ppm) of any article
00063	Pentazinc chromate octahydroxide	49663-84-5	All	0.1% by weight (1 000 ppm) of any article
00064	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	All	0.1% by weight (1 000 ppm) of any article
00065	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	All	0.1% by weight (1 000 ppm) of any article
00066	Lead diazide, Lead azide	13424-46-9	All	0.1% by weight (1 000 ppm) of any article
00067	Phenolphthalein	77-09-8	All	0.1% by weight (1 000 ppm) of any article
00068	Dichromium tris(chromate)	24613-89-6	All	0.1% by weight (1 000 ppm) of any article
00069	Lead styphnate	15245-44-0	All	0.1% by weight (1 000 ppm) of any article
00070	Zirconia Aluminosilicate Refractory Ceramic Fibres	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article

00071	Aluminosilicate Refractory Ceramic Fibres	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 18 June 2012: Unique ID == EUREACH-0612				
00072	Diboron trioxide	1303-86-2	All	0.1% by weight (1 000 ppm) of any article
00073	Lead(II) bis(methanesulfonate)	17570-76-2	All	0.1% by weight (1 000 ppm) of any article
00074	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	All	0.1% by weight (1 000 ppm) of any article
00075	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	All	0.1% by weight (1 000 ppm) of any article
00076	Formamide	75-12-7	All	0.1% by weight (1 000 ppm) of any article
00077	1,3,5-tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	All	0.1% by weight (1 000 ppm) of any article
00078	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (B-TGIC)	59653-74-6	All	0.1% by weight (1 000 ppm) of any article
00079	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	All	0.1% by weight (1 000 ppm) of any article
00080	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	All	0.1% by weight (1 000 ppm) of any article
00081	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with greater than or equal to 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	All	0.1% by weight (1 000 ppm) of any article
00082	a,a-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with greater than or equal to 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	All	0.1% by weight (1 000 ppm) of any article
00083	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with greater than or equal to 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	All	0.1% by weight (1 000 ppm) of any article
00084	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with greater than or equal to 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 19 December 2012: Unique ID == EUREACH-1212				
00085	Pyrochlore, antimony lead yellow	8012-00-8	All	0.1% by weight (1 000 ppm) of any article
00086	6-methoxy-m-toluidine (p-cresidine)	120-71-8	All	0.1% by weight (1 000 ppm) of any article
00087	Henicosafluoroundecanoic acid	2058-94-8	All	0.1% by weight (1 000 ppm) of any article
00088	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	All	0.1% by weight (1 000 ppm) of any article

00089	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]	85-42-7, 13149-00-3, 14166-21-3	All	0.1% by weight (1 000 ppm) of any article
00090	Dibutyltin dichloride (DBTC)	683-18-1	All	0.1% by weight (1 000 ppm) of any article
00091	Lead bis(tetrafluoroborate)	13814-96-5	All	0.1% by weight (1 000 ppm) of any article
00092	Lead dinitrate	10099-74-8	All	0.1% by weight (1 000 ppm) of any article
00093	Silicic acid, lead salt	11120-22-2	All	0.1% by weight (1 000 ppm) of any article
00094	4-Aminoazobenzene	60-09-3	All	0.1% by weight (1 000 ppm) of any article
00095	Lead titanium zirconium oxide	12626-81-2	All	0.1% by weight (1 000 ppm) of any article
00096	Lead monoxide (lead oxide)	1317-36-8	All	0.1% by weight (1 000 ppm) of any article
00097	o-Toluidine	95-53-4	All	0.1% by weight (1 000 ppm) of any article
00098	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	All	0.1% by weight (1 000 ppm) of any article
00099	Silicic acid (H2Si2O5), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	68784-75-8	All	0.1% by weight (1 000 ppm) of any article
00100	Trilead bis(carbonate)dihydroxide	1319-46-6	All	0.1% by weight (1 000 ppm) of any article
00101	Furan	110-00-9	All	0.1% by weight (1 000 ppm) of any article
00102	N,N-dimethylformamide	68-12-2	All	0.1% by weight (1 000 ppm) of any article
00103	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
00104	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
00105	4,4'-methylenedi-o-toluidine	838-88-0	All	0.1% by weight (1 000 ppm) of any article
00106	Diethyl sulphate	64-67-5	All	0.1% by weight (1 000 ppm) of any article
00107	Dimethyl sulphate	77-78-1	All	0.1% by weight (1 000 ppm) of any article
00108	Lead oxide sulfate	12036-76-9	All	0.1% by weight (1 000 ppm) of any article
00109	Lead titanium trioxide	12060-00-3	All	0.1% by weight (1 000 ppm) of any article
00110	Acetic acid, lead salt, basic	51404-69-4	All	0.1% by weight (1 000 ppm) of any article
00111	[Phthalato(2-)]dioxotrilead	69011-06-9	All	0.1% by weight (1 000 ppm) of any article
00112	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	All	0.1% by weight (1 000 ppm) of any article
00113	N-methylacetamide	79-16-3	All	0.1% by weight (1 000 ppm) of any article
00114	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	All	0.1% by weight (1 000 ppm) of any article
00115	1,2-Diethoxyethane	629-14-1	All	0.1% by weight (1 000 ppm) of any article
00116	Tetralead trioxide sulphate	12202-17-4	All	0.1% by weight (1 000 ppm) of any article
00117	N-pentyl-isopentylphthalate	776297-69-9	All	0.1% by weight (1 000 ppm) of any article
00118	Dioxobis(stearato)trilead	12578-12-0	All	0.1% by weight (1 000 ppm) of any article
00119	Tetraethyllead	78-00-2	All	0.1% by weight (1 000 ppm) of any article
00120	Pentalead tetraoxide sulphate	12065-90-6	All	0.1% by weight (1 000 ppm) of any article
00121	Pentacosafluorotridecanoic acid	72629-94-8	All	0.1% by weight (1 000 ppm) of any article
00122	Tricosafluorododecanoic acid	307-55-1	All	0.1% by weight (1 000 ppm) of any article

