

## Appendix 1: Prohibited/reportable substances for SEKONIC products (Ver.16 list)

\*1: Deliver to SEKONIC no later than 12 months before expiration in basic.

Refer to Annex 2 for specific substances.

Revision date : November 16, 2020

### ● Prohibited substances

Substance	Classification	Application for Substances		Control limit and threshold (Homogeneous material content ratio, particularly for undesignated substances)	Remarks
REACH ANNEX XIV Authorisation List	Prohibited	all		Ban without threshold	It will be banned from 1 year before the sunset date. (Report content until one year before sunset.) See Attachment 4
REACH ANNEX XVII Substances restricted	Prohibited	Limited Use		Limited use and its threshold	Below the threshold value is excluded from the prohibition target. ( <a href="https://echa.europa.eu/substances-restricted-under-reach">https://echa.europa.eu/substances-restricted-under-reach</a> )
Japan Industrial Safety and Health Act (substances whose manufacture is prohibited)	Prohibited	all		intentionally added	—
Japan Poisonous and Deleterious Substances Control Act (specific toxic substances)	Prohibited	all		intentionally added	—
Japan Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./Class I Specified Chemical Substances	Prohibited	all		intentionally added, Ban on production in "bond", "mixed" "generation"	—
Cadmium and its compounds	Prohibited	parts	Other than below.	0.01%(100ppm)	Listed on Annex 1 are not prohibited (Report if the substance amount is known to be contained.) EU RoHS
			Specified "copier-related parts and parts of other products"	0.01%(100ppm)	Exempting cadmium usage in "copier-related parts and parts of other products" is also prohibited. US EPEAT
			surface treatment (cadmium plating); colour pigment; or plastics stabiliser.	0.0075%(75ppm)	Denmark cadmium regulations
		batteries	0.002% of battery (20ppm)		Medical instruments exempt EU batteries Waste (Directive 2006/66/EC)
		packaging materials	Total weight of Cd, Pb, Hg, CrVI 0.01%(100ppm)		EU Packaging and Packaging Waste
Hexavalent Chromium compounds	Prohibited	parts	Other than below	0.1%(1,000ppm)	Listed on Annex 1 are not prohibited (Report if the substance amount is known to be contained.)
			Leather articles(Parts) coming into contact with the skin shall not be placed on the market where they contain chromium VI in concentrations.	≤ 3 mg/kg (0,0003 % by weight) of the total dry weight of that leather part.	REACH Annex XVII Nr(Entry no.)47
		packaging materials	total weight of Cd, Pb, Hg, CrVI 0.01%(100ppm)		EU Packaging and Packaging Waste
Lead and its compounds	Prohibited	parts	Other than below.	0.1%(1,000ppm)	Listed on Annex 1 are not prohibited (Report if the substance amount is known to be contained.)
			PVC sheathed wires that are external and frequently handled.	0.03% (300ppm)	United States California Proposition 65
			Consumer products designed or intended primarily for children 12 years of age or younger.	0.01%(100ppm)	United States consumer product safety improvement Act (CPSIA)
			Restricted in plastics, paints, and inks used in products.	0.01%(100ppm)	Denmark lead regulations
			Lead carbonate and lead sulfate shall not be contained in any concentration in paints and inks.	Ban without threshold	
			Paint and similar surface coatings of toys and other articles intended for use by children under 12 years old.	0.009% (90ppm)	IEC62474 D11.00 US CPSIA
		packaging materials	total weight of Cd, Pb, Hg, CrVI 0.01%(100ppm)		EU Packaging and Packaging Waste
Mercury and its compounds	Prohibited	parts	Specified "copier-related parts and parts of other products"	0.1%(1,000ppm)	—
			Other than those above	intentionally added	Listed on Annex 1 are not prohibited (Report if the substance amount is known to be contained.)
		packaging materials	total weight of Cd, Pb, Hg, CrVI 0.01%(100ppm)		EU Packaging and Packaging Waste
		batteries	0.0005 mass% of battery (5ppm)		EU batteries Waste (Directive 2006/66/EC)
Polybrominated Biphenyls (PBBs)	Prohibited	all		Intentionally added, Ban on production in "bond", "mixed" "generation"	EU RoHS
				Intentionally added threshold as an impurity: 0.1%(1000ppm)	

Polybrominated Diphenyl Ethers (PBDEs)	Prohibited	all	Intentionally added, Ban on production in "bond", "mixed" "generation" Intentionally added threshold as an impurity: 0.1%(1,000ppm)	Deca-BDE also contains a prohibition against EU RoHS
Bis(2-ethylhexyl) phthalate (DEHP) (CAS#: 117-81-7)	Prohibited	all	0.1%(1,000ppm)	EU RoHS
Butyl benzyl phthalate (BBP) (CAS#: 85-68-7)	Prohibited	all	0.1%(1,000ppm)	EU RoHS
Dibutyl phthalate (DBP) (CAS#: 84-74-2)	Prohibited	all	0.1%(1,000ppm)	EU RoHS
Diisobutyl phthalate (DIBP) (CAS#: 84-69-5)	Prohibited	all	0.1%(1,000ppm)	EU RoHS
Dibutyltin (DBT) compounds	Prohibited	all	Prohibited for supply to the general public 0.1% (1,000ppm)by weight of tin (Use metal conversion value)	Listed on Annex 1 are to be prohibited from January 1, 2015. REACH Annex XVII Nr21
Tributyl Tin Oxide (TBTO) (CAS# : 56-35-9)	Prohibited	all	intentionally added	Report if the substance amount as impurity is known to be contained. REACH SVHC authorization substance candidates ED/67/2008 (1st)
Tri-substituted organostannic compounds (Except "TBTO") (JAMP-SN0068)	Prohibited	all	intentionally added	Report if the substance amount as impurity is known to be contained.
Polychlorinated biphenyls (PCBs) , Polychlorinated terphenyls (PCTs) and specific substitutes	Prohibited	all	intentionally added	Report if the substance amount as impurity is known to be contained.
Polychloronaphthalenes (more than 1 chlorine atoms) (PCNs)	Prohibited	all	intentionally added	Report if the substance amount as impurity is known to be contained.
Short Chain Chlorinated Paraffins (C=10 to 13)	Prohibited	all	intentionally added	Report if the substance amount as impurity is known to be contained.
PFOS(Perfluorooctane sulfonates)	Prohibited	parts surface treatment on parts	0.1%(1,000ppm) 1µg/m <sup>2</sup>	Listed on Annex 1 are not prohibited (Report if the substance amount is known to be contained.)
Azo colorants and azodyes which form certain aromatic amines	Prohibited	Textiles and leather products	Threshold of specific amines by reductive eavage:0.003%(30ppm)	
Asbestos	Prohibited	all	intentionally added	Report if the substance amount as impurity is known to be contained.
Ozone Depleting Substances (ODSs : CFC, Halon, HBFC, HCFC,Other s )	Prohibited	all (including prohibition in manufacturing)	intentionally added	Report if the substance amount as impurity is known to be contained.
Polyvinyl Chloride(PVC)	Prohibited	resin packaging materials (other than seal tapes for photographic arts films, X-ray films and color papers)	intentionally added	—
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) (CAS# : 3846-71-7)	Prohibited	all	intentionally added	REACH SVHC authorization substance candidates ED/108/2014 (12th)
Radioactive substances	Prohibited	all	intentionally added	Report if the substance amount as impurity is known to be contained.
Formaldehyde (CAS# : 50-00-0)	Prohibited	textiles	0.0075%(75ppm)	IEC62474
Nickel and its compound (CAS# : 7440-02-0),(JAMP-SN0027)	Prohibited	Parts that may come into direct contact with human skin for a long time	intentionally added	Report if the substance amount as impurity is known to be contained.
Dimethyl Fumarate (DMF) (CAS# : 624-49-7)	Prohibited	all	0.00001%(0.1ppm)	REACH ANNEX XVII Nr61
Phthalates, Selected Group 2 (DIDP, DINP, DNOP)	Prohibited	Plastic parts (except electrical cables) Children's toy or child care article that can be placed in a child's mouth	intentionally added	—
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified. (α-HBCDD, β-HBCDD, γ-HBCDD)	Prohibited	all	intentionally added	Existence of impurities must be reported when content is known.
Polycyclic aromatic hydrocarbons(PAHs) PAHs of 18 species including [( EU No.1272/2013) PAHs target 8 species	Prohibited	Specified "copier-related parts and parts of other products" Rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity contact except those for toys or childcare articles	German AfPS [Other products of ProdSG] -Category 2: Each of PAHs ≤ 0.5mg / Kg and Total PAH ≤ 10mg / Kg  German AfPS [Other products of ProdSG] -Category 3: Each of PAHs ≤ 1mg / Kg and Total PAH ≤ 50mg / Kg	German AfPS [Other products of ProdSG]  -Category 2: Touch pen  German AfPS [Other products of ProdSG]  -Category 3: Handles, operation buttons, knob, switches, external cable, paper cassette, door, tray

Polycyclic aromatic hydrocarbons [(EU) No.1272/2013] PAHs target 8 species	Prohibited	[1]Extender oils shall not be placed on the market, or used for the production of tyres or parts of tyres.	- more than 1 mg/kg (0,0001 % by weight)BaP, or, - more than 10 mg/kg (0,001 % by weight) of the sum of all listed PAHs.	REACH ANNEX XVII Nr50 For the purpose of this entry 'tyres' shall mean tyres for vehicles covered by: — Directive 2003/46/EC of the European Parliament and of the Council of 5 September 2003 establishing a framework for the approval of motor vehicles and their trailers (OJ L 263, 9.10.2007, p. 1.), — Directive 2003/37/EC of the European Parliament and of the Council of 26 May 2003 on type-approval of agricultural or forestry tractors, their trailers and interchangeable towed machinery, together with their systems, components and separate technical units (OJ L 171, 9.7.2003, p. 1.), and — Directive 2002/24/EC of the European Parliament and of the Council of 18 March 2002 relating to the type-approval of two or three-wheel motor vehicles and repealing Council Directive 92/61/EEC (OJ L 124, 9.5.2002, p. 1.).
		[2]Furthermore, tyres and treads for retreading manufactured after 1 January 2010 shall not be placed on the market if they contain extender oils exceeding the limits indicated in paragraph [1].		
		[3]Articles shall not be placed on the market for supply to the general public, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use. Such articles include amongst others: — sport equipment such as bicycles, golf clubs, racquets — household utensils, trolleys, walking frames — tools for domestic use — clothing, footwear, gloves and sportswear — watch-straps, wrist-bands, masks, head-bands	1 mg/kg	
		[4]Toys*, including activity toys, and childcare articles, shall not be placed on the market, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use. *Designed for children under 14 years of age to use in play or intended	0.5 mg/kg	
Benzenamine, N-phenyl-,reaction products with styrene and 2,4,4-trimethylpentene (BNST)  (CAS# : 68921-45-9)	Prohibited	all Exemptions : Additive in rubber (except tires)	intentionally added	Canadian Environmental Protection Act IEC62474Update April 8,2015
Hexachloroethane  (CAS# : 67-72-1)	Prohibited	all	Shall not be used in the manufacturing or processing of non-ferrous metals.	REACH ANNEX XVII Nr41
Diphenylether, octabromo derivative C <sub>12</sub> H <sub>2</sub> Br <sub>8</sub> O  (CAS# : 32536-52-0)	Prohibited	all	0.1%(1,000ppm)	REACH ANNEX XVII Nr45
Phenyl mercury compounds	Prohibited	all	0.01%(100ppm)	*1 Shall not be manufactured, placed on the market or used as substances or in mixtures after 10 October 2017
Red Phosphorus (flame retardant use)  (CAS #: 7723-14-0)	Prohibited	all	0.1%(1,000ppm)	Inclusion to all the supplies except metal Maximum tolerance concentration of red phosphorus included intentionally is defined as a concentration of total phosphorous element.
Cobalt(II) chloride  (CAS#:7646-79-9)	Prohibited	all <del>Moisture indicator for desiccant agent (e.g. silica gel)</del>	0.01% (100ppm)by weight of Cobalt(Use metal conversion value) intentionally added <del>Addition more than 1% in overall</del>	*76/769/EEC REACH SVHC authorization substance candidates ED/31/2011 (1th)
PFOA and its salts, Perfluorooctanoic acids C <sub>8</sub> F <sub>15</sub> O <sub>2</sub> X (X = H, NH <sub>4</sub> , and Metal salts) [group]  (JAMP-SN0036)	Prohibited	Parts	0.0000025% (25ppb=0.025ppm)	US EPA PFOA Stewardship Program REACH ANNEX XVII Nr68
		Surface treatment	1µg/m2	
Di-n-Hexyl Phthalate (DNHP)  (CAS# : 84-75-3)	Prohibited	all	<del>Report if contained more than 0.1%(1,000ppm) in overall</del>	IEC62474 US California Proposition 65 REACH SVHC authorization substance candidates ED/121/2013 (10th)
Dioctyltin (DOT) compounds  (JAMP-SN0073)	Prohibited	(a) Textiles which comes into contact with the skin curing use, and leather products. -wall and floor coverings.	0.1%(1,000ppm)	REACH ANNEX XVII Nr20
		(b) Products for children -female hygiene products.		
		(c) Two component room temperature molding kits (RTV-2 sealant molding kit)		
Reportable	Except above	Report if contained more than 0.1%(1,000ppm) in overall		
Fluorinated Greenhouse Gases (PFC, SF <sub>6</sub> , HFC)	Reportable	all	intentionally added	Revised F-Gas Law in Japan (Entered into force in April 2015) *Compliance with laws and regulations of the country of origin

