

Green Procurement Standards

Version 6.0

Fuji Xerox Co., Ltd.

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Foreword

Fuji Xerox and its affiliates have been engaged in reduction of environmental load in the processes of procurement, manufacturing, sales and logistics in order to value harmonization with the environment. We provide safe-designed and eco-friendly products, services and information in order to contribute to our customers and environmental preservation.

Fuji Xerox Sustainability Report shows details on our efforts for the environment. Please visit Fuji Xerox website for the Report.

Version 5.0 of the Fuji Xerox Green Procurement Standard was issued in January 2012. However, in response to global shifts in the legislation and regulations concerning chemical substances, Version 5.0 has been revised and re-released as Version 6.0. The main changes are those made in response to amendments to the EU (European Union) RoHS Directive, the EU REACH regulation, the Japanese Chemical Substances Control Law, and to changes in requirements regarding product safety and quality assurance. Worth particular notice is our response to the addition of four phthalic esters as restricted substances under the RoHS Directive. While these substances were already restricted under Version 5.0, in response to the latest revisions, Fuji Xerox has decided to no longer accept delivery of parts and materials containing phthalic esters from its suppliers starting one year prior to the actual law enforcement date.

In order to reinforce the risk management of chemical substances, it is essential that we work together with our suppliers, who we see as valued partners in the manufacturing of Fuji Xerox products. Cooperation will be particularly important in our efforts to comply with the 2019 EU RoHS Directive, and by working with one another we hope to further strengthen our partnership for environmental preservation and constructively work towards the solving of environmental issues.

Yoshikazu Sato
Executive General Manger, Procurement Group

Tomoyuki Matsuura
Executive General Manager, Customer Satisfaction
Quality Assurance Group

Fuji Xerox Co., Ltd.

Chapter 1 Fuji Xerox's Principle for Green Procurement

1.1 The Fuji Xerox Green Procurement Standard

This standard (Fuji Xerox Green Procurement Standard, Version 6.0) intends to specify standards and guideline concerning the requirements of chemical substances contained in Fuji Xerox* products and used in manufacturing process. It is Fuji Xerox's voluntary standard considering past environmental pollution and degree of toxicity. It covers international and local regulatory requirements as well.

To eliminate use of hazardous chemical substances specified in this standard, Fuji Xerox promotes the following measures:

1. All parts and materials supplied to Fuji Xerox shall not contain the chemical substances prescribed in this standard.
2. No chemical substances prescribed in this standard shall be used in a manufacturing process of the parts and materials supplied to Fuji Xerox.
3. Ask for supplier's cooperation for survey of chemical composition and chemical substances in parts/materials.
4. Promote suppliers to make efforts for environmental management.

* "Fuji Xerox" means Fuji Xerox and its affiliated companies.

1.2 Scope of Application

1.2.1 Scope of application regarding products

This standard shall be applied to Fuji Xerox products that fall within the scope defined below.

A Fuji Xerox product is defined as any product (finished or semi-finished) bearing the Fuji Xerox brand, irrespective of the manufacturer.

1. Products designed and manufactured by Fuji Xerox and sold under the Fuji Xerox brand
2. Products manufactured by Fuji Xerox and supplied to a third party as OEM products.
3. Products produced by a third party that are sold by Fuji Xerox under the Fuji Xerox brand

The scope of application of this standard does not extend to products that are purchased by Fuji Xerox and then sold by Fuji Xerox under third-party brands; however, such products are required to comply with the sales laws and other related requirements of the countries in which they are marketed.

Furthermore, the application of this standard does not extend to products that are first developed and produced by third parties, then purchased and partially modified by Fuji Xerox, and then supplied to a third party as OEM products; however, these products shall comply with the requirements of OEM clients.

1.2.2 Scope of application regarding parts and materials

This standard shall be applied to the following parts and materials used in Fuji Xerox products (defined in 1.2.1).

1. Machines and their options (e.g., tray modules, double-side print units)
2. Spare parts
3. Packaging materials (excluding those used for delivering the parts and/or materials to Fuji Xerox)
4. Accessories such as user guides
5. Toner, photoreceptors, ink, etc. are exempt from the restrictions listed in Section 2.1 Prohibited Substances and 2.4 Controlled Substances. However, the restrictions listed in Section 2.5 Regulated Substances in the Manufacturing Process are to be applied.

The scope of application is subject to review in accordance with development of international and local regulations and Fuji Xerox's corporate policy.

1.3 Application Timing

This standard (Green Procurement Version 6.0) shall be applied to products, parts, and materials from August 1, 2016. Note that separate dates may be set from which delivery to Fuji Xerox is prohibited regarding certain substances. Refer to Section 2.1 for details.

1.4 Principle for Inclusion of Chemical Substances

When it is obvious that controlled chemical substances are intentionally added*¹ or contained in parts and/or material, they shall be fundamentally considered as inclusion regardless of their ingredients or amount. If those substances are unintentionally added in parts and/or materials, they shall be regarded as impurity. If the amount of an impurity doesn't exceed threshold, it shall be regarded as non-inclusion.

Sub-materials used in manufacturing process shall be subject to this standard such as grease and rust preventives adhered to bearings, springs, sheet metals, machined parts and electronic parts; solders used for manufacturing electronic and mechatronics parts; and cleaning agent.

This standard exemplifies exemptions in Chapter 2 and footnotes for the cases where alternative parts/materials are hardly available or are insufficient in light of product quality and safety under the latest social situation.

*1 Intentionally added: Deliberately used in the formulation of a product where its continued presence is desired to provide a specific characteristic, appearance, property, attribute or quality. (Excerpt from JIG*²)

*2 JIG: Joint Industry Guide which is a guide for information disclosure of chemicals that be present in electrical and electronic equipment.

1.5 Recycle and Reuse of Parts

We have been implementing product recycling activity as a part of environmental preservation. For this reason, we consider this standard not to restrict the product recycling activity when selecting new products and new parts. From the standpoint that environmental preservation shall have a priority, product recycling and parts reuse policy takes precedence over the requirements of this standard. However, regulatory requirements shall have higher priority than recycling and parts reuse.

1.6 Amendment of Green Procurement Standard

Prohibited period and exemption stipulated by this standard shall be reviewed according to availability of alternative technologies for prohibited substances. This standard may be amended in accordance with development of laws and regulations, industrial trends and alternative technologies.

We will keep our suppliers informed of update. We expect all of them to take required actions for the updates.