00123	Heptacosafluorotetradecanoic acid	376-06-7	All	0.1% by weight (1 000 ppm) of any article
00124	1-bromopropane (n-propyl bromide)	106-94-5	All	0.1% by weight (1 000 ppm) of any article
00125	Methoxyacetic acid	625-45-6	All	0.1% by weight (1 000 ppm) of any article
00126	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	All	0.1% by weight (1 000 ppm) of any article
00127	Methyloxirane (Propylene oxide)	75-56-9	All	0.1% by weight (1 000 ppm) of any article
00128	Trilead dioxide phosphonate	12141-20-7	All	0.1% by weight (1 000 ppm) of any article
00129	o-aminoazotoluene	97-56-3	All	0.1% by weight (1 000 ppm) of any article
00130	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	All	0.1% by weight (1 000 ppm) of any article
00131	4,4'-oxydianiline and its salts	101-80-4	All	0.1% by weight (1 000 ppm) of any article
00132	Orange lead (lead tetroxide)	1314-41-6	All	0.1% by weight (1 000 ppm) of any article
00133	Biphenyl-4-ylamine	92-67-1	All	0.1% by weight (1 000 ppm) of any article
00134	Diisopentylphthalate	605-50-5	All	0.1% by weight (1 000 ppm) of any article
00135	Fatty acids, C16-18, lead salts	91031-62-8	All	0.1% by weight (1 000 ppm) of any article
00136	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	All	0.1% by weight (1 000 ppm) of any article
00137	Sulfurous acid, lead salt, dibasic	62229-08-7	All	0.1% by weight (1 000 ppm) of any article
00138	Lead cyanamidate	20837-86-9	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 20 June 2013: Unique ID == EUREACH-0613				
00139	Cadmium	7440-43-9	All	0.1% by weight (1 000 ppm) of any article
00140	Cadmium oxide	1306-19-0	All	0.1% by weight (1 000 ppm) of any article
00141	Pentadecafluorooctanoic acid (PFOA)	335-67-1	All	0.1% by weight (1 000 ppm) of any article
00142	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	All	0.1% by weight (1 000 ppm) of any article
00143	Dipentyl phthalate (DPP)	131-18-0	All	0.1% by weight (1 000 ppm) of any article
00144	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 16 December 2013: Unique ID == EUREACH-1213				
00145	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	All	0.1% by weight (1 000 ppm) of any article
00146	Trixylyl phosphate	25155-23-1	All	0.1% by weight (1 000 ppm) of any article
00147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	All	0.1% by weight (1 000 ppm) of any article
00148	Dihexyl phthalate	84-75-3	All	0.1% by weight (1 000 ppm) of any article
00149	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	All	0.1% by weight (1 000 ppm) of any article
00150	Cadmium sulphide	1306-23-6	All	0.1% by weight (1 000 ppm) of any article
00151	Lead di(acetate)	301-04-2	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 16 June 2014: Unique ID == EUREACH-0614				
00152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	All	0.1% by weight (1 000 ppm) of any article
00153	Cadmium chloride	10108-64-2	All	0.1% by weight (1 000 ppm) of any article
00154	Sodium perborate; perboric acid, sodium salt	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
00155	Sodium peroxometaborate	7632-04-4	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 17 December 2014: Unique ID == EUREACH-1214				
00156	2-Benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	All	0.1% by weight (1 000 ppm) of any article
00157	2-(2H-Benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	All	0.1% by weight (1 000 ppm) of any article

00158	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	All	0.1% by weight (1 000 ppm) of any article
00159	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
00160	Cadmium fluoride	7790-79-6	All	0.1% by weight (1 000 ppm) of any article
00161	Cadmium sulphate	10124-36-4, 31119-53-6	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 15 June 2015: Unique ID == EUREACH-0615				
00162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with greater than or equal to 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5, 68648-93-1	All	0.1% by weight (1 000 ppm) of any article
00163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 17 December 2015: Unique ID == EUREACH-1215				
00164	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1, 21049-39-8, 4149-60-4	All	0.1% by weight (1 000 ppm) of any article
00165	1,3-propanesultone	1120-71-4	All	0.1% by weight (1 000 ppm) of any article
00166	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	All	0.1% by weight (1 000 ppm) of any article
00167	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	All	0.1% by weight (1 000 ppm) of any article
00168	Nitrobenzene	98-95-3	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 20 June 2016: Unique ID == EUREACH-0616				
00169	Benzo[def]chrysene	50-32-8	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 12 January 2017: Unique ID == EUREACH-0117				
00170	4,4'-isopropylidenediphenol [Bisphenol A; BPA]	80-05-7	All	0.1% by weight (1 000 ppm) of any article
00171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2, 3108-42-7, 3830-45-3	All	0.1% by weight (1 000 ppm) of any article
00172	p-(1,1-dimethylpropyl)phenol	80-46-6	All	0.1% by weight (1 000 ppm) of any article
00173	4-heptylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 7 July 2017: Unique ID == EUREACH-0717				
00174	Perfluorohexane-1-sulphonic acid and its salts [PFHxS]	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 15 January 2018: Unique ID == EUREACH-0118 Revision = 2.0				
00175	Benz[a]anthracene	56-55-3	All	0.1% by weight (1 000 ppm) of any article
00176	Cadmium carbonate	513-78-0	All	0.1% by weight (1 000 ppm) of any article
00177	Cadmium hydroxide	21041-95-2	All	0.1% by weight (1 000 ppm) of any article
00178	Cadmium nitrate	10022-68-1, 10325-94-7	All	0.1% by weight (1 000 ppm) of any article
00179	Chrysene	218-01-9	All	0.1% by weight (1 000 ppm) of any article