●Reportable substances

REACH SVHC Candidate List	Reportable	all	Report if contained more than 0.1%(1,000ppm) in overall	See Attachment 4
Bromine compounds (other than PBBs,PBDEs and HBCDDs) (Includes polymer compound)	Reportable	Printed wiring board laminate	0.09 mass% total bromine content in laminate	JPCA-ES01
		Plastic materials except above	Report if contained more than 0.1%(1,000ppm) in overall	—
Chlorine compounds (exempted Short Chain Chlorinated Paraffins) (including polymers)	Reportable	Printed Wiring Board Laminates	0.09 mass% (900 ppm)total chlorine content in laminate	JPCA-ES01
		Plastic materials except above	Report if contained more than 0.1%(1,000ppm) in overall	—
Beryllium Oxide (CAS# : 1304-56-9)	Reportable	all	Report if contained more than 0.1%(1,000ppm) in overall	IEC62474 D11.00 EU WEEE 2012/19/EU
Specific Cobalt compounds	Reportable	all	Report if contained more than 0.1%(1,000ppm) in overall	67/548/EEC
Perchlorates	Reportable	all	0.0000006% (0.006ppm)	California (USA): Perchlorate Contamination Prevention Act. 0.006 ppm or more be made mandatory below. (Perchlorate Material - special handling may apply.See <a href="http://www.dtsc.ca.gov/hazardouswaste/perchlorate">www.dtsc.ca.gov/hazardouswaste/perchlorate</a> )
Perfluorooctanoic acid(PFOA)and individual salts and esters of PFOAs (JAMP-SN0064)	Reportable	all	Report if contained more than 0.1%(1,000ppm) in overall	Norway toxic substances Control Act
Nonylphenol ethoxylates [group] (CAS#:25154-52-3)	Reportable	all	Report if contained more than 0.1%(1,000ppm) in overall	REACH ANNEX XVII Nr46
Inorganic ammonium salts (JAMP-SN0088)	Reportable	all	Less than 3ppm	REACH ANNEX XVII Nr65 [1] Shall not be placed on the market, or used, in cellulose insulation mixtures or cellulose insulation articles after 14 July 2018 unless the emission of ammonia from those mixtures or articles results in a concentration of less than 3 ppm by volume (2,12 mg/m3) *Compliance with the emission limit specified in the first subparagraph of paragraph 1 shall be demonstrated in accordance with Technical Specification CEN/TS 16516, adapted.  By way of derogation, paragraph [1] shall not apply to placing on the market of cellulose insulation mixtures intended to be used solely for the production of cellulose insulation articles, or to the use of those mixtures in the production of cellulose insulation articles.

## Appendix 1 Annex 1 : Exceptional use of prohibited substances in products

**\*1: Deliver to SEKONIC no later than 12 months before expiration in basic.**

Revision date: November 16, 2020

Classification	Exemption Number/subentry	Exemptions applications	Date of applicability
<p>RoHS Directive(2011/65/EU)Applications exempted (ANNEX III)and ATP(2011/534/EU)</p> <p><b>Note:</b> The following dates shall be applied when the date of applicability is not specified in the table.</p> <p><b>Category 1-7 &amp; 10:</b> 21-Jul-2016 Undetermined (Continuously effective until a conclusion is made in a review for its extension)</p> <p><b>Category 8</b> Medical devices: 21-Jul-2021 In vitro diagnostic medical devices: 21-Jul-2023</p> <p><b>Category 9</b> Monitoring and control instruments: 21-Jul-2021 Industrial monitoring and control instruments: 21-Jul-2024</p> <p><b>Category 11:</b> 21-Jul-2024 (Deliver to SEKONIC no later than 12 months before expiration.)</p>	1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):	-
	1(a)	For general lighting purposes < 30 W; 2,5 mg	
	1(b)	For general lighting purposes ≥ 30 W and < 50 W; 3,5 mg	
	1(c)	For general lighting purposes ≥ 50 W and < 150 W; 5 mg	
	1(d)	For general lighting purposes ≥ 150 W; 15 mg	
	1(e)	For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm : 7 mg	
	1(f)	For special purposes; 5 mg	
	1(g)	For general lighting purposes < 30 W with a lifetime equal or above 20 000 h; 3,5 mg	<ul style="list-style-type: none"> <li>• Applicable to categories 1-7.11</li> <li>• 31-Dec-2017 (Applying for renewal)</li> <li>• Applicable to categories 11</li> <li>• 21-Jul-2024</li> </ul>
	2(a)	Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):	-
	2(a)(1)	Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2); 4 mg	
	2(a)(2)	Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5); 3 mg	
	2(a)(3)	Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8); 3,5 mg	
	2(a)(4)	Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12); 3,5 mg	
	2(a)(5)	Tri-band phosphor with long lifetime (≥ 25 000 h); 5 mg	
	2(b)	Mercury in other fluorescent lamps not exceeding (per lamp):	-
	2(b)(3)	Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9) : 15 mg	
	2(b)(4)	Lamps for other general lighting and special purposes (e.g. induction lamps) : 15 mg	
	3	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):	-
	3(a)	Short length (≤ 500 mm) : 3,5 mg	
	3(b)	Medium length (> 500 mm and ≤ 1 500 mm) : 5 mg	
	3(c)	Long length (> 1 500 mm) : 13 mg	
	4(a)	Mercury in other low pressure discharge lamps (per lamp) : 15 mg	
	4(b)	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60:	-
	4(b)-I	P ≤ 155 W : 30 mg	
	4(b)-II	155 W < P ≤ 405 W : 40 mg	
	4(b)-III	P > 405 W : 40 mg	
	4(c)	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):	-
4(c)-I	P ≤ 155 W : 25 mg		
4(c)-II	155 W < P ≤ 405W : 30 mg		
4(c)-III	P > 405 W : 40 mg		
4(e)	Mercury in metal halide lamps (MH)		
4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex		

4(g)	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.	<ul style="list-style-type: none"> <li>• Categories 1-10 31-Dec-2018 (Expired)</li> <li>• Applicable to categories 11 21-Jul-2024</li> </ul>
5(a)	Lead in glass of cathode ray tubes	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2016 (Expired)</li> <li>Applies to categories 8,9 and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
5(b)	Lead in fluorescent tube glass not to exceeding 0.2 % by weight	
6(a)	Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0,35 % lead by weight	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 Expired</li> <li>Applies to categories 8,9 and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
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 galvanized steel components containing up to 0,2 % lead by weight	<ul style="list-style-type: none"> <li>• Applicable to categories 1-7 and 10 21-Jul-2021</li> </ul>
6(b)	Lead as an alloying element in aluminum containing up to 0,4 % lead by weight	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 Expired</li> <li>Applies to categories 8,9 and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
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	<ul style="list-style-type: none"> <li>• Applicable to categories 1-7 and 10 21-Jul-2021</li> </ul>
6(b)- II	Lead as an alloying element in aluminium for machining purposes with a lead content up to 0,4 % by weight	<ul style="list-style-type: none"> <li>• Applicable to categories 1-7 and 10 21-Jul-2021</li> </ul>

6(c)	Lead not to exceed 4% of total weight as a component in copper alloys	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications	<ul style="list-style-type: none"> <li>• <b>Categories 1-7 and 10 21-Jul-2016 (Expired)</b></li> <li><b>Applies to categories 8,9 and 11</b></li> <li>• <b>Categories 8 and 9 21-Jul-2021</b></li> <li>• <b>Category 8 in vitro diagnostic medical devices 21-Jul-2023</b></li> <li>• <b>Category 9 industrial monitoring and control instruments 21-Jul-2024</b></li> <li>• <b>Category 11 21-Jul-2024</b></li> </ul>
7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezo electronic devices, or in a glass or ceramic matrix compound	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>

7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	<p>Does not apply to applications covered by point 7(c)-I and 7(c)-IV of this Annex.</p> <ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
8(b)	Cadmium and its compounds in electrical contacts	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 Expired</li> <li>Applies to categories 8,9 and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
8(b)- I	<p><b>Cadmium and its compounds in electrical contacts used in:</b></p> <ul style="list-style-type: none"> <li>- circuit breakers,</li> <li>- thermal sensing controls,</li> <li>- thermal motor protectors (excluding hermetic thermal motor protectors),</li> <li>- AC switches rated at: <ul style="list-style-type: none"> <li>- 6 A and more at 250 V AC and more, or</li> <li>- 12 A and more at 125 V AC and more,</li> </ul> </li> <li>- DC switches rated at 20 A and more at 18 V DC and more, and</li> <li>- switches for use at voltage supply frequency <math>\geq</math> 200 Hz.</li> </ul>	<ul style="list-style-type: none"> <li>• Applicable to categories 1-7 and 10 21-Jul-2021</li> </ul>
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	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 Expired</li> <li>Applies to categories 8,9 and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>

9(b)	Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 Expired</li> <li>Applies to categories 8,9and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
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	<ul style="list-style-type: none"> <li>• Applies to categories 1 21-Jul-2019</li> </ul>
13(a)	Lead in white glasses used for optical applications	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 Expired</li> <li>Applies to categories 8,9and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
13(b)-(I)	Lead in ion coloured optical filter glass types	<ul style="list-style-type: none"> <li>• Applicable to categories 1-7 and 10 21-Jul-2021</li> </ul>
13(b)-(II)	Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex	<ul style="list-style-type: none"> <li>• Applicable to categories 1-7 and 10 21-Jul-2021</li> </ul>
13(b)-(III)	Cadmium and lead in glazes used for reflectance standards	<ul style="list-style-type: none"> <li>• Applicable to categories 1-7 and 10 21-Jul-2021</li> </ul>
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	<ul style="list-style-type: none"> <li>• <b>Categories 1-7 and 10 Expired</b></li> <li><b>Applies to categories 8,9and 11</b></li> <li>• <b>Categories 8 and 9 21-Jul-2021</b></li> <li>• <b>Category 8 in vitro diagnostic medical devices 21-Jul-2023</b></li> <li>• <b>Category 9 industrial monitoring and control instruments 21-Jul-2024</b></li> <li>• <b>Category 11 21-Jul-2024</b></li> </ul>
15(a)	Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies: - a semiconductor technology node of 90 nm or larger; - a single die of 300 mm <sup>2</sup> or larger in any semiconductor technology node; - stacked die packages with die of 300 mm <sup>2</sup> or larger, or silicon interposers of 300 mm <sup>2</sup> or larger.	<ul style="list-style-type: none"> <li>• <b>Applicable to categories 1-7 and 10 21-Jul-2021</b></li> </ul>

17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2016 (Expired)</li> <li>Applies to categories 8,9and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
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)	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
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	Applies to categories 5 and 8, excluding applications covered by entry 34 of Annex IV, and expires on 21 July 2021.
21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 Expired</li> <li>Applies to categories 8,9and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
21(a)	Cadmium when used in colour printed glass to provide filtering functions, used as a component in lighting applications installed in displays and control panels of EEE	Applies to categories 1 to 7 and 10 except applications covered by entry 21(b) or entry 39 and expires on 21 July 2021.
21(b)	Cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	Applies to categories 1 to 7 and 10 except applications covered by entry 21(a) or 39 and expires on 21 July 2021.
21(c)	Lead in printing inks for the application of enamels on other than borosilicate glasses	Applies to categories 1 to 7 and 10 and expires on 21 July 2021.