Chapter 2 Controlled Substance List under Environmental Management

2.1 Prohibited Substances

Substances that are prohibited from being included in products are listed in the table below. Applications exempt from restrictions are listed in Section 2.2. Substances belonging to prohibited or restricted chemical substance groups are listed in Section 4.2. Thresholds without a target unit specified mean the concentration (ppm) per homogeneous material (See Section 4.3 for details).

No.	Chemical Substances	CAS	Applicability	Threshold	Notes
1	Asbestos	See Section 4.2.	All	No intentional use	
2	Azo colorants	See Section 4.2.	All	No intentional use	
3	Short-chained chlorinated paraffin (C10-13)	See Section 4.2.	All	No intentional use	
4	Cyanide compounds	See Section 4.2.	All	No intentional use	
5	Pentachlorophenol (PCP)	87-86-5	All	No intentional use	
6	Polybrominated biphenyls (PBBs)	See Section 4.2.	All	-No intentional use -Impurity not exceeding 1,000 ppm	
7	Polybrominated diphenylethers (PBDEs)	See Section 4.2.	All	-No intentional use -Impurity not exceeding 1,000 ppm	
8	Polychlorinated biphenyls (PCBs)	See Section 4.2.	All	No intentional use	Inform us if include PCBs as impurities.
9	Polychlorinated terphenyl (PCT)	See Section 4.2.	All	No intentional use	
10	Polychlorinated naphthalenes (the number of chlorines is 3 or more)	See Section 4.2.	All	No intentional use	
11	Tri-substituted organostannic compounds (excluding TBTO)	See Section 4.2.	All	No intentional use	
12	Ozone depleting substances	See Section 4.2.	All	No intentional use	
13	Benzene	See Section 4.2.	All	No intentional use	
14	Hexachlorobenzene	See Section 4.2.	All	No intentional use	
15	1,1,2-Trichloroethane	See Section 4.2.	All	No intentional use	

No.	Chemical Substances	CAS	Applicability	Threshold	Notes
16	Cadmium and its compounds	See Section 4.2.	Others except below	-No intentional use -Impurity not exceeding 100 ppm	"8 (b) Cadmium and its compounds in electrical contacts" in the EU RoHS Directive Exemption List are NOT exempted as Fuji Xerox's self-imposed regulations.
			Battery	Not exceeding 5 ppm in a battery ^{*1}	
			Packaging	The sum of cadmium, mercury, lead and hexavalent chromium not exceeding 100 ppm [*]	
17	Mercury and its compounds	See Section 4.2.	Others except below	-No intentional use -Impurity not exceeding 1,000 ppm	
			Battery	Not exceeding 1 ppm in a battery ^{*1}	
			Packaging	The sum of cadmium, mercury, lead and hexavalent chromium not exceeding 100 ppm ^{*2}	
18	Lead and its compounds (continued)	See Section 4.2.	Others except below	-No intentional use -Impurity not exceeding 1,000 ppm	"13 (a) Lead in white glasses used for optical applications" in the EU RoHS Directive Exemption List are NOT exempted as Fuji Xerox's self-imposed regulations.
			Electric wire, cable, code coated with thermoset resin or thermoplastic resin	Not exceeding 300 ppm in surface coating	
			Battery	Not exceeding 40 ppm in a battery ^{*13}	
			Packaging	The sum of cadmium, mercury, lead and hexavalent chromium not exceeding 100 ppm ^{*2}	
19	Hexavalent chromium compounds	See Section 4.2.	Others except below	-No intentional use -Impurity not exceeding 1,000 ppm	
			Packaging	The sum of cadmium, mercury, lead and hexavalent chromium not exceeding 100 ppm ^{*2}	

No.	Chemical Substances	CAS	Applicability	Threshold	Notes
20	Brominated flame retardants (excluding PBBs, PBDEs, HBCDD)	See Section 4.2.	All	No intentional use	
21	Polyvinyl chloride	See Section 4.2.	All	No intentional use	
22	Radioactive substances	See Section 4.2.	All	No intentional use	
23	Tributyl tin oxide (TBTO)	56-35-9	All	No intentional use	
24	Perfluorooctane sulfonate compounds (PFOS)	See Section 4.2.	All	No intentional use	
25	Dibutyltin compounds (DBT)	See Section 4.2.	All	-No intentional use -Impurity not exceeding 1,000 ppm in a material	Threshold value to be applied to the metal(Sn) weight conversion.
26	Diocyltin compounds (DOT)	See Section 4.2.	All	-No intentional use -Impurity not exceeding 1,000 ppm in a material	Threshold value to be applied to the metal(Sn) weight conversion.
27	Dimethyl fumarate (DMFu)	624-49-7	All	No intentional use	
28	Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	3846-71-7	All	No intentional use	
29	Bis(2-ethylhexyl) phthalate (DEHP) Alternative name: Dioctyl phthalate (DOP)	117-81-7	All	-No intentional use -Impurity not exceeding 1,000 ppm	Details regarding dates for which delivery of substances to Fuji Xerox is exempt/prohibited: - Until July 21, 2018, parts and materials that are general commercial items* ⁴ and that, when substituted with an alternative, affect the quality of performance, function(s), etc. shall receive exemption. - From July 22, 2018 onwards, delivery to Fuji Xerox shall be prohibited (exemption expired).
30	Benzyl butyl phthalate (BBP) Alternative name: Butyl benzyl phthalate	85-68-7	All	-No intentional use -Impurity not exceeding 1,000 ppm	
31	Dibutyl phthalate (DBP)	84-74-2	All	-No intentional use -Impurity not exceeding 1,000 ppm	
32	Diisobutyl phthalate (DIBP)	84-69-5	All	-No intentional use -Impurity not exceeding 1,000 ppm	
33	Hexabromocyclododecane (HBCDD)	See Section 4.2.	All	No intentional use	

No	Chemical Substances	CAS	Applicability	Threshold	Notes
34	Polycyclic aromatic hydrocarbons (PAHs): Benzo(a)pyrene (BaP) Benzo(e)pyrene (BeP) Benz(a)anthracene (BaA) Chrysene (CHR) Benzo(b)fluoranthene (BbFA) Benzo(j)fluoranthene (BjFA) Benzo(k)fluoranthene (BkFA) Dibenz(a,h)anthracene (DBAhA)	50-32-8 192-97-2 56-55-3 218-01-9 205-99-2 205-82-3 207-08-9 53-70-3	Articles with direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, made of plastic and rubber.	All applicable CAS numbers are to be 1 ppm or less per component.	Threshold to be applied to parts used in the following areas/applications: 1) Outermost surface of a keyboard, mouse device, or electronic pen 2) Outermost surface of an LCD touch panel 3) Outermost surface of an operational button 4) Other parts specified by Fuji Xerox
35	Red phosphorus	7723-14-0 (Note: red phosphorus only)	Resin material used in electrical insulators of electrical/electronic parts	No intentional use	Contact FujiXerox if there are questions regarding individual parts.