00180	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"TM) [covering any of its individual anti- and syn-isomers or any combination thereof]	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
00181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)[with greater than or equal to 0.1% w/w 4-heptylphenol, branched and linear (4-HPbl)]	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 27 June 2018: Unique ID == EUREACH-0618				
00182	Benzo[ghi]perylene	191-24-2	All	0.1% by weight (1 000 ppm) of any article
00183	Octamethylcyclotetrasiloxane [D4]	556-67-2	All	0.1% by weight (1 000 ppm) of any article
00184	Decamethylcyclopentasiloxane [D5]	541-02-6	All	0.1% by weight (1 000 ppm) of any article
00185	Dodecamethylcyclohexasiloxane [D6]	540-97-6	All	0.1% by weight (1 000 ppm) of any article
00186	Terphenyl, hydrogenated	61788-32-7	All	0.1% by weight (1 000 ppm) of any article
00187	Disodium octaborate	12008-41-2	All	0.1% by weight (1 000 ppm) of any article
00188	Lead	7439-92-1	All	0.1% by weight (1 000 ppm) of any article
00189	Dicyclohexyl phthalate [DCHP]	84-61-7	All	0.1% by weight (1 000 ppm) of any article
00190	Ethylenediamine [EDA]	107-15-3	All	0.1% by weight (1 000 ppm) of any article
00191	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride [trimellitic anhydride; TMA]	552-30-7	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 15 January 2019: Unique ID == EUREACH-0119 Revision = 2.0				
00192	Benzo[k]fluoranthene	207-08-9	All	0.1% by weight (1 000 ppm) of any article
00193	Fluoranthene	206-44-0	All	0.1% by weight (1 000 ppm) of any article
00194	Phenanthrene	85-01-8	All	0.1% by weight (1 000 ppm) of any article
00195	Pyrene	129-00-0	All	0.1% by weight (1 000 ppm) of any article
00196	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	All	0.1% by weight (1 000 ppm) of any article
00197	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one [3-benzylidene camphor; 3-BC]	15087-24-8	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 16 July 2019: Unique ID == EUREACH-0719				
00198	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with greater than or equal to 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
00199	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides [covering any of their individual isomers and combinations thereof]	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
00200	2-methoxyethyl acetate	110-49-6	All	0.1% by weight (1 000 ppm) of any article

00201	4-tert-butylphenol	98-54-4	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 16 January 2020: Unique ID == EUREACH-0120				
00202	Diisohexyl phthalate	71850-09-4	All	0.1% by weight (1 000 ppm) of any article
00203	Perfluorobutane sulfonic acid (PFBS) and its salts	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
00204	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	All	0.1% by weight (1 000 ppm) of any article
00205	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 25 June 2020: Unique ID == EUREACH-0620				
00206	Dibutylbis(pentane-2,4-dionato-O,O')tin	22673-19-4	All	0.1% by weight (1 000 ppm) of any article
00207	butyl 4-hydroxybenzoate	94-26-8	All	0.1% by weight (1 000 ppm) of any article
00208	2-methylimidazole	693-98-1	All	0.1% by weight (1 000 ppm) of any article
00209	1-vinylimidazole	1072-63-5	All	0.1% by weight (1 000 ppm) of any article
Included in REACH Candidate List on 19 January 2021: Unique ID == EUREACH-0121				
00210	Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety	No CAS number(s) provided	All	0.1% by weight (1 000 ppm) of any article
00211	Bis(2-(2-methoxyethoxy)ethyl)ether	143-24-8	All	0.1% by weight (1 000 ppm) of any article

C.2 Non-exhaustive list of CAS numbers which are published in the ECHA support documents for some substance groups

For some substance groups on the Candidate List, the ECHA does not provide a complete list of CAS numbers in the main Candidate List, but does publish a non-exhaustive list of CAS numbers in a Support Document which can be found in the Details for the substance group on the ECHA website. The REACH Candidate List in Appendix D1 states 'No CAS numbers provided' for these substance groups. The February 2017 meeting of the 2-18b Committee decided to add Appendix D2 to provide these non- exhaustive lists of CAS numbers which are published in the Support Documents, subject to the following disclaimer statement that ECHA publishes in the Support Documents. https://echa.europa.eu/candidate-list-table

"These non-exhaustive lists of CAS numbers do not constitute a comprehensive record of all relevant CAS numbers available for a Candidate List entry in this table. Please note that a substance identified by a CAS number other than those specified in this table may still be covered by a Candidate List entry.

Similarly, a substance for which no CAS number is available may also be covered by this Candidate List entry. There may be generic CAS numbers covering at the same time substances within the scope of the Candidate List entry and substances which are outside the scope of this entry. Such other CAS numbers are not listed in this note."

Table C-2 Non-exhaustive list of CAS numbers for REACH Candidate List Substances

Substance Category Name	CAS number(s) published by ECHA
Included in REACH Candidate List on 19 December 2011: Unique ID == EUREACH-1211	
Zirconia Aluminosilicate Refractory Ceramic Fibres	No CAS number(s) provided in Support Document
Aluminosilicate Refractory Ceramic Fibres	No CAS number(s) provided in Support Document
Included in REACH Candidate List on 19 December 2012: Unique ID == EUREACH-1212	
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	2315-67-5, 2315-61-9, 9002-93-1, 2497-59-8, 9036-19-5
4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	84852-15-3, 26543-97-5, 104-40-5, 17404-66-9, 30784-30-6, 52427-13-1, 186825-36-5, 142731-63-3, 90481-04-2, 25154-52-3, 186825-39-8, 521947-27-3, 11066-49-2
Included in REACH Candidate List on 20 June 2013: Unique ID == EUREACH-0613	
4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	26027-38-3, 7311-27-5, 20427-84-3, 34166-38-6, 27942-27-4, 14409-72-4, 9016-45-9, 68412-54-4, 1119449-37-4, 1119449-38-5, 127087-87-0, 37205-87-1, 104-35-8, 20636-48-0, 156609-10-8, 27177-05-5, 26571-11-9, 26264-02-8
Included in REACH Candidate List on 16 June 2014: Unique ID == EUREACH-0614	
Sodium perborate; perboric acid, sodium salt	11138-47-9, 15120-21-5, 10332-33-9, 13517-20-9, 10486-00-7, 37244-98-7, 90568-23-3, 125022-34-6
Included in REACH Candidate List on 17 December 2014: Unique ID == EUREACH-1214	
Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	15571-58-1, 27107-89-7
Included in REACH Candidate List on 15 June 2015: Unique ID == EUREACH-0615	
5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	117933-89-8, 343934-04-3, 343934-05-4, 676367-02-5, 676367-03-6, 676367-04-7, 676367-05-8, 676367-06-9, 676367-07-0, 676367-08-1, 676367-09-2, 186309-28-4
Included in REACH Candidate List on 12 January 2017: Unique ID == EUREACH-0117	
4-heptylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	6465-71-0, 6465-74-3, 6863-24-7, 1987-50-4, 72624-02-3, 1824346-00-0, 1139800-98-8, 911371-07-8, 911371-06-7, 911370-98-4, 861011-60-1, 861010-65-3, 857629-71-1, 854904-93-1, 854904-92-0, 102570-52-5, 100532-36-3, 72861-06-4, 71945-81-8, 37872-24-5, 33104-11-9, 30784-32-8, 30784-31-7, 30784-27-1
Included in REACH Candidate List on 7 July 2017: Unique ID == EUREACH-0717	
Perfluorohexane-1-sulphonic acid and its salts [PFHxS]	355-46-4, 3871-99-6, 41184-65-0, 41242-12-0, 55120-77-9, 68259-08-5, 70136-72-0, 70225-16-0, 72033-41-1, 82382-12-5, 92011-17-1, 108427-54-9, 108427-55-0, 144116-10-9, 153443-35-7, 189274-31-5, 202189-84-2, 213740-81-9, 341035-71-0, 341548-85-4, 350836-93-0, 421555-73-9, 421555-74-0, 425670-70-8, 866621-50-3, 910606-39-2, 911027-68-4, 911027-69-5, 928049-42-7, 1000597-52-3, 1187817-57-7, 1310480-24-0, 1310480-27-3, 1310480-28-4, 1329995-45-0, 1329995-69-8, 1462414-59-0
Included in REACH Candidate List on 15 January 2018: Unique ID == EUREACH-0118	
1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene (“Dechlorane Plus”TM) [covering any of its individual anti- and syn-isomers or any combination thereof]	13560-89-9, 135821-74-8, 135821-03-3
Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)[with greater than or equal to 0.1% w/w 4-heptylphenol, branched and linear (4-HPbl)]	93925-00-9
Included in REACH Candidate List on 16 July 2019: Unique ID == EUREACH-0719	
Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with greater than or equal to 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	26523-78-4, 3050-88-2, 31631-13-7, 106599-06-8