24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2016 (Expired)</li> <li>Applies to categories 8,9 and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
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	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2016 (Expired)</li> <li>Applies to categories 8,9 and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>

31	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2016 (Expired)</li> <li>Applies to categories 8,9and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2016 (Expired)</li> <li>Applies to categories 8,9and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
34	Lead in cermet-based trimmer potentiometer elements	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>

37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2021</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	<ul style="list-style-type: none"> <li>• Categories 1-7 and 10 21-Jul-2016 (Expired)</li> <li>Applies to categories 8,9and 11</li> <li>• Categories 8 and 9 21-Jul-2021</li> <li>• Category 8 in vitro diagnostic medical devices 21-Jul-2023</li> <li>• Category 9 industrial monitoring and control instruments 21-Jul-2024</li> <li>• Category 11 21-Jul-2024</li> </ul>
39 (a)	Cadmium selenide in downshifting cadmium-based semiconductor nanocrystal quantum dots for use in display lighting applications (< 0.2 µg Cd per mm <sup>2</sup> of display screen area)	<ul style="list-style-type: none"> <li>• all categories 31-Oct-2019 (Applying for renewal)</li> </ul>
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)	<ul style="list-style-type: none"> <li>• Categories 1-10 31-Dec-2018 (Expired)</li> <li>• Applies to categories 11 21-Jul-2024</li> </ul>
42	Lead in bearings and bushes of diesel or gaseous fuel powered internal combustion engines applied in non-road professional use equipment: —with engine total displacement ≥15 litres; or —with engine total displacement <15 litres and the engine is designed to operate in applications where the time between signal to start and full load is required to be less than 10 seconds; or regular maintenance is typically performed in a harsh and dirty outdoor environment, such as mining, construction, and agriculture applications.	Applies to category 11, excluding applications covered by entry 6(c) of this Annex. Expires on 21 July 2024.
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.	Applies to category 11 and expires on 21 July 2024.
44	Lead in solder of sensors, actuators, and engine control units of combustion engines within the scope of Regulation (EU) 2016/1628 of the European Parliament and of the Council (*1), installed in equipment used at fixed positions while in operation which is designed for professionals, but also used by non-professional users.	Applies to category 11 and expires on 21 July 2024.

Classification	Exemption Number/subentry	Exemptions applications	Date of applicability	
<p>RoHS Directive(2011/65/EU) Applications exempted from the restriction specific to medical devices and monitoring and control instruments (ANNEX IV)</p> <p>Note: The following dates shall be applied when the date of applicability is not specified in the table.</p> <p>Category 8 Medical devices: 21-Jul-2021 In vitro diagnostic medical devices: 21-Jul-2023</p> <p>Category 9 Monitoring and control instruments: 21-Jul-2021 Industrial monitoring and control instruments: 21-Jul-2024</p> <p>(Deliver to SEKONIC no later than 12 months before expiration.)</p>	Equipment utilising or detecting ionising radiation			
	1	Lead, cadmium and mercury in detectors for ionising radiation		
	2	Lead bearings in X-ray tubes		
	3	Lead in electromagnetic radiation amplification devices: micro-channel plate and capillary plate		
	4	Lead in glass frit of X-ray tubes and image intensifiers and lead in glass frit binder for assembly of gas lasers and for vacuum tubes that convert electromagnetic radiation into electrons		
	5	Lead in shielding for ionising radiation		
	6	Lead in X-ray test objects		
	7	Lead stearate X-ray diffraction crystals		
	8	Radioactive cadmium isotope source for portable X-ray fluorescence spectrometers		
	Sensors, detectors and electrodes			
	1a	Lead and cadmium in ion selective electrodes including glass of pH electrodes		
	1b	Lead anodes in electrochemical oxygen sensors		
	1c	Lead, cadmium and mercury in infra-red light detectors		
	1d	Mercury in reference electrodes: low chloride mercury chloride, mercury sulphate and mercury oxide		
	Others			
	9	Cadmium in helium-cadmium lasers		
	10	Lead and cadmium in atomic absorption spectroscopy lamps		
	11	Lead in alloys as a superconductor and thermal conductor in MRI		
	12	Lead and cadmium in metallic bonds creating superconducting magnetic circuits in MRI, SQUID, NMR (Nuclear Magnetic Resonance) or FTMS (Fourier Transform Mass Spectrometer) detectors	30-Jun-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 µm		
	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. Cadmium in phosphor coatings in spare parts for X-ray systems placed on the EU market before 1 January 2020.	31-Dec-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.	30-Jun-2021	
	23	Lead as an alloying element for bearings and wear surfaces in medical equipment exposed to ionising radiation.	30-Jun-2021	
24	Lead enabling vacuum tight connections between aluminum and steel in X-ray image intensifiers.	2019/12/31 Expired		
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.	30-Jun-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 for electrical connection to temperature measurement sensors in devices that are designed to be used periodically at temperatures below -150°C.	30-Jun-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.	30-Jun-2020		
28	Lead in solders for mounting cadmium telluride and cadmium zinc telluride digital array detectors to printed circuit boards.	31-Dec-2017 Expired		
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.	30-Jun-2021		
30	Hexavalent chromium in alkali dispensers used to create photocathodes in X-ray image intensifiers. Hexavalent chromium in alkali dispensers used to create photocathodes in spare parts for X-ray systems placed on the EU market before 1 January 2020.	31-Dec-2019		

31a	Lead, cadmium, hexavalent chromium, and polybrominated diphenyl ethers (PBDE) in spare parts that are recovered from medical devices placed on the market before 22 July, 2014 and reused for Category 8 medical devices placed on the market before 22 July, 2021, provided that the reuse takes place in auditable closed-loop business-to-business return systems and that such reuse of parts is notified to the customer.		
		(a) Medical devices other than in vitro diagnostic medical devices.	21-Jul-2021
		(b) In vitro diagnostic medical devices.	21-Jul-2023
		(c) Electron microscopes and their accessories.	21-Jul-2024
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.		2019/12/31 Expired
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.	class II a	30-Jun-2016 Expired
		class II b	31-Dec-2020
34	Lead as an activator in the fluorescent powder of discharge lamps when used for extracorporeal photopheresis lamps containing BSP (BaSi2O5:Pb) phosphors.		21-Jul-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		21-Jul-2024
36	Lead used in other than C-press compliant pin connector systems for industrial monitoring and control instruments. Lead used in other than C-press compliant pin connector systems in spare parts for industrial monitoring and control instruments placed on the market before 1 January 2021.		31-Dec-2020
37	Lead in platinumized 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.		31-Dec-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 CT (computed tomography) and X-ray systems. Lead in solder in one interface of large area stacked die elements with more than 500 interconnects per interface which are used in spare parts for CT and X-ray systems placed on the market before 1 January 2020.		31-Dec-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 <sup>2</sup> ; (iii) a multiplication factor larger than 1,3 × 10 <sup>3</sup> . (c) a response time shorter than 5 ns for detecting electrons or ions; (d) a sample detection area larger than 314 mm <sup>2</sup> for detecting electrons or ions; (e) a multiplication factor larger than 4,0 × 10 <sup>7</sup> . The exemption expires on the following dates:		
		(a) for medical devices and monitoring and control instruments	21-Jul-2021
		(b) for in-vitro diagnostic medical devices	21-Jul-2023
		(c) for industrial monitoring and control instruments.	21-Jul-2024
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. Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC in spare parts for industrial monitoring and control instruments placed on the market before 1 January 2021.		31-Dec-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.		31-Mar-2022
42	Mercury in electric rotating connectors used in intravascular ultrasound imaging systems capable of high operating frequency (> 50 MHz) modes of operation.		30-Jun-2019
43	Cadmium anodes in Hersch cells for oxygen sensors used in industrial monitoring and control instruments that are required to have a sensitivity below 10 ppm.		15-Jul-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.		Applies to category 9. 31-Mar-2027

**Appendix 1 Annex 2: List of specific substances for appointed as substance group**

Revision date: November 16, 2020

Substance group	Specific substance	CAS No	Remarks	
Cadmium and its compounds  (JAMP-SN0016)	Cadmium	7440-43-9	REACH SVHC authorization substance candidates ED/69/2013 (9th) REACH Annex XVII Nr23	
	Cadmium oxide	1306-19-0	REACH SVHC authorization substance candidates ED/69/2013 (9th)	
	Cadmium sulfide	1306-23-6	REACH SVHC authorization substance candidates ED/121/2013 (10th)	
	Cadmium chloride	10108-64-2	REACH SVHC authorization substance candidates ED/49/2014 (11th)	
	Cadmium sulfate	10124-36-4 (31119-53-6) (15244-35-9)	REACH SVHC authorization substance candidates ED/108/2014 (12th)	
	Cadmium fluoride	7790-79-6	REACH SVHC authorization substance candidates ED/108/2014 (12th)	
	Other Cadmium compounds	-	-	
Hexavalent Chromium compounds  (JAMP-SN0019)	Barium chromate	10294-40-3	-	
	Lead (II) chromate	7758-97-6	REACH SVHC XiV Nr10 Sunset date has expired REACH SVHC authorization substance candidates ED/68/2009 (2nd)	
	Chromium trioxide (Chromium (VI) oxide)	1333-82-0	REACH SVHC XiV Nr16 Sunset date 2017/8/22 REACH SVHC authorization substance candidates ED/95/2010 (4th)	
	Acids generated from chromium trioxide and their oligomers	-	-	
	Chromic acid	7738-94-5	REACH SVHC XiV Nr17 Sunset date 2017/9/21 REACH SVHC authorization substance candidates ED/95/2010 (4th)	
	Dichromic acid	13530-68-2	-	
	Oligomers of chromic acid and dichromic acid	JAMP-SN0071	REACH SVHC XiV Nr22 Sunset date 2017/9/21 REACH SVHC authorization substance candidates ED/95/2010 (4th)	
	Sodium chromate	7775-11-3	REACH SVHC XiV Nr22 Sunset date 2017/9/21 REACH SVHC authorization substance candidates ED/30/2010 (3rd)	
	Ammonium dichromate	7789-09-5 (EC#024-003-00-1)	REACH SVHC XiV Nr20 Sunset date 2017/9/21 REACH SVHC authorization substance candidates ED/30/2010 (3rd)	
	Diammonium dichromate (VI); Dichromic acid, diammonium salt; Ammonium bichromate	7789-98-9	Japan Chemical Substance Management Promotion act	
	Sodium dichromate	7789-12-0	REACH SVHC XiV Nr18 Sunset date 2017/9/21	
	Sodium dichromate (Anhydrous)	10588-01-9	REACH SVHC authorization substance candidates ED/67/2008 (1st)	
	Strontium chromate	7789-06-2	REACH SVHC XiV Nr29 Sunset date 2019/1/22 REACH SVHC authorization substance candidates ED/31/2011 (5th)	
	Potassium dichromate	7778-50-9	REACH SVHC XiV Nr19 Sunset date 2017/9/21 REACH SVHC authorization substance candidates ED/30/2010 (3rd)	
	Potassium chromate	7789-00-6	REACH SVHC XiV Nr21 Sunset date 2017/9/21 REACH SVHC authorization substance candidates ED/30/2010 (3rd)	
	Zinc chromate	13530-65-9	-	
	Calcium chromate	13765-19-0	-	
	Potassium hydroxyoctaoxodizincate dichromate	11103-86-9	REACH SVHC XiV Nr30 Sunset date 2019/1/22 REACH SVHC authorization substance candidates ED/77/2011 (6th)	
	Lead chromate molybdate sulphate red(C.I. Pigment Red 104)	12656-85-8	REACH SVHC XiV Nr12 Sunset date has expired REACH SVHC authorization substance candidates ED/68/2009 (2nd)	
	Pentazinc chromate octahydroxide	49663-84-5	REACH SVHC XiV Nr31 Sunset date 2019/1/22 REACH SVHC authorization substance candidates ED/77/2011 (6th)	
	Other hexavalent chromium compounds	-	REACH Annex XVII Nr47	
	Lead and its compounds	Lead	7439-92-1	REACH SVHC authorization substance candidates ED/61/2018 (19th)
		Lead (II) sulfate	7446-14-2	REACH Annex XVII Nr17
Lead (II) carbonate		598-63-0	REACH Annex XVII Nr16	
Lead hydrocarbonate (Lead (II) carbonate basic)		1319-46-6	REACH SVHC authorization substance candidates ED/169/2012 (8th)	
Lead (II) acetate, trihydrate		6080-56-4	-	
Lead (II) o-phosphate		7446-27-7	-	
Lead selenide		12069-00-0	-	
Lead (IV) oxide		1309-60-0	-	
Lead (II,IV) oxide orange red		1314-41-6	REACH SVHC authorization substance candidates ED/169/2012 (8th)	
Lead (II) sulfide		1314-87-0	-	
Lead (II) oxide		1317-36-8	REACH SVHC authorization substance candidates ED/169/2012 (8th)	
Lead hydroxidcarbonate		1344-36-1	-	
Lead titanium trioxide ( Lead (II) titanate)		12060-00-3	REACH SVHC authorization substance candidates ED/169/2012 (8th)	
Lead sulfate, sulphuric acid, lead salt		15739-80-7	REACH Annex XVII Nr17	
Lead sulphate, tribasic		12202-17-4	REACH SVHC authorization substance candidates ED/169/2012 (8th)	
Lead stearate		1072-35-1	-	
Lead sulfochromate yellow		1344-37-2	REACH SVHC XiV Nr11 Sunset date has expired REACH SVHC authorization substance candidates ED/68/2009 (2nd)	
Sulfurous acid, lead salt, dibasic		62229-08-7	REACH SVHC authorization substance candidates ED/169/2012 (8th)	
Acetic acid, lead salt, basic		51404-69-4	REACH SVHC authorization substance candidates ED/169/2012 (8th)	
Lead acetate		301-04-2	REACH SVHC authorization substance candidates ED/121/2013 (10th)	
Lead dipicrate		6477-64-1	REACH SVHC authorization substance candidates ED/77/2011 (6th)	
Lead 2,4,6-trinitro-m-phenylene dioxide (Lead styphnate)		15245-44-0	REACH SVHC authorization substance candidates ED/77/2011 (6th)	
Lead diazide, Lead azide		13424-46-9	REACH SVHC authorization substance candidates ED/77/2011 (6th)	
Trilead diarsenate		3687-31-8	REACH SVHC authorization substance candidates ED/77/2011 (6th)	
Lead(II) bis (methanesulfonate)		17570-76-2	REACH SVHC authorization substance candidates ED/87/2012 (7th)	