*1 Threshold for batteries is the concentration in a battery.

*2 Threshold for packaging is the sum of heavy metals (cadmium, mercury, lead and hexavalent chromium) by weight.

*3 Except for lead accumulators

*4 Parts and materials that are selected from general commercial items and compose Fuji Xerox products

2.2 Exempted Applications of Prohibited Substances

Applications of prohibited substances exempted from restrictions are listed in the table below. It is essential that information referenced regarding the EU RoHS Directive is up-to-date and official. See the European Commission-administered website for the latest information and to view the original document.

The dates listed in the table below are those specified by law/regulation. Notification of deadlines for acceptance of delivery to Fuji Xerox will be provided separately. The exemption periods for items shown in gray cells have already expired (excluding spare parts).

No.	Chemical substances	Exemptions	Expiration
1	Asbestos	N/A	
2	Azo colorants	Azo colorants that generates no specified amines when it is decomposed.	
3	Short-chained chlorinated paraffin (C10-13)	N/A	
4	Cyanide compounds	Except for inorganic cyanide compounds specified as poisonous substance by the Poisonous and Deleterious Substances Control Law	
5	Pentachlorophenol (PCP)	N/A	
6	Polybrominated biphenyls (PBBs)	N/A	
7	Polybrominated diphenylethers (PBDEs)	N/A	
8	Polychlorinated biphenyls (PCBs)	N/A	
9	Polychlorinated terphenyl (PCT)	N/A	
10	Polychlorinated naphthalenes (the number of chlorines is 3 or more)	N/A	
11	Tri-substituted organostannic compounds (excluding TBTO)	N/A	
12	Ozone depleting substances	Except for use in manufacturing process and inclusion in parts	
13	Benzene	N/A	
14	Hexachlorobenzene	N/A	
15	1,1,2-Trichloroethane	N/A	
16	Cadmium and its compounds	Exemptions under EU RoHS Directive: Note: Fuji Xerox's self-imposed regulations define this substance as not exempt from application "8 (b) Cadmium and its compounds in electrical contacts".	
8(a)		Cadmium and its compounds in one shot pellet type thermal cut-offs	Exempt until Jan 1, 2012
8(b)		Cadmium and its compounds in electrical contacts Note: Fuji Xerox's self-imposed regulations do not permit this application exemption for parts or materials used in Fuji Xerox products.	
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards		

No.	Chemical substances	Exemptions	Expiration	
16	Cadmium and its compounds	Exemptions under EU RoHS Directive: Note: Fuji Xerox's self-imposed regulations define this substance as not exempt from application "8 (b) Cadmium and its compounds in electrical contacts".		
		21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	
		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	Exempt until Jul 21, 2016
		38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	Exempt until Jul 21, 2016
		39	Cadmium in colour converting II-VI LEDs (< 10 µg Cd per mm ² of light-emitting area) for use in solid state illumination or display systems	
		40	Cadmium in photoresistors for analogue optocouplers applied in professional audio equipment	Exempt until Dec 31, 2013
17	Mercury and its compounds	Exemptions under EU RoHS Directive:		
		1 : Mercury in single capped(compact) fluorescent lamps not exceeding (per burner):		
		1(a)	For general lighting purposes <30W : 2.5mg	
		1(b)	For general lighting purposes ≥30W and < 50W : 3.5mg	
		1(c)	For general lighting purposes ≥50W and < 150 W : 5mg	
		1(d)	For general lighting purposes ≥150W : 15mg	
		1(e)	For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm : 7mg	
		1(f)	For special purposes : 5mg	
		1(g)	For general lighting purposes < 30 W with a lifetime equal or above 20,000h : 3,5 mg	Exempt until Dec 31, 2017
		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 < 9mm (e.g.T2) : 4mg	
		2(a)(2)	Tri-band phosphor with normal lifetime and a tube diameter ≥ 9mm and ≤ 17mm (e.g. T5) : 3mg	
		2(a)(3)	Tri-band phosphor with normal lifetime and a tube diameter > 17mm and ≤ 28mm (e.g. T8) : 3.5mg	
		2(a)(4)	Tri-band phosphor with normal lifetime and a tube diameter > 28mm (e.g.T12) : 3.5mg	
2(a)(5)	Tri-band phosphor with long lifetime (≥25000 h) : 5mg			

No.	Chemical substances	Exemptions	Expiration
17	Mercury and its compounds	Exemptions under EU RoHS Directive:	
		2(b) : Mercury in other fluorescent lamps not exceeding (per lamp) :	
		2(b)(1) Linear halophosphate lamps with tube diameter >28 mm (e.g. T10 and T12): 10 mg	Exempt until Apr 13, 2012
		2(b)(2) Non-linear halophosphate lamps (all diameters): 15 mg	Exempt until Apr 13, 2016
		2(b)(3) Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9) : 15mg	
		2(b)(4) Lamps for other general lighting and special purposes (e.g. induction lamps) : 15mg	
		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) : 3.5mg	
		3(b) Medium length (>500mm and ≤ 1500 mm) : 5mg	
		3(c) Long length (>1500 mm) : 13mg	
		4(a) Mercury in other low pressure discharge lamps (per lamp) : 15mg	
		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 : 30mg	
		4(b)-II 155 W < P ≤ 405 W : 40mg	
		4(b)-III P > 405 W : 40mg	
		4(c) : Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) :	
		4(c)-I P ≤ 155 W : 25mg	
4(c)-II 155 W < P ≤ 405 W : 30mg			
4(c)-III P > 405 W : 40mg			
4(d) Mercury in High Pressure Mercury (vapour) lamps (HPMV)	Exempt until Apr 13, 2015		
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	Exempt until Dec 31, 2018 (forecast)		
36 Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display	Exempt until Jun 1, 2010		