2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof)	62037-80-3, 13252-13-6, 67118-55-2, 2062-98-8, 122499-17-6, 75579-40-7, 75579-39-4
Included in REACH Candidate List on 16 January 2020: Unique ID == EUREACH-0120	
Perfluorobutane sulfonic acid (PFBS) and its salts	375-73-5, 29420-49-3, 25628-08-4, 220689-12-3, 144317-44-2, 220133-51-7, 68259-10-9, 131651-65-5, 507453-86-3, 503155-89-3, Bis(4-t-butylphenyl) iodonium perfluorobutane sulfonate, 1-(4-Butoxy-1-naphthalenyl)tetrahydrothiophenium 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate
Included in REACH Candidate List on 19 January 2021: Unique ID == EUREACH-0121	
Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety	91648-39-4, 3648-18-8

Table C-3 EUREACH Class A QueryList statements

Identity	Statement
01	Product(s) does not contain EU REACH Candidate List substances above the thresholds specified in the REACH Regulation
02	Product(s) is obsolete, no information is available
03	Product(s) is unknown, no information is available

Table C-4 EUREACH Reportable Applications

Identity	Statement
01	All

Implementation List D
REACH Substance Restrictions

D.1 REACH Article 67 Substance Restrictions listed in Annex XVII, as amended by Commission Regulation 2018/2005 of 17 December 2018

Unique ID Authority == IPC
Unique ID Identity == IPC-1752B/EUREACH-ARTICLE67-2018/2005
QueryList Revision == 1.0

REACH Article 67 requires articles which are placed on the European Union market to comply with certain substance restrictions which are listed in Annex XVII of the REACH Regulation. The substance restrictions in Annex XVII are amended by the Commission from time to time. European Commission Regulation 2018/2005 was published on 17 December 2018 and amends substance restriction entry 51 in Annex XVII of the REACH Regulation. From 7 July 2020, the maximum concentration of the four phthalates DEHP, DBP, BBP and DIBP, individually or any combination, shall be less than 0.1% by weight in plasticised materials in all types of articles, with some exemptions.

Table D-1 REACH Article 67 Substance Restrictions listed in Annex XVII, as amended by Commission Regulation 2018/2005

Identity	Substance Category Name	Reportable Application	Threshold
00001	1,2,4-Trichlorobenzene	All	Concentration must be less than 0.1% w/w
00002	Asbestos fibres	All	Intentionally added
00003	Azocolourants and azodyes which form certain aromatic amines	Leather or textiles	0.003% by weight (30 ppm) of the finished textile/leather product
00004	Benzene	Childcare products and toys	Content must be less than 0.0005% w/w in toys
00005	Benzene	Substance or preparation	Content must be less than 0.1% w/w in any substance or preparation
00006	Dibutyltin (DBT) compounds	All	0.1% by weight (1 000 ppm) of tin in a material
00007	Dioctyltin (DOT) compounds	Leather or textiles	0.1% by weight (1 000 ppm) of tin in a material
00008	Dioctyltin (DOT) compounds	Childcare products and toys	0.1% by weight (1 000 ppm) of tin in a material
00009	Monomethyl-dibromo-diphenyl methane	All	No content permitted
00010	Monomethyl-dichloro-diphenyl methane	All	No content permitted
00011	Monomethyl-tetrachlorodiphenyl methane	All	No content permitted
00012	Nickel	Contact with skin	Intentionally added
00013	Nonylphenol and nonylphenol ethoxylates	Substance or preparation	Concentration must be less than 0.1% w/w
00014	Pentachlorophenol (PCP) and its salts	Substance or preparation	0.1% w/w in any substance or preparation
00015	Polychlorinated terphenyls (PCTs)	All	Intentionally added

00016	Sum of Selected Phthalates Group 1 (DIBP, BBP, DBP, DEHP)	All	0.1% by weight (1 000 ppm) in plasticized material
00017	Selected Phthalates Group 2 (DIDP, DINP, DNOP)	Childcare products and toys	0.1% by weight (1 000 ppm) in plasticized material
00018	Tar oils and creosotes	All	No content permitted in wood and wooden materials
00019	Tris (2,3 dibromo propyl) phosphate	Leather or textiles	Not permitted in textile articles which may come into contact with skin
00020	Tris(aziridinyl)phosphinoxide	Leather or textiles	Not permitted in textile articles which may come into contact with skin
00021	Tri-substituted organostannic compounds	All	0.1% by weight (1 000 ppm) of tin in a material
00022	Any individual PAH compound	Contact with skin	0.0001% by weight (1 ppm) in plastic or rubber material that come into direct, prolonged or repetitive skin or oral cavity contact
00023	Any individual PAH compound	Childcare products and toys	0.00005% by weight (0.5 ppm) in plastic or rubber material in toys and childcare articles that come into direct, prolonged or repetitive skin or oral cavity contact
~~00024~~	~~Perfluorooctanoic acid and its salts~~	~~All~~	~~0.0000025% by weight (25 ppb) of any article~~
00025	Dimethyl fumarate	All	0.00001% by weight (0.1ppm) in a material
00026	Bisphenol A in thermal paper	All	0.02% by weight (200 ppm) in thermal paper