	Lead bis (tetrafluoroborate)	13814-96-5	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Silicic acid, lead salt	11120-22-2	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Tetraethyllead	78-00-2	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Trilead dioxide phosphonate; Lead oxide phosphonate (Pb3O2(HPO3))	12141-20-7	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Pyrochlore, antimony lead yellow	8012-00-8	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Tetrabasic lead sulfate	12065-90-6	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Lead cyanamide (Cyanamide, lead(2+) salt (1:1))	20837-86-9	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Silicic acid (H2Si2O5), barium salt (1:1), lead-doped	68784-75-8	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Lead zirconate titanate	12626-81-2	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Lead oxide sulfate (Pb5O4(SO4))	12036-76-9	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	(Phthalato(2-))dioxotrilead (Lead dioxide phthalate; Lead, (1,2-benzenedicarboxylato(2-)) dioxotri-)	69011-06-9	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Dioxobis(stearato)trilead (Lead, bis(octadecanoato)dioxotri-)	12578-12-0	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	atty acids, C16-18, lead salts	91031-62-8	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Lead(II) nitrate; Lead nitrate	10099-74-8	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Lead hydrogen arsenate	7784-40-9	REACH SVHC authorization substance candidates ED/67/2008 (1st)
(JAMP-SN0023)	Other lead compounds	-	-
Mercury and its compounds	Mercury	7439-97-6	REACH Annex XVII Nr18a
	Mercuric chloride	33631-63-9	-
	Mercury (II) chloride	7487-94-7	-
	Mercuric sulfate	7783-35-9	-
	Mercuric nitrate	10045-94-0	-
	Mercuric (II) oxide	21908-53-2	-
	Mercuric sulfide	1344-48-5	-
(JAMP-SN0024)	Other mercury compounds	-	REACH Annex XVII Nr18
Tri-substituted organostannic compounds	Triphenyltin-N, N-dimethyldithiocarbamate	1803-12-9	-
	Triphenyltinfluoride	379-52-2	-
	Triphenyltinacetate	900-95-8	-
	Triphenyltinchloride	639-58-7	-
	Triphenyltinhydroxide	76-87-9	-
		18380-71-7	-
	Triphenyltin fattyacid((9-11)salt)	18380-72-8	-
		47672-31-1	-
		94850-90-5	-
	Triphenyltinchloroacetate	7094-94-2	-
	Tributyltinmethacrylate	2155-70-6	-
	Bis(tributyltin)fumarate	6454-35-9	-
	Tributyltinfluoride	1983-10-4	-
	Bis(tributyltin)2,3-dibromosuccinate	31732-71-5	-
	Tributyltinacetate	56-36-0	-
	Tributyltinlaurate	3090-36-6	-
	Bis(tributyltin)phthalate	4782-29-0	-
	Copolymer of alkyl(c=8) acrylate,methyl methacrylate and tributyltin methacrylate	67772-01-4	-
	Tributyltinsulfamate	6517-25-5	-
	Bis(tributyltin)maleate	14275-57-1	-
	Triphenyltinchloride	1461-22-9	-
		7342-38-3	-
	Tributyltin cyclopentane carbonate=mixture	85409-17-2	-
	Tributyltin-1, 2,3,4,4a, 4b, 5,6,10,10a-decahydro-7-isopropyl-1, 4a-dimethyl-1-phenanthrenecarboxylatemix	26239-64-5	-
(JAMP-SN0068)	Other tri-substituted organostannic compounds	-	REACH Annex XVII Nr20(4)
Polybrominated Biphenyls (PBBs)	Polybrominated Biphenyls	59536-65-1	REACH Annex XVII Nr8
	Dibromobiphenyl	92-86-4	-
	2-Bromobiphenyl	2052-07-5	-
	3-Bromobiphenyl	2113-57-7	-
	4-Bromobiphenyl	92-66-0	-
	Tribromobiphenyl	59080-34-1	-
	Tetrabromobiphenyl	40088-45-7	-
	Pentabromobiphenyl	56307-79-0	-
	Hexabromobiphenyl	59080-40-9	-
	hexabromo-1,1-biphenyl	36355-01-8	Japan Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./Class I Specified Chemical Substances、 POPs
	Firemaster FF-1	67774-32-7	-
	Heptabromobiphenyl	35194-78-6	-
	Octabromobiphenyl	61288-13-9	-
	Nonabiphenyl	27753-52-2	-
	Decabromobiphenyl	13654-09-6	-
Polybrominated Diphenyl Ethers (PBDEs)	Bromodiphenyl ether	101-55-3	-
	Dibromodiphenyl ethers	2050-47-7	-
	Tribromodiphenyl ether	49690-94-0	-
	Tetrabromodiphenyl ethers [Typical isomer included in commercial octabromodiphenyl ether]	40088-47-9	Japan Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./Class I Specified Chemical Substances、 POPs
	Hexabromodiphenyl ether [Typical isomer included in commercial octabromodiphenyl ether]	36483-60-0	Japan Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./Class I Specified Chemical Substances、 POPs
	Heptabromodiphenylether [Typical isomer included in commercial octabromodiphenyl ether]	68928-80-3	Japan Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./Class I Specified Chemical Substances、 POPs

	Nonabromodiphenylether	63936-56-1	-
	Decabromodiphenyl ether	1163-19-5	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Pentabromodiphenyl ether [Typical isomer included in commercial octabromodiphenyl ether]	32534-81-9	Japan Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./Class I Specified Chemical Substances、POPs
	Octabromodiphenyl ether	32536-52-0	-
Polychlorinated biphenyls (PCBs) , Polychlorinated terphenyls (PCTs) and specific substitutes	Polychlorinated Biphenyls (all isomers and congeners)	1336-36-3	-
	Monomethyl-tetrachloro-diphenyl methane (Ugilec 141)	76253-60-6	<a href="#">REACH Annex XVII Nr24</a>
	Monomethyl-dichloro-diphenyl methane (Ugilec 121, Ugilec 21)	81161-70-8	-
	Monomethyl-dibromo-diphenyl methane (DBBT)	99688-47-8	<a href="#">REACH Annex XVII Nr26</a>
	Polychlorinated Terphenyls (PCT) (all isomers and congeners)	61788-33-8	-
Polychloronaphthalenes (more than 1 chlorine atoms)	Monochloronaphthalene (MonoCNs)	25586-43-0	Canadian hazardous substance regulation IEC 62474 D 11.00 2016/03/28 Update "EU No 519/2012"
	Dichloronaphthalene(DiCNs)	28699-88-9	Japan Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./Class I Specified Chemical Substances、POPs
	Trichloronaphthalene (TriCNs)	1321-65-9	-
	Tetrachloronaphthalene (TetraCNs)	1335-88-2	-
	Pentachloro-naphthalen (PentaCNs)	1321-64-8	-
	Hexachloro-naphthalen (HexaCNs)	1335-87-1	-
	Heptachloronaphthalene (HeptaCNs)	32241-08-0	-
	1,2,3,4,5,6,7,8-Octachloronaphthalene (OctaCN)	2234-13-1	-
	Phenol, pentachloro-, sodium salt, decahydrate	27735-63-3	Japan Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./Class I Specified Chemical Substances、POPs
	Sodium pentachlorophenate (as monohydrate)	27735-64-4	Japan Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./Class I Specified Chemical Substances、POPs
	Polychloronaphthalene (PCN)	70776-03-3	-
	1-Monochloronaphthalene	90-13-1	-
	2-Chloronaphthalene	91-58-7	-
	1,5-Dichloronaphthalene	1825-30-5	-
	1,4-Dichloronaphthalene	1825-31-6	-
	1,2-Dichloronaphthalene	2050-69-3	-
	1,6-Dichloronaphthalene	2050-72-8	-
	1,7-Dichloronaphthalene	2050-73-9	-
	1,8-Dichloronaphthalene	2050-74-0	-
	2,3-Dichloronaphthalene	2050-75-1	-
	2,6-Dichloronaphthalene	2065-70-5	-
	1,3-Dichloronaphthalene	2198-75-6	-
	2,7-Dichloronaphthalene	2198-77-8	-
	1,4,6-Trichloronaphthalene	2437-54-9	-
	1,4,5-Trichloronaphthalene	2437-55-0	-
	1,4,5,8-Tetrachloronaphthalene	3432-57-3	-
	1,2,4,8-Tetrachloronaphthalene	6529-87-9	-
	1,2,4,5-Tetrachloronaphthalene	6733-54-6	-
	1,2,3,6,7,8-Hexachloronaphthalene	17062-87-2	-
	1,2,3,4-Tetrachloronaphthalene	20020-02-4	-
	1,3,5,8-Tetrachloronaphthalene	31604-28-1	-
	2,3,6,7-Tetrachloronaphthalene	34588-40-4	-
	1,2,4-Trichloronaphthalene	50402-51-2	-
	1,2,3-Trichloronaphthalene	50402-52-3	-
	1,3,5-Trichloronaphthalene	51570-43-5	-
	1,2,6-Trichloronaphthalene	51570-44-6	-
	1,2,4,6-Tetrachloronaphthalene	51570-45-7	-
	1,2,3,5-Tetrachloronaphthalene	53555-63-8	-
	1,3,5,7-Tetrachloronaphthalene	53555-64-9	-
	1,2,3,5,7-Pentachloronaphthalene	53555-65-0	-
	1,2,5-Trichloronaphthalene	55720-33-7	-
	1,2,7-Trichloronaphthalene	55720-34-8	-
	1,2,8-Trichloronaphthalene	55720-35-9	-
	1,3,6-Trichloronaphthalene	55720-36-0	-
	1,3,7-Trichloronaphthalene	55720-37-1	-
	1,3,8-Trichloronaphthalene	55720-38-2	-
	1,6,7-Trichloronaphthalene	55720-39-3	-
	2,3,6-Trichloronaphthalene	55720-40-6	-
	1,2,3,7-Tetrachloronaphthalene	55720-41-7	-
	1,3,6,7-Tetrachloronaphthalene	55720-42-8	-
	1,4,6,7-Tetrachloronaphthalene	55720-43-9	-
	1,2,3,4,5,6,7-Heptachloronaphthalene	58863-14-2	-
	1,2,3,4,5,6,8-Heptachloronaphthalene	58863-15-3	-
	1,2,3,4,5,6-Hexachloronaphthalene	58877-88-6	-
	1,2,4,7-Tetrachloronaphthalene	67922-21-8	-
	1,2,5,6-Tetrachloronaphthalene	67922-22-9	-
	1,2,5,7-Tetrachloronaphthalene	67922-23-0	-
	1,2,6,8-Tetrachloronaphthalene	67922-24-1	-
	1,2,3,4,5-Pentachloronaphthalene	67922-25-2	-
	1,2,3,4,6-Pentachloronaphthalene	67922-26-3	-
	1,2,3,4,5,7-Hexachloronaphthalene	67922-27-4	-
	1,2,4,5,6,8-Hexachloronaphthalene	90948-28-0	-
	1,2,4,5,7,8-Hexachloronaphthalene	103426-92-2	-