No.	Chemical substances	Exemptions	Expiration	
18	Lead and its compounds (continued)	Exemptions under EU RoHS Directive: Note: Fuji Xerox's self-imposed regulations define this substance as not exempt from application "13 (a) Lead in white glasses used for optical applications".		
		5(a)	Lead in glass of cathode ray tubes	Exempt until Jul 21, 2016
		5(b)	Lead in glass of fluorescent tubes not 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	
		6(b)	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight	
		6(c)	Copper alloy containing up to 4 % lead by weight	
		7(a)	Lead in high melting temperature type solders (i.e.lead-based alloys containing 85 % by weight or more lead)	
		7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications	Exempt until Jul 21, 2016
		7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devices, or in a glass or ceramic matrix compound	
		7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	
		7(c)-(III)	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	Exempt until Jan 1, 2013
		7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitor which are part of integrated circuits or discrete semiconductors	
		9(b)	Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	
		11(a)	Lead used in C-press compliant pin connector systems	Exempt until Sep 24, 2010
		11(b)	Lead used in other than C-press compliant pin connector systems	Exempt until Jan 1, 2013
		12	Lead as a coating material for the thermal conduction module C-ring	Exempt until Sep 24, 2010
13(a)	Lead in white glasses used for optical applications Note: Fuji Xerox's self-imposed regulations do not permit this application exemption for parts or materials used in Fuji Xerox products.			
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards			
14	Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80 % and less than 85 % by weight	Exempt until Jan 1, 2011		

No.	Chemical substances	Exemptions	Expiration	
18	Lead and its compounds (continued)	Exemptions under EU RoHS Directive:*1 Note: Fuji Xerox's self-imposed regulations define this substance as not exempt from application "13 (a) Lead in white glasses used for optical applications".		
		15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	
		16	Lead in linear incandescent lamps with silicate coated tubes	Exempt until Sep 1, 2013
		17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications	Exempt until Jul 21, 2016
		18(a)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as speciality lamps for diazoprinting reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba)2MgSi2O7:Pb)	Exempt until Jan 1, 2011
		18(b)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun	
		19	Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact energy saving lamps(ESL)	Exempt until Jun 1, 2011
		20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs)	Exempt until Jun 1, 2011
		21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	
		23	Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm and less	Exempt until Sep 24, 2010
		24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	
		25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	Exempt until Jul 21, 2016
		26	Lead oxide in the glass envelope of black light blue lamps	Exempt until Jun 1, 2011
		27	Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers	Exempt until Sep 24, 2010
		29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	
		31	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays (design or industrial lighting)	Exempt until Jul 21, 2016
		32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	
		33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers	Exempt until Jul 21, 2016
		34	Lead in cermet-based trimmer potentiometer elements	
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body			

No.	Chemical substances	Exemptions	Expiration
18	Lead and its compounds (continued)	Exemptions under EU RoHS Directive: ^{*1} Note: Fuji Xerox's self-imposed regulations define this substance as not exempt from application "13 (a) Lead in white glasses used for optical applications".	
		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	Exempt until Dec 31, 2018
		Fx1 ^{*1} : Lead in Ni-plated coat containing up to 1,000ppm	
19	Hexavalent chromium compounds	Exemptions under EU RoHS Directive: 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	
		Fx2 ^{*1} : Surface treatment of plated parts not designed by Fuji Xerox containing up to 1,000 ppm	
20	Brominated flame retardants (excluding PBBs, PBDEs, HBCDD)	(1) Small board inside electric parts (e.g., Motor) (2) Electric parts (e.g., Motor, Clutch, Solenoid) (3) Exemptions listed in Section 2.3	
21	Polyvinyl chloride	3) Exemptions listed in Section 2.3 (e.g., PVC when used for the purpose of meeting safety standards)	
22	Radioactive substances	N/A	
23	Tributyl tin oxide (TBTO)	N/A	
24	Perfluorooctane sulfonate compounds (PFOS)	(1) Resist and antireflective coating used for photolithography processes (2) Photographic film, photographic paper, printing plate	
25	Dibutyltin compounds (DBT)	Fx3 ^{*1} : Parts and materials that, when substituted with an alternative, affect the quality of performance/function(s), etc. However, the threshold is set at 1,000 ppm or less in a material.	
26	Diocetyl tin compounds (DOT)	Exempt with exception of two-component liquid room temperature vulcanization mold kit (RTV-2 mold kit) ^{*2} .	
27	Dimethyl fumarate (DMFu)	N/A	
28	Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	N/A	

No.	Chemical substances	Exemptions	Expiration
29	Bis(2-ethylhexyl) phthalate (DEHP) Alternative name: dioctyl phthalate (DOP)	fx4*3: Parts and materials that are general commercial items*4 and that, when substituted with an alternative, affect the quality of performance, function(s), etc. are exempt from restrictions until July 21, 2018. Exemption shall no longer apply from July 22, 2018.	
30	Benzyl butyl phthalate (BBP) Alternative name: Butyl benzyl phthalate	fx4*3: Parts and materials that are general commercial items*4 and that, when substituted with an alternative, affect the quality of performance, function(s), etc. are exempt from restrictions until July 21, 2018. Exemption shall no longer apply from July 22, 2018.	
31	Dibutyl phthalate (DBP)	fx4*3: Parts and materials that are general commercial items*4 and that, when substituted with an alternative, affect the quality of performance, function(s), etc. are exempt from restrictions until July 21, 2018. Exemption shall no longer apply from July 22, 2018.	
32	Diisobutyl phthalate (DIBP)	fx4*3: Parts and materials that are general commercial items*4 and that, when substituted with an alternative, affect the quality of performance, function(s), etc. are exempt from restrictions until July 21, 2018. Exemption shall no longer apply from July 22, 2018.	
33	Hexabromocyclododecane (HBCDD)	N/A	
34	Polycyclic aromatic hydrocarbons (PAHs): Benzo(a)pyrene (BaP) Benzo(e)pyrene (BeP) Polycyclic aromatic hydrocarbons (PAHs): Benz(a)anthracene (BaA) Chrysene (CHR) Benzo(b)fluoranthene (BbFA) Benzo(j)fluoranthene (BjFA) Benzo(k)fluoranthene (BkFA) Dibenz(a,h)anthracene (DBAhA)	Applications other than those used in the areas specified below are exempt from requirements: 1) Outermost surface of a keyboard, mouse device, or electronic pen 2) Outermost surface of an LCD touch panel 3) Outermost surface of an operational button 4) Other parts specified by Fuji Xerox	
35	Red phosphorus	1) Applications other than for resin materials used in electrical insulators of electrical/electronic parts 2) Red phosphorus is coated with a water-proof substance or safety evaluation regarding the generation of phosphate is completed.	

Notes

*1: Fuji Xerox self-imposed standards

*2: Room temperature vulcanization silicone rubber for molding (matrix blocks for plastic molded parts, etc.).