Table D-2 IPC-1752B/EUREACH-ARTICLE67-2018/2005 Class A QueryList statements

Identity	Statement
01	Product(s) meets EU REACH substance restrictions
02	Product(s) is obsolete, no information is available
03	Product(s) is unknown, no information is available

Table D-3 IPC-1752B/EUREACH-ARTICLE67-2018/2005 Reportable Applications

Identity	Statement
01	All
02	Childcare products and toys
03	Leather or textiles
04	Contact with skin
05	Substance or preparation

Implementation List E
IEC 62474 – Material Declaration for Products of and for the Electrotechnical Industry

The Substance Category Names, Reportable Applications and Thresholds for the IEC 62474 Material Declaration list are defined by the IEC 62474 database which is published at http://std.iec.ch/iec62474. When the IEC 62474 Material Declaration substance categories are used then the Reportable Application field is ***mandatory***.

This PDF document contains the latest published version of the IEC 62474 database. Any revisions past version 7 are available as XML files in the consolidated zip file published under 'other documents' at **http://www.ipc.org/CommitteeDetail.aspx?Committee=E-31B.**

Unique ID Authority == IEC_62474
Unique ID Identity == D21.00
QueryList Revision == 1.0

Table E-1 IEC 62474 Material Declaration list Version D21

Identity	Substance Category Name	Reportable Application	Threshold	Reporting Requirement
00001	Diarsenic pentoxide	All	0.1 mass% of article	Mandatory
00002	Diarsenic trioxide	All	0.1 mass% of article	Mandatory
00003	Asbestos	All	Intentionally added	Mandatory
00004	Azocolourants and Azodyes which form certain aromatic amines	Textiles and Leather	0.003% by weight of the finished textile/leather product	Mandatory
00005	Beryllium Oxide	All	0.1 mass%	Optional
00007	Boric acid	All	0.1 mass% of article	Mandatory
00008	Brominated flame retardants (other than PBBs, PBDEs, or HBCDD)	Printed wiring board laminate	0.09 mass% total bromine content in laminate	Optional
00009	Brominated flame retardants (other than PBBs, PBDEs, or HBCDD)	Plastic materials except printed wiring board laminates	0.1 mass% of bromine in plastic materials	Optional
00010	Cadmium/Cadmium compounds	All, except batteries	0.01 mass% of total Cd in homogenous material	Mandatory
00011	Cadmium/Cadmium compounds	Batteries	0.001% by weight of battery	Mandatory
00166	Cadmium/Cadmium compounds	Video display devices, with a screen size of greater than four inches	0.01 mass% of total Cd in homogenous material	Mandatory
00012	Chromium (VI) Compounds	All	0.1 mass% of total Cr+6 in homogenous material	Mandatory
00167	Chromium (VI) Compounds	Video display devices, with a screen size of greater than four inches	0.1 mass% of total Cr+6 in homogenous material	Mandatory
00013	Cobalt dichloride	All	0.1 mass% of article	Mandatory
00014	Dibutyltin (DBT) compounds	All	0.1 mass% of tin in the part	Mandatory
00015	Dioctyltin (DOT) compounds	(a) textile and	0.1 mass% of tin	Mandatory

		leather articles intended to come into contact with the skin, (b) childcare articles, (c) two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits)	in the part	
00016	Dimethylfumarate (DMF)	All	0.00001 mass% of the part	Mandatory
00017	Disodium tetraborate, anhydrous	All	0.1 mass% of article	Mandatory
00018	Fluorinated Greenhouse Gases (PFC, SF6, HFC)	All	Intentionally Added	Mandatory
00019	Formaldehyde	Textiles	0.0075 mass % of textile	Mandatory
00020	Hexabromocyclododecane (HBCDD)	All	Intentionally added or 0.01 mass% of article	Mandatory
00021	Lead/Lead Compounds	All, except batteries	0.1 mass% of total Pb in homogenous material	Mandatory
00022	Lead/Lead Compounds	Consumer products designed or intended primarily for children 12 years of age or younger	0.01 mass%	Mandatory
00023	Lead/Lead Compounds	Paint and similar surface coatings of toys and other articles intended for use by children	0.009 mass% of surface coating material	Mandatory
00024	Lead/Lead Compounds	Cables/cords with thermoset or thermoplastic coatings	0.03 mass% of surface coating material	Mandatory
00025	Lead/Lead Compounds	Batteries	0.004 mass% of battery	Mandatory
00168	Lead/Lead Compounds	Video display devices, with a screen size of greater than four inches	0.1 mass% of total Pb in homogenous material	Mandatory
00026	Lead chromate	All	0.1 mass% of article	Mandatory
00027	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	All	0.1 mass% of article	Mandatory
00028	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	All	0.1 mass% of article	Mandatory
00029	Mercury/Mercury Compounds	All, except batteries	Intentionally Added or 0.1 mass% of total Hg in homogenous material	Mandatory
00030	Mercury/Mercury Compounds	Batteries	Intentionally added or 0.0001 mass% of battery	Mandatory
00132	Mercury/Mercury Compounds	Batteries	0.0005 mass% of total Hg in homogenous material	Mandatory
00169	Mercury/Mercury Compounds	Video display devices, with a screen size of greater than four	0.1 mass% of total Hg in homogenous material	Mandatory