	1,2,3,4,5,8-Hexachloronaphthalene	103426-93-3	-
	1,2,3,5,7,8-Hexachloronaphthalene	103426-94-4	-
	1,2,3,5,6,8-Hexachloronaphthalene	103426-95-5	-
	1,2,3,4,6,7-Hexachloronaphthalene	103426-96-6	-
	1,2,3,5,6,7-Hexachloronaphthalene	103426-97-7	-
	1,2,3,6-Tetrachloronaphthalene	149864-78-8	-
	1,2,6,7-Tetrachloronaphthalene	149864-79-9	-
	1,2,5,8-Tetrachloronaphthalene	149864-80-2	-
	1,2,3,8-Tetrachloronaphthalene	149864-81-3	-
	1,2,7,8-Tetrachloronaphthalene	149864-82-4	-
	1,2,3,7,8-Pentachloronaphthalene	150205-21-3	-
	1,3,6,8-Tetrachloronaphthalene	150224-15-0	-
	1,2,3,6,7-Pentachloronaphthalene	150224-16-1	-
	1,2,4,6,7-Pentachloronaphthalene	150224-17-2	-
	1,2,3,5,6-Pentachloronaphthalene	150224-18-3	-
	1,2,4,5,7-Pentachloronaphthalene	150224-19-4	-
	1,2,4,5,6-Pentachloronaphthalene	150224-20-7	-
	1,2,4,7,8-Pentachloronaphthalene	150224-21-8	-
	1,2,4,6,8-Pentachloronaphthalene	150224-22-9	-
	1,2,3,6,8-Pentachloronaphthalene	150224-23-0	-
	1,2,3,5,8-Pentachloronaphthalene	150224-24-1	-
	1,2,4,5,8-Pentachloronaphthalene	150224-25-2	-
	Other polychlorinated Naphthalenes	-	-
Asbestos	Asbestos	1332-21-4	REACH Annex XVII Nr6
	Actinolite	77536-66-4	REACH Annex XVII Nr6
	Amosite (Grunerite)	12172-73-5	REACH Annex XVII Nr6
	Anthophyllite	77536-67-5	REACH Annex XVII Nr6
	Chrysotile	12001-29-5 (132207-32-0)	REACH Annex XVII Nr6
	Crocidolite	12001-28-4	REACH Annex XVII Nr6
	Tremolite	77536-68-6	REACH Annex XVII Nr6
Azo colorants and azodyes which form certain aromatic amines	Biphenyl-4-ylamine	92-67-1	REACH SVHC authorization substance candidates ED/169/2012 (8th) REACH Annex XVII Nr15 Household goods regulation law (effective April 1, 2016)
	Benzidine	92-87-5	REACH Annex XVII Nr9 / Nr13 Household goods regulation law (effective April 1, 2016)
	4-chloro-o-toluidine	95-69-2	Household goods regulation law (effective April 1, 2016)
	2-naphthylamine	91-59-8 (JAMP-SN0042)	REACH Annex XVII Nr12 Household goods regulation law (effective April 1, 2016)
	o-aminoazotoluene	97-56-3	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	5-nitro-o-toluidine	99-55-8	-
	4-chloroaniline	106-47-8	Household goods regulation law (effective April 1, 2016)
	4-methoxy-m-phenylenediamine	615-05-4	Household goods regulation law (effective April 1, 2016)
	4,4'-methylenedianiline	101-77-9	REACH SVHC XiV Nr2 Sunset date 2017/8/22 REACH SVHC authorization substance candidates ED/67/2008 (1st) Household goods regulation law (effective April 1, 2016)
	3,3'-dichlorobenzidine	91-94-1	Household goods regulation law (effective April 1, 2016)
	2,4-Dimethyl aniline	95-68-1	Japan Act on Control of Household Products Containing Harmful Substances
	2,6-Dimethylaniline	87-62-7	
	3,3'-dimethoxybenzidine	119-90-4	Household goods regulation law (effective April 1, 2016)
	3,3'-dimethylbenzidine	119-93-7	Household goods regulation law (effective April 1, 2016)
	4,4'-methylenedi-o-toluidine	838-88-0	REACH SVHC authorization substance candidates ED/169/2012 (8th) Household goods regulation law (effective April 1, 2016)
	6-methoxy-m-toluidine	120-71-8	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	4,4'-methylene-bis(2-chloroaniline)	101-14-4	REACH SVHC XiV Nr27 Sunset date 2017/11/22 REACH SVHC authorization substance candidates ED/77/2011 (6th) Household goods regulation law (effective April 1, 2016)
	4,4'-oxydianiline	101-80-4	REACH SVHC authorization substance candidates ED/169/2012 (8th) Household goods regulation law (effective April 1, 2016)
	4,4'-thiodianiline	139-65-1	Household goods regulation law (effective April 1, 2016)
	o-toluidine	95-53-4	REACH SVHC authorization substance candidates ED/169/2012 (8th) Household goods regulation law (effective April 1, 2016)
	4-methyl-m-phenylenediamine	95-80-7	REACH SVHC authorization substance candidates ED/169/2012 (8th) Household goods regulation law (effective April 1, 2016)
	2,4,5-trimethylaniline	137-17-7	Household goods regulation law (effective April 1, 2016)
	o-anisidine	90-04-0	REACH SVHC authorization substance candidates ED/77/2011 (6th) Household goods regulation law (effective April 1, 2016)
	4-amino azobenzene (JAMP-SN0011)	60-09-3	REACH SVHC authorization substance candidates ED/169/2012 (8th) *Textiles and leather products. [threshold of specific amines by reductive eavage:0.003%(30ppm)]
Ozone Depleting Substances (ODSs)	Trichlorofluoromethane (CFC-11)	75-69-4	-
	Dichlorodifluoromethane (CFC12)	75-71-8	-
	Chlorotrifluoromethane (CFC13)	75-72-9	-
	Pentachlorofluoroethane (CFC111)	354-56-3	-
	Tetrachlorodifluoroethane (CFC112)		-
	1,1,2,2-Tetrachloro-1,2-difluoroethane (CFC-112)	76-12-0	-
	1,1,1,2-Tetrachloro-2,2-difluoroethane (CFC-112a)	76-11-9	-

Trichlorotrifluoroethane (CFC113)	76-13-1	-
1,1,2-Trichloro-1,2,2 trifluoroethane (CFC-113)		
1,1,1-Trichloro-2,2,2 trifluoroethane (CFC-113a)	354-58-5	-
Dichlorotetrafluoroethane (CFC114)	76-14-2	-
Monochloropentafluoroethane (CFC115)	76-15-3	-
Heptachlorofluoropropane (CFC211)	422-78-6 (135401-87-5)	-
1,1,1,2,2,3,3-Heptachloro-3-fluoropropane (CFC-211aa)	422-78-6	-
1,1,1,2,3,3,3-Heptachloro-2-fluoropropane (CFC-211ba)	422-81-1	-
Hexachlorodifluoropropane (CFC212)	3182-26-1	-
Pentachlorotrifluoropropane (CFC213)	2354-6-5 (134237-31-3)	-
Tetrachlorotetrafluoropropane (CFC214)	29255-31-0	-
1,2,2,3-Tetrachloro-1,1,3,3-tetrafluoropropane (CFC-214aa)	2268-46-4	-
1,1,1,3-Tetrachloro-2,2,3,3-tetrafluoropropane (CFC-214cb)	-	-
Trichloropentafluoropropane (CFC215)	1599-41-3	-
1,2,2-Trichloropentafluoropropane (CFC-215aa)	1599-41-3	-
1,2,3-Trichloropentafluoropropane (CFC-215ba)	76-17-5	-
1,1,2-Trichloropentafluoropropane (CFC-215bb)	-	-
1,1,3-Trichloropentafluoropropane (CFC-215ca)	-	-
1,1,1-Trichloropentafluoropropane (CFC-215cb)	4259-43-2	-
Dichlorohexafluoropropane (CFC216)	661-97-2	-
Chloroheptafluoropropane (CFC217)	422-86-6	-
Bromochloromethane (Halon-1011)	74-97-5	-
Dibromodifluoromethane (Halon1211)	75-61-6	-
Bromochlorodifluoromethane (Halon1301)	353-59-3	-
Bromotrifluoromethane (Halon1301)	75-63-8	-
Dibromotetrafluoroethane (Halon2402)	124-73-2	-
Tetrachloromethane	56-23-5	-
1,1,1-Trichloroethane	71-55-6	-
Bromomethane	74-83-9	-
Bromoethane	74-96-4	-
1-Bromopropane	106-94-5	REACH SVHC authorization substance candidates ED/169/2012 (8th)
Trifluoriodomethane	2314-97-8	-
Chloromethane	74-87-5	-
Dibromofluoromethane (HBFC-21 B2)	1868-53-7	-
Bromodifluoromethane (HBFC-22 B1)	1511-62-2	-
Bromofluoromethane (HBFC-31 B1)	373-52-4	-
Tetrabromofluoroethane (HBFC-121 B4)	306-80-9	-
Tribromodifluoroethane (HBFC-122 B3)	-	-
Dibromotrifluoroethane (HBFC-123 B2)	354-04-1	-
Bromotetrafluoroethane (HBFC-124 B1)	124-72-1	-
Tribromofluoroethane (HBFC-131 B3)	-	-
Dibromodifluoroethane (HBFC-132 B2)	75-82-1	-
Bromotrifluoroethane (HBFC-133 B1)	421-06-7	-
Dibromofluoroethane (HBFC-141 B2)	358-97-4	-
Bromodifluoroethane (HBFC-142 B1)	420-47-3	-
Bromofluoroethane (HBFC-151 B1)	762-49-2	-
Hexabromofluoropropane (HBFC-221 B6)	-	-
Pentabromodifluoropropane (HBFC-222 B5)	-	-
Tetrabromotrifluoropropane (HBFC-224 B4)	-	-
Tribromotetrafluoropropane (HBFC-224 B3)	-	-
Dibromopentafluoropropane (HBFC-225 B2)	431-78-7	-
Bromohexafluoropropane (HBFC-226 B1)	2252-78-0	-
Pentabromofluoropropane (HBFC-231 B5)	-	-
Tetrabromodifluoropropane (HBFC-232 B4)	-	-
Tribromotrifluoropropane (HBFC-233 B3)	-	-
Dibromotetrafluoropropane (HBFC-234 B2)	-	-
Bromopentafluoropropane (HBFC-235 B1)	460-88-8	-
Tetrabromofluoropropane (HBFC-241 B4)	-	-
Tribromodifluoropropane (HBFC-242 B3)	70192-80-2	-
Dibromotrifluoropropane (HBFC-243 B2)	431-21-0	-
Bromotetrafluoropropane (HBFC-244 B1)	679-84-5	-
Tribromofluoropropane (HBFC-251 B3)	75372-14-4	-
Dibromodifluoropropane (HBFC-252 B2)	460-25-3	-
Bromotrifluoropropane (HBFC-253 B1)	421-46-5	-
Dibromofluoropropane (HBFC-261 B2)	51584-26-0	-
Bromodifluoropropane (HBFC-262 B1)	-	-
Bromofluoropropane (HBFC-271 B1)	1871-72-3	-
Dichlorofluoromethane (HCFC21)	75-43-4	-
Chlorodifluoromethane (HCFC22)	75-45-6	-
Chlorofluoromethane (HCFC31)	593-70-4	-
Tetrachlorofluoroethane (HCFC121)	134237-32-4	-
1,1,2,2-Tetrachloro-1-fluoroethane (HCFC 121)	354-14-3	-
1,1,1,2-Tetrachloro-2-fluoroethane (HCFC-121a)	354-11-0	-
Trichlorodifluoroethane (HCFC122)	41834-16-6	-
1,2,2-Trichloro-1,1-difluoroethane (HCFC-122)	354-21-2	-
1,1,2-Trichloro-1,2-difluoroethane (HCFC-122a)	354-15-4	-
1,1,1-Trichloro-2,2-difluoroethane (HCFC-122b)	354-12-1	-
Dichlorotrifluoroethane (HCFC123)	34077-87-7	-