*3: Fuji Xerox specified exemption on delivery of parts/materials and the applicable dates

*4: Parts and materials that are selected from general commercial items and compose Fuji Xerox products

2.3 Examples of Exempted Applications

Chemical substances	Exemptions
Brominated flame retardants	(1) Fluorine-containing rubber insulated wire, Power cord, Interface cable for external wiring, Flat cable, Tube (including heat shrinkable tube), Sleeve, Tape, Cable tie, Twist pair shield wire (2) Resin of electronic/electric parts (e.g., Sensor, Trans, Coil insulation, Modular jack, Switch, Gasket, Connector, IC socket) (3) Sealant of electronic parts/semiconductors (e.g., Capacitor, Resistor, Diode, Varistor, Transistor, IC, LSI)
Polyvinyl chloride	(1) Power cord, Interface cable for external wiring, High-current cable used for flash exposure, Tube, Sleeve, Tape, Battery, Breaker, Electrolytic capacitor, Switch, Terminal, Sensor, Display, Touch panel (2) Adhesives used for staples (3) Blend of polyvinyl and other polymers

2.4 Controlled Substances

Substances listed in any of the five lists/regulations shown below (1-5) are to be treated as controlled substances. However, prohibited substances and chemical substances not likely to be used in Fuji Xerox products are excluded. Information on controlled substances shall be filled out and submitted via AIS.

- 1 JAMP*¹ controlled substances
- 2 (Previous version of) Joint Industry Guide (JIG) 101 / Table A (available separately) (normative) JIG list of materials/substances determined relevant for disclosure
- 3 EHS-1001*²: Xerox Reportable Substances (Table B1)
- 4 REACH Regulation: Annex XIV (List of Substances subject to Authorization)
- 5 REACH Regulation: Candidate substances of very high concern (SVHC)

Note

The chemical substances listed in the table below may be updated due to international and domestic environmental regulatory development and Fuji Xerox policy. We will notify any update on our official website.

No.	Substances	CAS	Applications
1	Antimony and its compounds	See Section 4.2.	All applications including resin additives
2	Selenium and its compounds	See Section 4.2.	All applications including photosensitive materials, glass colorants and pigments
3	Nickel compounds	See Section 4.2.	All applications including plating applications and applications possibly having long-time skin contact (Metal nickel in alloy metals such as SUS materials and nichrome wires are excluded.)
4	Bismuth and its compounds	See Section 4.2.	All parts and products
5	Arsenic and its compounds	See Section 4.2.	All applications including glass defoamers (Semiconductor dopants are excluded.)
6	Beryllium and its compounds	See Section 4.2.	All applications including Be-Cu alloys used as spring materials
7	Phthalate esters (except DEHP, BBP, DBP, DIBP)	See Section 4.2.	All parts and products
8	[4-{bis(4-dimethylaminophenyl)methylene}-2,5-cyclohexadiene-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)	548-62-9	All parts and products
9	Boric acid (H3BO3)	See Section 4.2.	All flame retardants including wood, paints, film developers
10	Cobalt dichloride	7646-79-9	All applications including colorants, finishing agents, process control agents, reducing agents
11	Disodium tetraborate, anhydrous	See Section 4.2.	All applications including glasses, ceramics, industrial fluid, adhesives and flame retardants
12	Formaldehyde	50-0-0	All applications including adhesives for wood composite
13	Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	All applications including plasticizers, flame retardants and additives
14	Perchlorates	See Section 4.2.	All applications including coin cell batteries
15	Refractory ceramic fibres, aluminosilicate	-	All applications including insulators used in high temperature test device

No.	Substances	CAS	Applications
16	Refractory ceramic fibres, Zirconia aluminosilicate	-	All applications including insulators used in high temperature test device
17	CLP Regulation: Substances listed by "Category 1" or "Category 2" of carcinogens, mutagens or reproductive toxicants specified by Annex VI, Table 3.2.	Substances subject to the survey specified by Section 3.6	All applications
18	REACH Regulation: Annex XVII Restricted Substances		All applications
19	REACH Regulation: Candidate substances of very high concern (SVHC)		All applications
20	JRC ³ ESIS ⁴ : Substances listed by PBT ⁵		All applications
21	GADSL ⁶ : Substances listed by GADSL		All applications

*1 JAMP: Joint Article Management Promotion-consortium. It promotes an industry-wide chemical information management system.

*2 EHS1001: Xerox Corporation Green Procurement Standard

*3 JRC: Joint Research Centre of European Commission

*4 ESIS: European Chemical Substances Information System

*5 PBT: Persistent, Bioaccumulative and Toxic Chemicals.

*6 GADSL: Global Automotive Declarable Substance List. It is an industry-wide integrated chemical management list established by Global Automotive Stakeholders Group (GASG). GASG consists of automobile manufacturers, automobile parts suppliers.

2.5 Regulated Substances in the Manufacturing Process

Chemical substances listed below shall be regulated to be used in a manufacturing process at our suppliers that manufactures parts and purchased components/materials used for composing Fuji Xerox products. In particular, cleaning agents, degreasers, catalysts and solvents used in a process of manufacturing products, parts and materials shall fall under the scope. Additionally, the criteria stated within Section 2.1 Prohibited Substances and 2.4 Controlled Substances are to be applied to any pigments, additives, plasticizers, flame retardants, etc. that remain in the finished product, its parts, or its materials.

However, those substances contained in tightly-sealed equipment, jigs and tools (e.g., chlorinated fluorocarbon used in refrigerators) shall be out of the scope. When manufacturing process at our suppliers is changed or materials and/or equipment are changed, such suppliers shall promptly submit "Process/Structure Change Application" to the procurement division of Fuji Xerox.

Substances prohibited in the manufacturing process

Our suppliers shall not intentionally use the following substances in the manufacturing process:

No.	Prohibited substances
1	1,1,1-trichloroethane
2	1,1,2-trichloroethane
3	1,2-dichloroethane
4	3-amino-1H-1,2,4-triazol
5	4-aminobiphenyl
6	4-nitrobiphenyl
7	β -naphthylamine
8	Asbestos
9	Tetrachloroethylene
10	Trichloroethylene
11	Tributyl tin and triphenyl tin compounds
12	Ozone depleting substances (See Section 4.2.) CFCs, Halons, HCFCs, HBFCs
13	Hexachlorobenzen
14	Benzidine and its salts
15	Benzene
16	Pentachlorophenol

Substances controlled in the manufacturing process

Fuji Xerox specifies the following as substances that shall be controlled in the manufacturing process.