		inches		
00031	Nickel/Nickel Compounds	All, where prolonged skin contact is expected	Intentionally Added	Mandatory
00032	Ozone Depleting Substances (CFC, Halon, HBFC, HCFC & others)	All	Intentionally Added	Mandatory
00033	Perchlorates	All	6 x 10 ^-7 mass% of battery or product part	Mandatory
00035	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	All	Intentionally added or 0.1 mass% of article	Mandatory
00036	Phthalates, Selected Group 1 (DEHP, DBP, BBP, DIBP)	Children's toy or child care article	0.1 mass% as the sum of the phthalate concentrations in plasticized material	Mandatory
00037	Phthalates, Selected Group 2 (DIDP, DINP, DNOP)	Children's toy or child care article that can be placed in a child's mouth	0.1 mass% as the sum of the phthalate concentrations in plasticized material	Mandatory
00038	Bis (2-ethylhexyl)phthalate (DEHP)	All	0.1 mass% in homogenous material	Mandatory
00039	Dibutyl phthalate (DBP)	All	0.1 mass% in homogenous material	Mandatory
00040	Benzyl butyl phthalate (BBP)	All	0.1 mass% in homogenous material	Mandatory
00041	Diisobutyl phthalate	All	0.1 mass% in homogenous material	Mandatory
00042	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	All	0.1 mass% of article	Mandatory
00043	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	All	0.1 mass% of article	Mandatory
00044	Polybrominated biphenyls (PBB)	All	0.1 mass% in homogenous material	Mandatory
00045	Polybrominated diphenyl ethers (PBDE)	All	0.1 mass% in homogenous material	Mandatory
00046	Polychlorinated Biphenyls (PCBs) and specific substitutes	All	Intentionally added	Mandatory
00047	Polychlorinated Terphenyls (PCTs)	All	0.005 mass% in material	Mandatory
00048	Polychlorinated naphthalenes	All	Intentionally added	Mandatory
00049	Radioactive substances	All	Intentionally added	Mandatory
00050	Aluminosilicate Refractory Ceramic Fibres	All	0.1 mass% of article	Mandatory
00051	Zirconia Aluminosilicate Refractory Ceramic Fibres	All	0.1 mass% of article	Mandatory
00052	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	All	Intentionally added or 0.1 mass% of article	Mandatory
00053	Strontium chromate	All	0.1 mass% of article	Mandatory
00054	Bis(tributyltin) oxide (TBTO)	All	Intentionally added or 0.1 mass% of article	Mandatory
00055	Tri-substituted organostannic compounds	All	Intentionally added or 0.1	Mandatory

			mass% of tin in the part	
00056	Tris(2-chloroethyl) phosphate	All	0.1 mass% of article	Mandatory
00057	4-(1,1,3,3-tetramethylbutyl)phenol	All	0.1 mass% of article	Mandatory
00058	Bis(2-methoxyethyl) ether	All	0.1 mass% of article	Mandatory
00059	Bis(2-methoxyethyl) phthalate	All	0.1 mass% of article	Mandatory
00060	Pentazinc chromate octahydroxide	All	0.1 mass% of article	Mandatory
00061	Potassium hydroxyoctaoxodizincatedichromate	All	0.1 mass% of article	Mandatory
00062	Chlorinated Flame Retardants (CFR)	Plastic materials except printed wiring board laminates	0.1 mass% chlorine in plastic materials	Optional
00063	Chlorinated Flame Retardants (CFR)	Printed Wiring Board (PWB) Laminates	0.09 mass% total chlorine content in laminate	Optional
00064	Bis(pentabromophenyl) ether (decabromodiphenyl ether) (DecaBDE)	All	0.1 mass% of article	Mandatory
00065	Sulfurous acid, lead salt, dibasic	All	0.1 mass% of article	Mandatory
00066	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	All	0.1 mass% of article	Mandatory
00067	Trilead dioxide phosphonate	All	0.1 mass% of article	Mandatory
00068	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	All	0.1 mass% of article	Mandatory
00069	4-aminoazobenzene	All	0.1 mass% of article	Mandatory
00070	Tetralead trioxide sulphate	All	0.1 mass% of article	Mandatory
00071	Orange lead (lead tetroxide)	All	0.1 mass% of article	Mandatory
00072	Pyrochlore, antimony lead yellow	All	0.1 mass% of article	Mandatory
00073	Pentalead tetraoxide sulphate	All	0.1 mass% of article	Mandatory
00074	1,2-diethoxyethane	All	0.1 mass% of article	Mandatory
00075	Diboron trioxide	All	0.1 mass% of article	Mandatory
00076	Dibutyltin dichloride (DBTC)	All	0.1 mass% of article	Mandatory
00077	Lead cyanamidate	All	0.1 mass% of article	Mandatory
00078	N,N-dimethylformamide	All	0.1 mass% of article	Mandatory
00079	Silicic acid (H2Si2O5), barium salt (1:1), lead-doped	All	0.1 mass% of article	Mandatory
00080	1,2-Benzenedicarboxylic acid, dipentyl ester, branched and linear	All	0.1 mass% of article	Mandatory
00081	Diisopentyl phthalate	All	0.1 mass% of article	Mandatory
00082	N-pentyl-isopentylphthalate	All	0.1 mass% of article	Mandatory
00083	Lead titanium trioxide	All	0.1 mass% of article	Mandatory
00084	Lead titanium zirconium oxide	All	0.1 mass% of article	Mandatory
00085	Lead oxide sulfate	All	0.1 mass% of article	Mandatory
00086	[Phthalato(2-)]dioxotrilead	All	0.1 mass% of article	Mandatory
00087	Dioxobis(stearato)trilead	All	0.1 mass% of	Mandatory

			article	
00088	Fatty acids, C16-18, lead salts	All	0.1 mass% of article	Mandatory
00089	Lead dinitrate	All	0.1 mass% of article	Mandatory
00090	Di-isodecyl phthalate (DIDP)	All	Intentionally added	Mandatory
00091	Di-n-hexyl phthalate (DnHP)	All	Intentionally added or 0.1 mass% of article	Mandatory
00092	Hexahydromethylphthalic anhydride	All	0.1 mass% of article	Mandatory
00093	Cadmium	All	0.1 mass% of article	Mandatory
00094	Cadmium oxide	All	0.1 mass% of article	Mandatory
00095	Dipentyl phthalate (DPP)	All	0.1 mass% of article	Mandatory
00096	Pentadecafluorooctanoic acid (PFOA)	All	0.1 mass% of article	Mandatory
00097	Ammonium pentadecafluorooctanoate (APFO)	All	0.1 mass% of article	Mandatory
00098	4-Nonylphenol, branched and linear, ethoxylated	All	0.1 mass% of article	Mandatory
00099	Cadmium sulphide	All	0.1 mass% of article	Mandatory
00100	Trixylyl phosphate	All	0.1 mass% of article	Mandatory
00102	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	All	0.1 mass% of article	Mandatory
00103	Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA	Textiles, photographic coatings applied to films, paper or printing plates and other coated consumer products.	1 microgram/m2 (as the sum of PFOA)	Mandatory
00104	Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA	All except textiles, photographic coatings applied to films, paper or printing plates and other coated consumer products.	0.1 mass% of the part (as the sum of PFOA)	Mandatory
00105	Imidazolidine-2-thione (2-imidazoline-2-thiol)	All	0.1 mass% of article	Mandatory
00106	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	All	0.1 mass% of article	Mandatory
00107	Diisononyl phthalate (DINP)	All	Intentionally added	Mandatory
00108	Benzo[a]pyrene (BaP)	Rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity contact except those for toys or childcare articles	0.0001 mass% of the plastic or rubber part	Mandatory
00109	Benzo[e]pyrene (BeP)	Rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity contact except those for toys or childcare articles	0.0001 mass% of the plastic or rubber part	Mandatory
00110	Benzo[a]anthracene (BaA)	Rubber or plastic parts that come into	0.0001 mass% of the plastic or	Mandatory