1,1-Dichloro-2,2,2-trifluoroethane (HCFC-123)	306-83-2	-
1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	354-23-4 (90454-18-5)	-
1,1-Dichloro-1,2,2-trifluoroethane (HCFC-123b)	812-04-4	-
Chlorotetrafluoroethane (HCFC124)	63938-10-3	-
2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	2837-89-0	-
1-chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	354-25-6	-
Trichlorofluoroethane (HCFC131)	27154-33-2 (134237-34-6)	-
1,1,2-Trichloro-2-fluoroethane (HCFC-131)	359-28-4	-
1,1,2-Trichloro-1-fluoroethane (HCFC-131a)	811-95-0	-
1,1,1-Trichloro-2-fluoroethane (HCFC-131b)	2366-36-1	-
Dichlorodifluoroethane (HCFC132)	25915-78-0	-
1,2-Dichloro-1,2-difluoroethane (HCFC-132)	431-06-1	-
1,1-Dichloro-2,2-difluoroethane (HCFC-132a)	471-43-2	-
1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	1649-08-7	-
1,1-Dichloro-1,2-difluoroethane (HCFC-132c)	1842-05-3	-
Chlorotrifluoroethane (HCFC133)	1330-45-6 (431-07-2)	-
1-Chloro-1,2,2-trifluoroethane (HCFC-133)	1330-45-6	-
2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	75-88-7	-
1-Chloro-1,1,2-trifluoroethane (HCFC-133b)	421-04-5	-
Dichlorofluoroethane (HCFC141)	1717-00-6 (25167-88-8)	-
1,2-Dichloro-1-fluoroethane (HCFC-141)	430-57-9	-
1,1-Dichloro-2-fluoroethane (HCFC-141a)	430-53-5	-
1,1-Dichloro-1-fluoroethane (HCFC-141b)	1717-00-6	-
Chlorodifluoroethane (HCFC142)	25497-29-4	-
2-Chloro-1,1-Difluoroethane (HCFC-142)	338-65-8	-
1-Chloro-1,1-difluoroethane (HCFC-142b)	75-68-3	-
1-Chloro-1,2-difluoroethane (HCFC-142a)	338-64-7	-
Chlorofluoroethane (HCFC-151)	110587-14-9	-
1-Chloro-2-fluoroethane (HCFC-151)	762-50-5	-
1-Chloro-1-fluoroethane (HCFC-151a)	1615-75-4	-
Hexachlorofluoropropane (HCFC221)	134237-35-7 (29470-94-8)	-
1,1,1,2,2,3-Hexachloro-3-fluoropropane (HCFC-221ab)	422-26-4	-
Pentachlorodifluoropropane 烷 (HCFC222)	134237-36-8	-
1,1,1,3,3-pentachloro-2,2-difluoropropane (HCFC-222ca)	422-49-1	-
1,2,2,3,3-pentachloro-1,1-difluoropropane (HCFC-222aa)	422-30-0	-
Tetrachlorotrifluoropropane (HCFC223)	134237-37-9	-
1,1,3,3-Tetrachloro-1,2,2-trifluoropropane (HCFC-223ca)	422-52-6	-
1,1,1,3-Tetrachloro-2,2,3-trifluoropropane (HCFC-223cb)	422-50-4	-
Trichlorotetrafluoropropane (HCFC224)	134237-38-0	-
1,3,3-Trichloro-1,1,2,2-tetrafluoropropane (HCFC-224ca)	422-54-8	-
1,1,3-Trichloro-1,2,2,3-tetrafluoropropane (HCFC-224cb)	422-53-7	-
1,1,1-Trichloro-2,2,3,3-tetrafluoropropane (HCFC-224cc)	422-51-5	-
Dichloropentafluoropropane (HCFC225)	127564-92-5	-
2,2-Dichloro-1,1,1,3,3-pentafluoropropane (HCFC225aa)	128903-21-9	-
2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC225ba)	422-48-0	-
1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC225bb)	422-44-6	-
3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC225ca)	422-56-0	-
1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC225cb)	507-55-1	-
1,1-Dichloro-1,2,2,3,3-pentafluoropropane (HCFC225cc)	13474-88-9	-
1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC225da)	431-86-7	-
1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC225ea)	136013-79-1	-
1,1-Dichloro-1,2,3,3,3-pentafluoropropane (HCFC225eb)	111512-56-2	-
Chlorohexafluoropropane (HCFC226)	134308-72-8	-
2-Chloro-1,1,1,3,3,3-hexafluoro-propane (HCFC-226da)	431-87-8	-
Pentachlorofluoropropane (HCFC231)	134190-48-0	-
1,1,1,2,3-pentachloro-2-fluoro-propane (HCFC-231bb)	421-94-3	-
Tetrachlorodifluoropropane (HCFC232)	134237-39-1	-
1,1,1,3-Tetrachloro-3,3-difluoropropane (HCFC232fc)	460-89-9	-
Trichlorotrifluoropropane (HCFC233)	134237-40-4	-
1,1,1-Trichloro-3,3,3-trifluoropropane (HCFC-233fb)	7125-83-9	-
Dichlorotetrafluoropropane (HCFC234)	127564-83-4	-
1,2-Dichloro-1,2,3,3-tetrafluoropropane (HCFC-234db)	425-94-5	-
Chloropentafluoropropane (HCFC235)	134237-41-5	-
1-Chloro-1,1,3,3,3-pentafluoropropane (HCFC-235fa)	460-92-4	-
Tetrachlorofluoropropane (HCFC241)	134190-49-1	-
1,1,2,3-Tetrachloro-1-fluoropropane (HCFC-241db)	666-27-3	-
Trichlorodifluoropropane (HCFC242)	134237-42-6	-
1,3,3,Trichloro-1,1-difluoropropane (HCFC-242fa)	460-63-9	-
Dichlorotrifluoropropane (HCFC243)	134237-43-7	-
1,1-Dichloro-1,2,2-trifluoropropane (HCFC243cc)	7125-99-7	-
2,3-Dichloro-1,1,1-trifluoropropane (HCFC243db)	338-75-0	-
3,3-Dichloro-1,1,1-trifluoropropane (HCFC243fa)	460-69-5	-
Chlorotetrafluoropropane (HCFC244)	134190-50-4	-
3-Chloro-1,1,2,2-tetrafluoropropane (HCFC244ca)	679-85-6	-
1-Chloro-1,1,2,2-tetrafluoropropane (HCFC244cc)	421-75-0	-

	Trichlorofluoropropane (HCFC -251)	134190-51-5	-
	1,1,3-Trichloro-1-fluoropropane (HCFC -251fb)	818-99-5	-
	1,1,2-Trichloro-1-fluoropropane (HCFC -251dc)	421-41-0	-
	Dichlorodifluoropropane (HCFC-252)	134190-52-6	-
	1,3-Dichloro-1,1-difluoropropane (HCFC-252fb)	819-00-1	-
	Chlorotrifluoropropane (HCFC-253)	134237-44-8	-
	3-Chloro-1,1,1-trifluoropropane (HCFC 253fb)	460-35-5	-
	Dichlorofluoropropane (HCFC 261)	134237-45-9	-
	1,1-Dichloro-1-fluoropropane (HCFC 261fc)	7799-56-6	-
	1,2-Dichloro-2-fluoropropane (HCFC 261ba)	420-97-3	-
	Chlorodifluoropropane (HCFC-262)	134190-53-7	-
	1-Chloro-2,2-difluoropropane (HCFC-262ca)	420-99-5	-
	2-Chloro-1,3-difluoropropane (HCFC-262da)	102738-79-4	-
	1-Chloro-1,1-difluoropropane (HCFC-262fc)	421-02-03	-
	Chlorofluoropropane (HCFC-271)	134190-54-8	-
	2-Chloro-2-fluoropropane (HCFC-271ba)	420-44-0	-
	1-Chloro-1-fluoropropane (HCFC-271fb)	430-55-7	-
Short Chain Chlorinated Paraffins (C=10 to 13)	Alkanes, C10-13, chloro	85535-84-8	REACH SVHC authorization substance candidates ED/67/2008 (1st)
	Alkanes, C10-12, chloro	108171-26-2	-
	Alkanes, C12-13, chloro	71011-12-6	-
	Alkanes, chloro	61788-76-9	-
	Chlorinated polyethylene	64754-90-1	-
	Other Short Chain Chlorinated Paraffins	-	-
PFOS(Perfluorooctane sulfonates)	2-Propenoic acid, 2-methyl-, dodecyl ester, polymers with 2-(methyl((perfluoro-C4-8-alkyl)- sulfonyl)amino)ethyl acrylate and vinylidene chloride	306975-62-2	-
	Glycine, N-ethyl-N-((heptadecafluorooctyl)sulfonyl)-, potassium salt	2991-51-7	-
	Perfluorooctanoic acid sodium salt	335-95-5	-
	Perfluorooctane sulfonate acid	1763-23-1	-
	Perfluorooctane sulfonate potassium salt	2795-39-3	-
	Sodium 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate	4021-47-0	-
	Perfluorooctane sulfonate lithium salt	29457-72-5	-
	Perfluorooctane sulfonate ammonium salt	29081-56-9	-
	Bis(2-hydroxyethyl)ammonium perfluorooctanesulfonate	70225-14-8	-
	Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctanesulfonate	71463-74-6	-
	Tetraethylammoniumheptadecafluorooctanesulfonate	56773-42-3	-
	magnesium,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctane-1-sulfonate	91036-71-4	-
	1-Decanaminium, N-decyl-N,N-dimethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1)	251099-16-8	-
Dibutyltin (DBT) compounds	Dibutyltin oxide	818-08-6	-
	Dibutyltin diacetate	1067-33-0	-
	Dibutyltin dilaurate	77-58-7	-
	Dibutyltin maleate	78-04-6	-
	Dibutyltin dichloride; Dibutyltin dichloride (DBTC)	683-18-1	REACH SVHC authorization substance candidates ED/169/2012 (8th)
	Dibutyltin Hydrogen Borate (DBB)	75113-37-0	REACH ANNEX XVII Nr21
(JAMP SN-0072)	Other dibutyltin compounds	-	REACH Annex XVII Nr20(5)
Radioactive substances	Uranium-238	7440-61-1	-
	Radon	10043-92-2	-
	Americium-241	14596-10-2	-
	Thorium-232	7440-29-1	-
	Cesium-137	10045-97-3	-
	Strontium-90	10098-97-2	-
	Other radioactive substances	-	-
Fluorinated Greenhouse Gases (PFC, SF6, HFC)	Tetrafluoromethane (PFC-14)	75-73-0	-
	Hexafluoroethane (PFC-116)	76-16-4	-
	Octafluoropropane (PFC-218)	76-19-7	-
	Decafluorobutane (PFC-31-10)	355-25-9	-
	Dodecafluoropentane (PFC-41-12)	678-26-2	-
	Tetradecafluorohexane (PFC-51-14)	355-42-0	-
	Octafluorocyclobutane (PFC-c318)	115-25-3	-
	Sulfur Hexafluoride (SF6)	2551-62-4	-
	Trifluoromethane (HFC-23)	75-46-7	-
	Difluoromethane (HFC-32)	75-10-5	-
	Methyl fluoride (HFC-41)	593-53-3	-
	2H,3H-Decafluoropentane (HFC-43-10mee)	138495-42-8	-
	Pentafluoroethane (HFC-125)	354-33-6	-
	1,1,2,2-Tetrafluoroethane (HFC-134)	359-35-3	-
	1,1,1,2-Tetrafluoroethane (HFC-134a)	811-97-2	-
	1,1-Difluoroethane (HFC-152a)	75-37-6	-
	1,1,2-Trifluoroethane (HFC-143)	430-66-0	-
	1,1,1-Trifluoroethane (HFC-143a)	420-46-2	-
	2H-Heptafluoropropane (HFC-227ea)	431-89-0	-
	1,1,1,2,2,3-Hexafluoro-propane (HFC-236cb)	677-56-5	-
	1,1,1,2,3,3-Hexafluoropropane (HFC-236ea)	431-63-0	-
	1,1,1,3,3,3-Hexafluoropropane (HFC-236fa)	690-39-1	-