Ensure that control procedures are also actively implemented in the manufacturing processes of clients/partners and that efforts are made to find other substances that can be substituted for those below.

No.	Controlled substances
1	1,1-dichloroethylene (vinylidene chloride)
2	2,4-dichlorophenol
3	Adipic acid di(2-ethyl-hexyl) ester
4	Acetaldehyde
5	Chloroform
6	Dichloromethane
7	Cis-1,2-dichloromethylene
8	Talc
9	Nonyl phenol
10	Hydrochlorofluorocarbon
1	Bisphenol A
12	Arsenic and its compounds
13	Phthalic acid di(2-ethyl-hexyl) ester
14	Phthalic acid di(n-butyl) ester
15	Butyl benzyl phthalate
16	Diisononyl phthalate
17	Diisodecyl phthalate
18	Diocetyl phthalate
19	Benzophenone
20	Formaldehyde
21	Manganese and its compounds
22	Lead and its compounds
23	Trivalent chromium and its compounds
24	Hexavalent chromium and its compounds
25	Fluorinated greenhouse gases (PFC, SF6, HFC)

Chapter 3 Requests to Suppliers

3.1 Compliance with Fuji Xerox Green Procurement Standard

All suppliers who will deliver parts and materials to Fuji Xerox shall observe chemical substance restriction specified in Fuji Xerox's design drawings and rules stipulated in parts/materials purchase agreements. Even if design drawings do not specify chemical substance restriction, for example, in case of common parts with past products, our suppliers shall control chemical substances according to this standard. If a supplier decides it difficult or impossible to comply with the requirements of this standard, such supplier shall promptly report it to the procurement division of Fuji Xerox.

3.2 Quality Control of Prohibited Hazardous Substances

One strategy to achieve environmental management in Fuji Xerox is to prohibit the use of hazardous chemical substances in the parts and materials used in Fuji Xerox products. In order to promptly ensure prohibition of the use of hazardous chemical substances, we will only purchase parts and materials from those suppliers that meet the requirements of both "Environmental Management" and "Quality Management".

We request our suppliers who have not been qualified with "Environmental Management" and "Quality Management" at the moment of issue of this standard to acquire the qualifications in near future.

"Environmental Management" refers to any of the following:

- Obtain and keep renewal ISO14001 certification.
- Obtain and keep renewal Eco Stage certification.
- Register and keep renewal Eco Action 21 certification.
- Affiliate Japan Responsible Care Council and disclose RC Report.

"Quality Management" refers to the following:

- Obtain and keep renewal ISO9001 certification.

3.3 Audit to Suppliers

According to this standard, we may periodically audit management level of chemical substances at individual suppliers.

3.4 Assurance of Non-inclusion of Prohibited Substances

To ensure nonuse of the prohibited substances specified in this standard, we request all our suppliers to submit "Non-inclusion Certificate of Regulated Substances" and "Materials Details" for all parts per product. Our procurement division will notify each supplier of details on a way and due date to submit them.

3.5 Submission of Chemical Substance Analytical Data

When any concern is raised that the prohibited substances specified in this standard may be used in parts and materials in any phases from supplier's production process through our finished products, we will request our suppliers to submit chemical substance analytical data per part and material in order to ensure nonuse of the prohibited substances. Portions and materials to be analyzed vary according to parts. We will notify each supplier of details on analytical methods and due date to submit the data.

3.6 Submission of Data on Chemical Substances Included in Parts

Data detailing the chemical substances included in product parts is to be submitted via JAMP AIS*¹. We will notify each supplier who supplies parts and materials used in products to be surveyed. Suppliers are to submit the required data by the designated due date. Ensure that the JAMP AIS submitted is the most current version. Refer to the JAMP AIS manuals provided by JAMP regarding how to fill out the main items on the sheet.

*¹ Article Information Sheet (AIS): an industry-wide standard template for chemical content information management.

3.7 Use of Recycled Materials

Recycled materials*² (including packaging materials) can be used as long as a supplier can specify chemical composition of the materials before recycled and assure no prohibited substances contained in the recycled materials by providing Fuji Xerox with analytical data as evidence.

*² Recycled materials refer to reusable materials taken from takeback products and reused for new products.

3.8 Management of Lead-free Solders in Manufacturing Process

It is likely that, in a process of lead-free soldering, some suppliers may mount components coated with conventional eutectic solders and those coated with lead-free solders in the same solder bath. Even if lead-free solders are used in a solder bath, the concentration of the lead may exceed 1,000 ppm as long as the two different types of coated components are used in the same solder bath. To avoid such risk, Fuji Xerox requests all our suppliers to separate a process for components coated with conventional eutectic solders from the one for components coated with lead-free solders.

3.9 Responsibilities of Suppliers

This standard shall be applied to all parts and materials used in Fuji Xerox products. The collaboration with all parties relating to supply chain is indispensable to ensure compliance with this standard. Fuji Xerox requests all our suppliers to take responsibility to disseminate this standard to their sub-suppliers so that they comply with the requirements of chemical substance management specified in this standard.

3.10 Supporting Individual Requirements of Environmental Standards

With regards to chemical substances not defined in the “Green” Procurement Standard, submission may be required for additional certification based on individual requirements of environmental standards of each country. Fuji Xerox will separately request such submission to the relevant supplier.

As an example of individual requirements in environmental standards, substances include Diisodecyl phthalate (DIDP), Diisononyl Phthalate (DNIP), Di-n-octyl phthalate (DNOP) and sixteen types of polycyclic aromatic hydrocarbons (PAHs) in the CEC environmental label (HJ 2512-2012).