		direct, prolonged or repetitive skin or oral cavity contact except those for toys or childcare articles	rubber part	
00111	Chrysen (CHR)	Rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity contact except those for toys or childcare articles	0.0001 mass% of the plastic or rubber part	Mandatory
00112	Benzo[b]fluoranthene (BbFA)	Rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity contact except those for toys or childcare articles	0.0001 mass% of the plastic or rubber part	Mandatory
00113	Benzo[j]fluoranthene (BjFA)	Rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity contact except those for toys or childcare articles	0.0001 mass% of the plastic or rubber part	Mandatory
00114	Benzo[k]fluoranthene (BkFA)	Rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity contact except those for toys or childcare articles	0.0001 mass% of the plastic or rubber part	Mandatory
00115	Dibenzo[a,h]anthracene (DBAhA)	Rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity contact except those for toys or childcare articles	0.0001 mass% of the plastic or rubber part	Mandatory
00116	Benzo[a]pyrene (BaP)	Rubber or plastic parts of toys and childcare articles that come into direct, prolonged or repetitive skin or oral cavity contact	0.00005 mass% of the plastic or rubber part	Mandatory
00117	Benzo[e]pyrene (BeP)	Rubber or plastic parts of toys and childcare articles that come into direct, prolonged or repetitive skin or oral cavity contact	0.00005 mass% of the plastic or rubber part	Mandatory
00118	Benzo[a]anthracene (BaA)	Rubber or plastic parts of toys and childcare articles that come into direct, prolonged or repetitive skin or oral cavity contact	0.00005 mass% of the plastic or rubber part	Mandatory
00119	Chrysen (CHR)	Rubber or plastic parts of toys and	0.00005 mass% of the plastic or	Mandatory

		childcare articles that come into direct, prolonged or repetitive skin or oral cavity contact	rubber part	
00120	Benzo[b]fluoranthene (BbFA)	Rubber or plastic parts of toys and childcare articles that come into direct, prolonged or repetitive skin or oral cavity contact	0.00005 mass% of the plastic or rubber part	Mandatory
00121	Benzo[j]fluoranthene (BjFA)	Rubber or plastic parts of toys and childcare articles that come into direct, prolonged or repetitive skin or oral cavity contact	0.00005 mass% of the plastic or rubber part	Mandatory
00122	Benzo[k]fluoranthene (BkFA)	Rubber or plastic parts of toys and childcare articles that come into direct, prolonged or repetitive skin or oral cavity contact	0.00005 mass% of the plastic or rubber part	Mandatory
00123	Dibenzo[a,h]anthracene (DBAhA)	Rubber or plastic parts of toys and childcare articles that come into direct, prolonged or repetitive skin or oral cavity contact	0.00005 mass% of the plastic or rubber part	Mandatory
00124	Perfluorooctane sulfonates (PFOS)	Textiles or other coated materials.	Intentionally added or 1 microgram/m2 of coated material	Mandatory
00125	Perfluorooctane sulfonates (PFOS)	All except textiles or other coated materials.	Intentionally added or 0.1 mass% of the part (as the sum of PFOS)	Mandatory
00126	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	All	0.1 mass% of article	Mandatory
00128	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	All	0.1 mass% of article	Mandatory
00129	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	All	0.1 mass% of article	Mandatory
00130	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	All	0.1 mass% of article	Mandatory
00131	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters	All	0.1 mass% of article	Mandatory
00133	1,3-propanesultone	All	0.1 mass% of article	Mandatory
00134	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	All	0.1 mass% of article	Mandatory
00135	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	All	0.1 mass% of article	Mandatory
00140	Perfluorononan-1-oic-acid and its sodium and ammonium salts	All	0.1 mass% of article	Mandatory
00138	Benzo[def]chrysene (Benzo[a]pyrene)	All	0.1 mass% of article	Mandatory
00141	4,4'-isopropylidenediphenol	All	Intentionally added or 0.1 mass% of article	Mandatory

00142	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	All	0.1 mass% of article	Mandatory
00143	Perfluorohexane-1-sulphonic acid and its salts	All	0.1 mass% of article	Mandatory
00144	Chrysene	All	0.1 mass% of article	Mandatory
00145	Benz[a]anthracene	All	0.1 mass% of article	Mandatory
00146	Cadmium hydroxide	All	0.1 mass% of article	Mandatory
00147	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene (“Dechlorane Plus”™)	All	0.1 mass% of article	Mandatory
00148	Benzo[ghi]perylene	All	0.1 mass% of article	Mandatory
00149	Octamethylcyclotetrasiloxane	All	0.1 mass% of article	Mandatory
00150	Decamethylcyclopentasiloxane	All	0.1 mass% of article	Mandatory
00151	Dodecamethylcyclohexasiloxane	All	0.1 mass% of article	Mandatory
00152	Disodium octaborate	All	0.1 mass% of article	Mandatory
00153	Terphenyl, hydrogenated	All	0.1 mass% of article	Mandatory
00154	Lead	All	0.1 mass% of article	Mandatory
00139	Dicyclohexyl phthalate	All	0.1 mass% of article	Mandatory
00155	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	All	0.1 mass% of article	Mandatory
00156	Benzo[k]fluoranthene	All	0.1 mass% of article	Mandatory
00157	Fluoranthene	All	0.1 mass% of article	Mandatory
00158	Phenanthrene	All	0.1 mass% of article	Mandatory
00159	Pyrene	All	0.1 mass% of article	Mandatory
00160	Perfluorooctanoic acid and its salts	All	0.0000025 mass% of PFOA including its salts in article or mixture	Mandatory
00161	PFOA-related substances	All	0.0001 mass% of one or a combination of PFOA-related substances, in article or mixture	Mandatory
00162	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	All	0.1 mass% of article	Mandatory
00163	Tetraboron disodium heptaoxide, hydrate	All	0.1 mass% of article	Mandatory
00164	Diisohexyl phthalate	All	0.1 mass% of article	Mandatory
00165	Perfluorobutane sulfonic acid (PFBS) and its salts	All	0.1 mass% of article	Mandatory
00170	Dibutylbis(pentane-2,4-dionato-O,O')tin	All	0.1 mass% of article	Mandatory
00171	Halogenated Flame Retardants	enclosure and stand of electronic displays, including televisions, monitors and digital signage displays with a screen area	Intentionally added	Mandatory