	1,1,2,2,3-Pentafluoropropane (HFC-245ca)	679-86-7	-
	1,1,1,3,3-Pentafluoropropane (HFC-245fa)	460-73-1	-
	1,1,1,3,3-Pentafluorobutane (HFC-365mfc)	406-58-6	-
Perchlorates	Lithium Perchlorate	7791-03-9	-
	Ammonium perchlorate	7790-98-9	-
	Barium perchlorate	13465-95-7	-
	Lead perchlorate	13637-76-8	-
	Magnesium Perchlorate	10034-81-8	-
	Perchloric acid, cobalt (2+) salt	13455-31-7	-
	Perchloric acid, mercury(2+) salt	7616-83-3	-
	Perchloric acid, nickel(2+) salt, hexahydrate	13520-61-1	-
	Nickel perchlorate	13637-71-3	-
	Potassium Perchlorate	7778-74-7	-
	Sodium Perchlorate	7601-89-0	-
	Thallium(3+) perchlorate	15596-83-5	-
Dioctyltin (DOT) compounds (JAMP-SN0073)	Dioctyl Tin Oxide	870-08-6	REACH Annex XVII Nr20 (6)
	Dioctyltin dilaurate	3648-18-8	
	Other Dioctyltin compounds	-	
Phthalates, Selected Group 1 (BBP, DBP, DEHP, <del>DEHP</del> )	Benzylbutylphthalate (BBP)	85-68-7	REACH SVHC XiV Nr5 Sunset date has expired REACH SVHC authorization substance candidates ED/67/2008 (1st)
	Dibutylphthalate (DBP)	84-74-2	REACH SVHC XiV Nr6 Sunset date has expired REACH SVHC authorization substance candidates ED/67/2008 (1st)
	Di(2-ethylhexyl) phthalate (DEHP)	117-81-7	REACH SVHC XiV Nr4 Sunset date has expired REACH SVHC authorization substance candidates ED/108/2014 (12th) (REACH SVHC authorization substance candidates ED/67/2008 (1st)=Toxic for reproduction (article 57c))
Phthalates, Selected Group 2 (DIDP, DINP, DNOP)	Diisodecyl phthalate (DIDP)	26761-40-0 (68515-49-1)	REACH Annex XVII Nr52 California Proposition 65
	Diisononyl phthalate (DINP)	28553-12-0 (68515-48-0)	REACH Annex XVII Nr52
	Di-n-octyl phthalate (DNOP)	117-84-0	REACH Annex XVII Nr52
Bromine compounds (other than PBBs,PBDEs and HBCDDs) (including polymers)	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(14) [Aliphatic/alicyclic brominated compounds]	-	ISO 1043-4(JIS K6899-4):Plastics—Symbols and abbreviated terms—Part 4 : Flame retardants
	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(15) [Aliphatic/alicyclic brominated compounds in combination with antimony compounds]	-	
	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(16) [Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls]	-	
	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(17) [Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls] in combination with antimony compounds]	-	
	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(22) [Aliphatic/alicyclic chlorinated and brominated compounds]	-	
	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(42) [Brominated organic phosphorus compounds]	-	
	Poly(2,6-dibromo-phenylene oxide)	69882-11-7	
	Tetra-decaboro-diphenoxy-benzene	58965-66-5	
	1,2-Bis(2,4,6-tribromo-phenoxy) ethane	37853-59-1	
	3,5,3',5'-Tetrabromo-bisphenol A (TBBPA)	79-94-7	
	TBBA, unspecified	30496-13-0	
	TBBA-epichlorhydrin oligomer	40039-93-8	
	TBBA-TBBA-diglycidyl-ether oligomer	70682-74-5	
	TBBA carbonate oligomer	28906-13-0	
	TBBA carbonate oligomer, phenoxy end capped	94334-64-2	
	TBBA carbonate oligomer, 2,4,6-tribromo-phenol terminated	71342-77-3	
	TBBA-bisphenol A-phosgene polymer	32844-27-2	
	Brominated epoxy resin end-capped with tribromophenol	139638-58-7	
	Brominated epoxy resin end-capped with tribromophenol	135229-48-0	
	TBBA-(2,3-dibromo-propyl-ether)	21850-44-2	
	TBBA bis-(2-hydroxy-ethyl-ether)	4162-45-2	
	TBBA-bis-(allyl-ether)	25327-89-3	
	TBBA-dimethyl-ether	37853-61-5	
	Tetrabromo-bisphenol S	39635-79-5	
	TBBS-bis-(2,3-dibromo-propyl-ether)	42757-55-1	
	2,4-Dibromo-phenol	615-58-7	
	2,4,6-tribromo-phenol	118-79-6	
Pentabromo-phenol	608-71-9		
2,4,6-Tribromo-phenyl-allyl-ether	3278-89-5		
Tribromo-phenyl-allyl-ether, unspecified	26762-91-4		
Bis(methyl)tetrabromo-phthalate	55481-60-2		
Bis(2-ethylhexyl)tetrabromo-phthalate	26040-51-7		
2-Hydroxy-propyl-2-(2-hydroxy-ethoxy)-ethyl-TBP	20566-35-2		
TBPA, glycol-and propylene-oxide esters	75790-69-1		
N,N'-Ethylene -bis-(tetrabromo-phthalimide)	32588-76-4		

	Ethylene-bis(5,6-dibromo-norbornane-2,3-dicarboximide)	52907-07-0	-	
	2,3-Dibromo-2-butene-1,4-diol	3234-02-4	-	
	Dibromo-neopentyl-glycol	3296-90-0	-	
	Dibromo-propanol	96-13-9	-	
	Tribromo-neopentyl-alcohol	36483-57-5	-	
	Poly tribromo-styrene	57137-10-7	-	
	Tribromo-styrene	61368-34-1	-	
	Dibromo-styrene grafted PP	171091-06-8	-	
	Poly-dibromo-styrene	31780-26-4	-	
	Bromo-/Chloro-paraffins	68955-41-9	-	
	Bromo-/Chloro-alpha-olefin	82600-56-4	-	
	Vinylbromide	593-60-2	-	
	Tris-(2,3-dibromo-propyl)-isocyanurate	52434-90-9	-	
	Tris(2,4-Dibromo-phenyl) phosphate	49690-63-3	-	
	Tris(tribromo-neopentyl) phosphate	19186-97-1	-	
	Chlorinated and brominated phosphate ester	125997-20-8	-	
	Pentabromo-toluene	87-83-2	-	
	Pentabromo-benzyl bromide	38521-51-6	-	
	1,3-Butadiene homopolymer,brominated	68441-46-3	-	
	Pentabromo-benzyl-acrylate, monomer	59447-55-1	-	
	Pentabromo-benzyl-acrylate, polymer	59447-57-3	-	
	Decabromo-diphenyl-ethane	84852-53-9	-	
	Tribromo-bisphenyl-maleinimide	59789-51-4	-	
	Tetrabromo-cyclo-octane	31454-48-5	-	
	1,2-Dibromo-4-(1,2 dibromo-methyl)-cyclo-hexane	3322-93-8	-	
	Tetrabromophthalic acid Na salt	25357-79-3	-	
	Tetrabromo phthalic anhydride	632-79-1	-	
	Octabromo-1,1,3-trimethyl-1-phenylindane (FR-1808)	155613-93-7	-	
	Other Brominated Flame Retardants	-	-	
Chlorine compounds (exempted Short Chain Chlorinated Paraffins) (including polymers)	Tetrakis(2-chloroethyl)dichloroisopentylidiphosphate	38051-10-4	-	
	Tris(1-chloro-2-propyl)phosphate	13674-84-5	-	
	Tris(2,3-dichloro-1-propyl)phosphate	66108-37-0	-	
	Tris(1,3-dichloro-2-propyl) phosphate	13674-87-8	-	
	Other Chlorinated Flame Retardants	-	-	
Polycyclic Aromatic Hydrocarbon(PAHs)	Naphthalene (Nap)	91-20-3	-	
	Acenaphthylene (AcPy)	208-96-8	-	
	Acenaphthene (Acp)	83-32-9	-	
	Fluorene (Flu)	86-73-7	-	
	Phenanthrene (PA)	85-01-8	REACH SVHC authorization substance candidates ED/88/2018 (20st)	
	Anthracene (Ant)	120-12-7	REACH SVHC authorization substance candidates ED/67/2008 (1st)	
	Fluoranthene (FL)	206-44-0	REACH SVHC authorization substance candidates ED/88/2018 (20st)	
	Pyrene (Pyr)	129-00-0	REACH SVHC authorization substance candidates ED/88/2018 (20st)	
	Indeno(1,2,3-cd)pyrene (IND)	193-39-5	-	
	Benzo(g,h,i)perylene (BghiP)	191-24-2	REACH SVHC authorization substance candidates ED/61/2018 (19st)	
Polycyclic Aromatic Hydrocarbons (PAHs) *Regulation (EU) No 1272/2013 amending Annex XVII Entry 50 of the REACH Regulation (EC) 1907/2006 The eight restricted PAHs	Chrysene (CHR)	218-01-9	REACH SVHC authorization substance candidates ED/01/2018 (18st)	
	Benzo(a)anthracen (BaA)	56-55-3	REACH SVHC authorization substance candidates ED/01/2018 (18st)	
	Benzo(b)fluoranthene (BbF)	205-99-2	REACH Annex XVII Nr50	
	Benzo(k)fluoranthene (BkF)	207-08-9	REACH Annex XVII Nr50 REACH SVHC authorization substance candidates ED/88/2018 (20st)	
	Benzo(a)pyrene (BaP)	50-32-8	REACH Annex XVII Nr50 REACH SVHC authorization substance candidates ED/21/2016 (15st) IEC62474 D12.00 Update June 20,2015	
	Dibenzo(a,h)anthracene (DBA)	53-70-3	REACH Annex XVII Nr50	
	Benzo(j)fluoranthene (BjF)	205-82-3	REACH Annex XVII Nr50	
Benzo(e)pyrene (BeP)	192-97-2	REACH Annex XVII Nr50		
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified ( $\alpha$ -HBCDD, $\beta$ -HBCDD, $\gamma$ -HBCDD)	Hexabromocyclododecane (HBCDD) (Mixture of isomers)	25637-99-4 (3194-55-6)	REACH SVHC XiV Nr3 Sunset date has expired REACH SVHC authorization substance candidates ED/67/2008 (1st)	
	Diastereoisomers	alpha-hexabromocyclododecane	134237-50-6	Japan Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./Class I Specified Chemical Substances
		beta-hexabromocyclododecane	134237-51-7	
		gamma-hexabromocyclododecane	134237-52-8	
	4,4'- methylenedia niline		4736-49-6 65701-47-5 138257-17-7 138257-18-8 138257-19-9 169102-57-2 678970-15-5 678970-16-6 678970-17-7	Japan Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./Class I Specified Chemical Substances