Definitions of laws and regulations

No.	Definitions of laws and regulations
1	<p><u>Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances/Class 1 Chemical Substances:</u> Aims to prevent high deposition into people or animals at the top of the food chain via the environment by discharge of long-term toxic chemical substances into the environment during the process of use to disposal. Prohibited for manufacturing and import unless approval is acquired.</p>
2	<p><u>Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances/Class 2 Chemical Substances</u> Aims to prevent low deposition into people or animals at the top of the food chain via the environment by discharge of long-term toxic chemical substances into the environment during the process of use to disposal. Prior notification is required for manufacturing and import.</p>
3	<p><u>Industrial Safety and Health Law/Substances prohibited for manufacture</u> Aims to ensure the safety and health of employees in the workplace and promote a comfortable working environment together with the Labor Standards Law. Products including substances prohibited by this law cannot be manufactured, imported, transferred, supplied, nor used, except when requirements by law are met for the manufacture, import, or use for test and research purpose.</p>
4	<p><u>Montreal Protocol</u> Protocol prescribing specific measures aiming at total elimination of ozone-depleting substances. The production of specific CFCs, halon and carbon tetrachloride was completely discontinued from 1994 to 1996, and other HCFCs and methyl bromide are sequentially being discontinued.</p>
5	<p><u>Waste Disposal and Public Cleansing Law/Evaluation criteria related to industrial wastes</u> Businesses emitting wastes are required to appropriately dispose wastes produced in their business at their own responsibility. The "Evaluation Criteria on Industrial Wastes" of this law sets down evaluation criteria related to hazardous substances. Wastes exceeding the criteria are subject to detoxification and solidification.</p>
6	<p><u>BazelConvention</u> Treaty prescribing laws on the relocation of a certain volume of hazardous wastes across national borders which result in the wastes being left in developing countries, and consequently environment pollution.</p>
7	<p><u>OECD protocol</u> Regulations applied to export or import between OECD member countries for disposal operations (recycling, collection) prescribed in the Bazel Convention. Whether the freight is subject to the ordinance is determined by this law.</p>
8	<p><u>EU RoHS Directive (2002/95/EC) (2010/571/EU)</u> EU Directive relating to prohibition (providing threshold limits) of specified 6 substances for electrical and electronic equipment 4 prohibited substance candidates were newly added to the EU RoHS amendment.</p>
9	<p><u>Water-Pollution Control Law/Health issues</u> Aims to control water discharged from plants and business sites, prevent water pollution, protect human health and preserve the living environment.</p>
10	<p><u>Water-Pollution Control Law/Living environment issues</u> Aims to control water discharged from plants and business sites, prevent water pollution, protect human health and preserve the living environment.</p>
11	<p><u>Water-Pollution Control Law/Items requiring monitoring</u> Substances concerned with protection of human health. At this point, taken as items which need to be monitored instead of environment standards health items. Indices are set down by the Notification of the Environment Agency Water Quality Preservation Bureau.</p>
12	<p><u>Soil Contamination Countermeasures Law</u> Aims to prevent health hazard by investigating soil contamination of empty lots in plants and business locations due to specified hazardous substances and giving decontamination orders.</p>
13	<p><u>Water Pollution Directive (76/464/EEC)</u> Council protocol on environment pollution by discharge of hazardous substances into the water environment in Europe.</p>
14	<p><u>US Clean Air Act</u> Air cleanup law. Extensive law for air pollution substances. 189 chemical substances such as VOC, NO2, CO, PM, SO2. Pb were listed up and reduced.</p>

No	Definitions of laws and regulations
15	<u>IEEE1680 standard for the environmental performance of electronic equipment</u> Environmental assessment system to rate electronic products into 3 grades based on 23 required and 28 optional environmental performance criteria. Aims to reduce adverse effects on the environment at the point of purchase, use and disposal of electronic products.
16	<u>REACH Regulation (1907/2006)</u> Chemical management system of registration, evaluation, authorization and restriction of chemicals in order to protect human health and the environment.
17	<u>EU Battery Directive (2006/66/EC)</u> Aims to regulate specified heavy metals in all kinds of batteries (providing exemptions). A symbol of ban on disposal must be affixed on battery packs.
18	<u>Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors</u> Law on smelting, process, storage, reprocessing and disposal of nuclear source materials and nuclear fuel materials, and safety operation of nuclear reactors.
19	<u>Nuclear Regulatory Commission (NRC)</u> Approvals and licenses for medical, academic and commercial use of nuclear materials, and for transportation, storage and disposal of nuclear waste materials
20	<u>2009/251/EC</u> Ban on import of dimethyl fumarate used in fungicide, disinfection agents or desiccant agents to prevent health hazard (i.e., dermatitis)
21	<u>California Air Resources Board (CARB) Rule</u> California environmental regulation of formaldehyde emission from plywood products
22	<u>California Department Toxic Substances Control (DTSC) Rule</u> Aims to specify and review alternatives of chemicals of concern used in products marketed in California.
23	<u>California Proposition 65</u> Aims to protect human bodies and drinking water from hazardous chemicals. It was established in California in November 1986, and amended in June 2009.

4.2 Chemical Substance List

The table below exemplifies chemical substances belonging to prohibited or restricted chemical substance groups.

Chemical substance group	Substance name	CAS No.
Asbestos	Asbestos	1332-21-4
	Actinolite	77536-66-4
	Amosite (Grunerite)	12172-73-5
	Anthophyllite	77536-67-5
	Chrysotile	12001-29-5
	Crocidolite	12001-28-4
	Tremolite	77536-68-6
Specified amines generated from decomposition of Azo colorants	biphenyl-4-ylamine	92-67-1
	Benidine	92-87-5
	4-chloro-o-toluidine	95-69-2
	2-naphthylamine	91-59-8
	o-aminoazotoluene	97-56-3
	5-nitro-o-toluidine	99-55-8
	4-chloroaniline	106-47-8
	4-methoxy-m-phenylenediamine	615-05-4
	4,4'-methylenedianiline	101-77-9
	3,3'-dichlorobenzidine	91-94-1
	3,3'-dimethoxybenzidine	119-90-4
	3,3'-dimethylbenzidine	119-93-7
	4,4'-mcthylenedi-o-toluidine	838-88-0
	6-methoxy-m-toluidine	120-71-8
	4,4'-methylene-bis(2-chloroaniline)	101-14-4
	4,4'-oxydianiline	101-80-4
	4,4'-thiodianiline	139-65-1
	o-toluidine	95-53-4
	4-methyl-m-phenylenediamine	95-80-7
	4-Aminoazobenzene	60-09-3
o-Anisidine	90-04-0	
2,4,5-Trimethylaniline	137-17-7	
Short-chained chlorinated paraffin	Alkanes, C10-13, chloro	85535-84-8
	Alkanes, C10-12, chloro	108171-26-2
	Alkanes, C12-13, chloro	71011-12-6
	Alkanes, chloro	61788-76-9
	Other Short Chain Chlorinated Paraffins	-
Cyanide compounds	Barium cyanide	542-62-1
	Barium tetracyanoplatinate	562-81-2
	Cyanogen bromide	506-68-3
	Calcium cyanide	592-01-8
	Copper(I) cyanide	544-92-3
	Copper(II) dicyanide	14763-77-0
	Copper cyanide	4367-08-2
	Hydrogen cyanide	74-90-8
	Lead(II) dicyanide	592-05-2
	Mercury dicyanide	592-04-1
	Nickel cyanide	557-19-7
	Potassium cyanide	151-50-8
	Potassium dicyanoaurate	13967-50-5
	Potassium cobalt cyanide	13963-58-1
	Potassium dicyanocuprate	13682-73-0
	Dipotassium tetracyano mercurate	591-89-9
	Potassium nickel cyanide	39049-81-5
	Silver cyanide	506-64-9
	Sodium cyanide	143-33-9
	Sodium copper cyanide	14264-31-4
Zinc cyanide	557-21-1	