		greater than 100 square centimetres		
00172	Bis(2-(2-methoxyethoxy)ethyl)ether	All	0.1 mass% of article	Mandatory
00173	Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety	All	0.1 mass% of article	Mandatory

Table E-2 IEC 62474 Class A QueryList statements

Identity	Statement
01	Product(s) does not contain Declarable Substances or Declarable Substance Groups above the thresholds specified in the IEC 62474 declarable substances list
02	Product(s) is obsolete, no information is available
03	Product(s) is unknown, no information is available

Implementation List F
Verification Guidance

Verification involves ensuring that the information provided is accurate. Verification of declared materials information has a number of different aspects, described below. The following sections are specific to materials declaration.

F1 Validation As the first step in verification, validation involves checking that the data provided are of the correct type. Requesters are encouraged to systematically validate data where possible to reduce the required verification effort. A file may be validated by comparing it against the 175x XML schema file. Data type accuracy can be improved by using drop-down menus, click-boxes, radio buttons and logic that ensures that names are alpha-numeric characters, weights are numeric, etc.

Requesters may ask suppliers to include analytical data or other documentation to confirm the data provided in the material declaration. The request for confirmatory documentation may be listed through a hyperlink to a web page or with the request as an attachment. Suppliers may also wish to submit confirmatory documentation even if this is not requested.

F2 Analytical Data Though outside the scope of a material declaration, a requester may ask that a supplier provide analytical data. It may consist of non-destructive testing such as x-ray fluorescence (XRF) and/or destructive test methods such as inductive coupled plasma (ICP). This data may be added to a 175x data file. See IPC-1751 for details.

F3 Other Documentation Other types of documentation which may be provided for confirmation include results from third party audits, test results verifying manufacturing process information, specification sheets or other documentation on recommended product alternatives or external confirmations/standards such as ISO, etc. This information may also be added to the XML file and is described in IPC-1751.

F4 Sampling An additional level of verification is to actually sample and analyze the product as provided by the supplier and compare the analytical results with those reported in the material declaration.

Once the product has been assembled and sent to the requester, it can be challenging to collect a sample of the homogeneous materials for analysis. Where a sample of the homogeneous material can be obtained by scraping it from the product or breaking the product open by destructive means, it is recommended that care be taken to avoid contamination of the sample and to ensure that only the homogeneous material is collected for analysis.

Verification of the material declaration at the product level by grinding and analysis is more easily accomplished, although this only provides analysis at the product level. Requesters are advised that such analysis may mask EU RoHS substances, since they may be present above regulated limits at the homogeneous material level and still not be detected at the product level. Analysis of the product therefore should not be used to verify material declaration at the homogeneous material level. However, this type of analysis is valid for verification of material declaration at the product level.

F5 Audit A requester may request that a supplier participate in an audit to ensure that systems are in place to properly identify the materials used in their products and to properly report material declarations.

F6 Maintenance IPC-1752 is a material declaration standard made to accommodate the needs of changing legislation, requirements, and technologies. Therefore, to keep IPC-1752 user friendly, periodic maintenance shall be done to serve the industry. IPC will periodically review IPC-1752 and make updates for the following reasons:

- Changing of exemptions in worldwide legislation
- Introduction of new worldwide material declaration related legislation
- The need to stay consistent with other changing standards (IPC-1751, JIG-101x, Rosetta Net 2A13, IEC 60194, etc.)
- Improvements of system interfaces

IPC will update IPC-1752 as needs arise. If you find that an improvement could be made to IPC-1752, to help serve the industry, please describe it in detail and email it to **answers@ipc.org** identifying the document number in the subject line.

Appendix G
Previous Versions of IPC-175X

Versions 1.0 and 1.1:

IPC-1751 Generic Requirements for Declaration Process Management

IPC-1752 Sectional Requirements for Material Declaration Management

IPC-1752-1 Material and Substance Declaration Description Form - Class 1, 2, 3, and 4

IPC-1752-2 Material and Substance Declaration Description Form - Class 1, 2, 5 and 6

IPC-1752-3 Material and Substance Declaration Description Users Guide

Appendix H

Acronyms and Abbreviations

The following acronyms and abbreviations are used in this document:

CAS	Chemical Abstract Service
CC	Composition of Concern
DUNS Number	Dun & Bradstreet Data Universal Numbering System
EC	European Commission
ECHA	European Chemicals Agency
ECJ	European Court of Justice
EEC	European Economic Community
EU	European Union
FSD	Full Substance Declaration
ID	**Identity**
IEC	International Electrotechnical Commission
IMDS	International Material Data System
IUPAC	International Union of Pure and Applied Chemistry
JIG	Joint Industry Guide
MCV	Maximum Concentration Value
NPO Capacitor	Negative, Positive, Zero (Also abbreviated as NP0) Capacitor
ppm	Parts Per Million
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
RFID	Radio-Frequency Identification
RoHS	Restriction of Hazardous Substances Directive
SCIP	ECHA Substances of Concern in Products Database
SKU	Stock-Keeping Unit
SOIC	Small Outline Integrated Circuit
SVHC	Substance of Very High Concern
UL	Refers to UL LLC., a science safety company
UoM	Unit of Measure
URL	Uniform Resource Locator
UUID	(ECHA) Universally-Unique Idenfication
VDA	*Automobilindustrie e. V.*
XML	eXtensible Markup Language
ZVEI	*Zentralverband Elektrotechnik- und Elektronikindustrie e.V.*