Specific Ceramic Fibres	Aluminosilicate Refractory Ceramic Fibres [Al-RCF]	JAMP-SN0007	REACH SVHC authorization substance candidates ED/77/2011 (6th)	
	are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of Aluminum and silicon are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm) c) alkaline oxide and alkali earth oxide (Na <sub>2</sub> O+K <sub>2</sub> O+CaO+MgO+BaO) content less or equal to 18% by weight			
	Zirconia Aluminosilicate, Refractory Ceramic Fibres [Zr-RCF]	JAMP-SN0055	REACH SVHC authorization substance candidates ED/77/2011 (6th)	
	are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of Aluminum, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm). c) alkaline oxide and alkali earth oxide (Na <sub>2</sub> O+K <sub>2</sub> O+CaO+MgO+BaO) content less or equal to 18% by weight			
Specific borate compounds	Boric acid	10043-35-3 11113-50-1	REACH SVHC authorization substance candidates ED/30/2010 (3rd)	
	Borate (Disodium tetraborate)	1330-43-4	REACH SVHC authorization substance candidates ED/30/2010 (3rd)	
		12179-04-3 1303-96-4		
	Tetraboron disodium heptaoxide, hydrate	12267-73-1	REACH SVHC authorization substance candidates ED/30/2010 (3rd)	
	diboron trioxide; boric oxide	1303-86-2	REACH SVHC authorization substance candidates ED/87/2012 (7th)	
	Sodium peroxometaborate	7632-04-4	REACH SVHC authorization substance candidates ED/49/2014 (11th)	
	Sodium perborate	(13517-20-9) EC#239-172-9	REACH SVHC authorization substance candidates ED/49/2014 (11th)	
		10332-33-9		
		10486-00-7		
		12040-72-1 15120-21-5 11138-47-9		
perboric acid, sodium salt	(37244-98-7) EC#234-390-0			
Specific Cobalt compounds	Cobalt Dichloride	7646-79-9	REACH SVHC authorization substance candidates ED/31/2011 (1th)	
	Cobalt(II) sulphate	10124-43-3	REACH SVHC authorization substance candidates ED/95/2010 (4th)	
	Cobalt(II) dinitrate	10141-05-6	REACH SVHC authorization substance candidates ED/95/2010 (4th)	
	Cobalt(II) carbonate	513-79-1	REACH SVHC authorization substance candidates ED/95/2010 (4th)	
	Cobalt(II) diacetate	71-48-7	REACH SVHC authorization substance candidates ED/95/2010 (4th)	
Hexahydromethylphthalic anhydrides	Hexahydromethylphthalic anhydride[1]	25550-51-0	REACH SVHC authorization substance candidates ED/169/2012 (8th)	
	Hexahydro-4-methylphthalic anhydride[2]	19438-60-9		
	Hexahydro-1-methylphthalic anhydride[3]	48122-14-1		
	Hexahydro-3-methylphthalic anhydride[4]	57110-29-9		
	[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]	-		
44-Nonylphenol, branched and linear, ethoxylated	Poly (oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy -	26027-38-3	REACH SVHC XiV Nr43 Sunset date 2021/01/04 REACH SVHC authorization substance candidates ED/69/2013 (9th)	
	Ethanol, 2-(2-(2-(4-nonylphenoxy)ethoxy)ethoxy)ethoxy-	7311-27-5		
	Ethanol, 2-(2-(4-nonylphenoxy)ethoxy)-	20427-84-3		
	3,6,9,12,15,18-Hexaoxaicosan-1-ol, 20-(4-nonylphenoxy)-	34166-38-6		
	20-(4-nonylphenoxy)-3,6,9,12,15,18-hexaoxaicosan-1-ol	27942-27-4		
	3,6,9,12,15,18,21,24-Octaoxahexacosan-1-ol,26-(4-nonylphenoxy)-NONOXYNOL 9 [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] <a href="#">IEC62474 D11.00 2016/03/28</a>	14409-72-4		
	4-Nonylphenol, ethoxylated	26027-38-3		
	4-Nonylphenol, branched, ethoxylated	127087-87-0		
	Isononylphenol, ethoxylated4-	37205-87-1		
	Ethanol,2-(4-nonylphenoxy)-	104-35-8		
	4-n-Nonylphenol	104-40-5		REACH SVHC authorization substance candidates ED/69/2013 (9th)
	Phenol, nonyl-, phosphite (3:1)	26523-78-4		REACH SVHC authorization substance candidates ED/69/2013 (9th)
	Nonylphenol, ethoxylated	9016-45-9		-

	Nonylphenol, branched, ethoxylated, phosphated	68412-53-3	-
	Nonylphenol, branched, ethoxylated	68412-54-4	-
	Ethanol,2-(2-(nonylphenoxy)ethoxy)-	27176-93-8	-
	1-Benzene, ethoxynonyl- ((3-ethoxyphenyl)nonane)	28679-13-2	-
	Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-, phosphate, sodium salt	37340-60-6	-
	3,6,9,12,15,18,21-Heptaotricosan-1-ol,23-(nonylphenoxy)-	27177-05-5	-
	3,6,9,12,15,18,21,24,27-Nonaonacosan-1-ol,29-(nonylphenoxy)-	27177-08-8	-
	4-nonylphenol branched	84852-15-30	-
	2-(nonylphenoxy)ethanol	27986-36-3	-
	Tris (nonylphenyl) phosphite	37251-69-7	-
	Poly(oxy-1,2-ethanediyl), .alpha.-(2-nonylphenyl)-.omega.-hydroxy-	51938-25-1	-
(JAMP-SN0083)	Other Nonylphenol ethoxylated	-	-
Japan Industrial Safety and Health Act Substances whose manufacture is prohibited	Yellow phosphorus matches	-	-
	Benzidine and its salts; Exceeding 1 % of the weight of the said preparations and other substances, or containing the substances listed in item	(JAMP-SN0051)	-
	4-aminodiphenyl and its salts; Exceeding 1 % of the weight of the said preparations and other substances, or containing the substances listed in item	-	-
	Asbestos; Exceeding 0.1% of the weight of the said preparations and other substances	-	-
	4-nitrodiphenol and its salts; Exceeding 1 % of the weight of the said preparations and other substances, or containing the substances listed in item	(JAMP-SN0045)	-
	Bis (chloromethyl) ether; Exceeding 1 % of the weight of the said preparations and other substances, or containing the substances listed in item	-	-
	Beta-naphthylamine and its salts; Exceeding 1 % of the weight of the said preparations and other substances, or containing the substances listed in item	-	-
(JP02 ISHL)	Gum containing benzene, in which the volume of contained benzene exceeds 5 % of the solvent (including diluents) of the said gum	-	-
Japan Poisonous and Deleterious Substances Control Act Specific toxic substances	Octamethyl pyrophosphoramide	152-16-9	-
	Tetraalkyl lead	75 – 74 – 1	-
	Diethyl paranitrophenyl thiophosphate	56-38-2	-
	Dimethyl-(diethylamido-1-chlorocrotonyl)-phosphate	8022-00-2	-
	Dimethyl-(diethylamido-1-chlorocrotonyl)-phosphate	13171-21-6	-
	Dimethyl-(diethylamido-1-chlorocrotonyl)-phosphate	298-00-0	-
	Tetraethylpyrophosphate	107-49-3	-
	Monofluoroacetate	144-49-0	-
	Monofluoroacetamide	640-19-7	-
(JP03 PDSC)	In addition to the substances set forth in the preceding items, preparations which contain any of the substances set forth in the preceding items and other Poisonous Substances with extremely poisonous properties which are specified by Cabinet Order.	-	-
Perfluorooctanoic acids (PFOA) and individual salts and esters of PFOAs	Pentadecafluorooctanoic acid (PFOA)	335-67-1	REACH Annex XVII No68 REACH SVHC authorization substance candidates ED/69/2013 (9th)
	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	REACH SVHC authorization substance candidates ED/69/2013 (9th)
	Sodium salt of Perfluorooctanoic acid	335-95-5	-
	Potassium salt of Perfluorooctanoic acid	2395-00-8	-
	Silver(1+) salt of Perfluorooctanoic acid	335-93-3	-
	Perfluorooctanoyl fluoride	335-66-0	Norway toxic substances Control Act TSCA PFOA Stewardship Program
(JAMP-SN0036)	Methyl perfluorooctanoate	376-27-2	-
	Ethyl perfluorooctanoate	3108-24-5	-
Phenyl mercury compounds	Phenylmercury acetate	62-38-4	REACH Annex XVII No62
	Phenylmercury propionate	103-27-5	1. Shall not be manufactured, placed on the market or used as substances or in mixtures after 10 October 2017 if the concentration of mercury in the mixtures is equal to or greater than 0,01 % by weight.
	Phenylmercury 2-ethylhexanoate	13302-00-6	2. Articles or any parts thereof containing one or more of these substances shall not be placed on the market after 10 October 2017 if the concentration of mercury in the articles or any part thereof is equal to or greater than 0,01 % by weight.
	Phenylmercury octanoate	13864-38-5	-
	Phenylmercury neodecanoate	26545-49-3	-

Nonylphenol ethoxylates (group)	Nonylphenol, ethoxylated	9016-45-9	-	
	4-Nonylphenol, ethoxylated	26027-38-3	-	
	Isononylphenol, ethoxylated	37205-87-1	-	
	4-Nonylphenol, branched, ethoxylated	127087-87-0	-	
	Nonylphenol, branched, ethoxylated, phosphated	68412-53-3	-	
	(JAMP-SN0064)	Nonylphenol, branched, ethoxylated	37205-87-1 68412-54-4	-
Inorganic ammonium salts	Ammonium sulfate	7783-20-2	-	
	Ammonium nitrate	6484-52-2	REACH ANNEX XVII Nr58	
	Ammonium dihydrogenorthophosphate	7722-76-1	-	
	Diammonium hydrogenorthophosphate	7783-28-0	-	
	Ammonium thiocyanate	1762-95-4	-	
	Ammonium chloride	12125-02-9	-	
	Ammonium sulfamate	7773-06-0	-	
	Ammonium polyphosphate	68333-79-9	-	
	Ammonium bromide	12124-97-9	-	
	Ammonium carbonate	506-87-6	-	
(JAMP-SN0088)	Other Inorganic ammonium salts		REACH ANNEX XVII Nr65	
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]	Phenol, 4- (1-propylbutyl) -	6465-71-0	-	
	Phenol, 4-tert-heptyl-	288864-02-8	-	
	Phenol, 4- (1-ethylpentyl) -	6465-74-3	-	
	Phenol, 4- (1-methylhexyl) -	6863-24-7	-	
	p-n-heptylphenol 4-heptylphenol phenol, 4-heptyl- phenol, p-heptyl-	1987-50-4	REACH SVHC authorization substance candidates ED/01/2017(16th)	
	Phenol, heptyl derivs.	72624-02-3	REACH SVHC authorization substance candidates ED/01/2017(16th)	
	Phenol, 4-(2-methyl-1- (1-methylethyl) propyl)-	1824346-00-0	-	
	Phenol, 4- (4-methylhexyl) -	1139800-98-8	-	
	Phenol, 4- (1,3,3-trimethylbutyl) -	911371-07-8	-	
	Phenol, 4- (1,2,2-trimethylbutyl) -	911371-06-7	-	
	Phenol, 4- (3-ethylpentyl) -	911370-98-4	-	
	Phenol, 4- (1,1,2-trimethylbutyl) -	861011-60-1	-	
	Phenol, 4- (1-ethyl-2,2-dimethylpropyl) -	861010-65-3	-	
	Phenol, 4- (1,4-dimethylpentyl) -	857629-71-1	-	
	Phenol, 4- (1,2-dimethylpentyl) -	854904-93-1	-	
	Phenol, 4- (1-ethyl-3-methylbutyl) -	854904-92-0	-	
	Phenol, 4- (3-methylhexyl) -	102570-52-5	-	
	Phenol, 4- (5-methylhexyl) -	100532-36-3	-	
	Phenol, 4- (1,1,2,2-tetramethylpropyl) -	72861-06-4	-	
	Phenol, 4- (1,3-dimethylpentyl) -	71945-81-8	-	
	Phenol, 4- (1,1-diethylpropyl) -	37872-24-5	-	
	Phenol, 4- (1,1,3-trimethylbutyl) -	33104-11-9	-	
	Phenol, 4- (1-ethyl-1-methylbutyl) -	30784-32-8	-	
	Phenol, 4- (1,1-dimethylpentyl) -	30784-31-7	-	
	Phenol, 4- (1-ethyl-1,2-dimethylpropyl) -	30784-27-1	-	
	(JAMP-SN0089)	Other Inorganic ammonium salts		REACH SVHC authorization substance candidates ED/01/2017(16th)
	Nickel/Nickel Compounds	Nickel	7440-02-0	
Nickel (II) oxide		1313-99-1		
Nickel (II) chloride		7718-54-9		
Nickel (II) chloride, hexahydrate		7791-20-0		
Nickel(II) sulfate		7786-81-4		
Nickel(II) sulfate, hexahydrate		10101-97-0		
Nickel(II) sulfate, heptahydrate		10101-98-1		
Antimony nickel titanium oxide yellow		8007-18-9		
Nickel niobium titanium yellow rutile		68611-43-8		
obalt titanate green spinel		68186-85-6		
Perfluorohexane-1-sulphonic acid and its salts	Perfluorohexane-1-sulphonic acid	355-46-4	REACH SVHC authorization substance candidates ED/30/2017(17th)	
	ammonium perfluorohexane-1-sulphonate	68259-08-5	REACH SVHC authorization substance candidates ED/30/2017(17th)	
	potassium perfluorohexane-1-sulphonate	3871-99-6	REACH SVHC authorization substance candidates ED/30/2017(17th)	
	sodium perfluorohexane-1-sulphonate	2923-26-4	-	