Chemical substance group	Substance name	CAS No.	
Polybrominated biphenyls (PBBs)	Polybrominated Biphenyls	59536-65-1	
	Dibromobiphenyl	92-86-4	
	2-Bromobiphenyl	2052/7/5	
	3-Bromobiphenyl	2113-57-7	
	4-Bromobiphenyl	92-66-0	
	Tribromobiphenyl	59080-34-1	
	Tetrabromobiphenyl	40088-45-7	
	Pentabromobidphenyl	56307-79-0	
	Hexabromobiphenyl	59080-40-9	
	Hexabromo-1,1'-biphenyl	36355-01-8	
	Firemaster FF-1	67774-32-7	
	Heptabromobiphenyl	35194-78-6	
	Octabromobiphenyl	61288-13-9	
	Nonabromo-1,1'-biphenyl	27753-52-2	
Decabromobiphenyl	13654-09-6		
Polybrominated diphenylethers (PBDEs)	Bromodiphenyl ethers	101-55-3	
	Dibromodiphenyl ethers	2050-47-7	
	Tribromodiphenyl ethers	49690-94-0	
	Tetrabromodiphenyl ethers	40088-47-9	
	Pentabromodiphenyl ether (Note: Commercially available PeBDPO is a complex reaction mixture containing a variety of brominated diphenyloxides.)	32534-81-9 (CAS No. used for PeBDPO as commercial grade)	
	Hexabromodiphenyl ethers	36483-60-0	
	Heptabromodiphenyl ethers	68928-80-3	
	Octabromodiphenyl ethers	32536-52-0	
	Nonabromodiphenyl ethers	63936-56-1	
Decabromodiphenyl ethers	1163-19-5		
Polychlorinated biphenyls (PCBs)	Polychlorinated Biphenyls	1336-36-3	
	Monomethyl-tetrachloro-diphenyl methane (Ugilec 141)	76253-60-6	
	Monomethyl-dichloro-diphenyl methane (Ugilec 121, Ugilec 21)	81161-70-8	
	Monomethyl-dibromo-diphenyl methane (DBBT)	99688-47-8	
Polychlorinated terphenyls	Polychlorinated terphenyls (PCT)	61788-33-8	
	Other Polychlorinated terphenyls	—	
Polychlorinated naphthalenes	Polychlorinated naphthalenes	70776-03-3	
	Other Polychlorinated naphthalenes	-	
Tri-substituted Organostannic Compounds	Triphenyltin-N,N-dimethyldithiocarbamate	1803-12-9	
	Triphenyltin fluoride	379-52-2	
	Triphenyltin acetate	900-95-8	
	Triphenyltin chloride	639-58-7	
	Triphenyltin hydroxide	76-87-9	
	Triphenyltin fatty acid (9-11) salts		18380-71-7
			18380-72-8
			47672-31-1
			94850-90-5
	Triphenyltin chloroacetate	7094-94-2	
	Tributyltin methacrylate	2155-70-6	
	Bis(tributyltin) fumarate	6454-35-9	
	Tributyltin fluoride	1983-10-4	
	Bis(tributyltin) 2, 3-dibromosuccinate	31732-71-5	
	Tributyltin acetate	56-36-0	
	Tributyltin laurate	3090-36-6	
	Bis(tributyltin) phthalate	4782-29-0	
	Copolymer of alkyl acrylate, methyl methacrylate and tributyltin methacrylate(alkyl; C=8)	67772-01-4	
Tributyltin sulfamate	6517-25-5		
Bis(tributyltin) maleate	14275-57-1		
Tributyltin chloride	1461-22-9 7432-38-3		

Chemical substance group	Substance name	CAS No.
Tri-substituted Organostannic Compounds	Mixture of tributyltin cyclopentanecarboxylate and its analogs (Tributyltin naphthenate)	5409-17-2
	Mixture of tributyltin 1,2,3,4,4a,4b,5,6, 10,10a-decahydro-7-isopropyl-1,4a-dimethyl-1-phenanthrenecarboxylate and its analogs (Tributyltin rosin salt)	26239-64-5
	Other tri-substituted organostannic compounds	-
Ozone depleting substance / Chlorofluorocarbon (CFC)	Trichlorofluoromethane (CFC-11)	75-69-4
	Dichlorodifluoromethane (CFC-12)	75-71-8
	Chlorotrifluoromethane (CFC-13)	75-72-9
	Pentachlorofluoroethane (CFC-111)	354-56-3
	Tetrachlorodifluoroethane (CFC-112)	76-12-0
	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 (CFC-113)	76-13-1
	1,1,2-Trichloro-1,2,2 trifluoroethane (CFC-113)	76-13-1
	1,1,1-Trichloro-2,2,2 trifluoroethane (CFC-113a)	354-58-5
	Dichlorotetrafluoroethane (CFC-114)	76-14-2
	Monochloropentafluoroethane (CFC-115)	76-15-3
	Heptachlorofluoropropane (CFC-211)	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 (CFC-212)	3182-26-1
	Pentachlorotrifluoropropane (CFC-213)	2354-06-5 134237-31-3
	Tetrachlorotetrafluoropropane (CFC-214)	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 (CFC-215)	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 (CFC-216)	661-97-2	
Chloroheptafluoropropane (CFC-217)	422-86-6	
Ozone depleting substance / Specified halon	Bromochloromethane (Halon-1011)	74-97-5
	Dibromodifluoromethane (Halon-1202)	75-61-6
	Bromochlorodifluoromethane (Halon1211)	353-59-3
	Bromotrifluoromethane (Halon 1301)	75-63-8
Ozone depleting substance / Hydrobromofluorocarbon (HBFC)	Dibromotetrafluoroethane (Halon 2402)	124-73-2
	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 223 B4)	-	
Tribromotetrafluoropropane (HBFC 224 B3)	-	

Chemical substance group	Substance name	CAS No.
Ozone depleting substance / Hydrobromofluorocarbon (HBFC)	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
Ozone depleting substance / Hydrochlorofluorocarbon (HCFC)	Dichlorofluoromethane (HCFC 21)	75-43-4
	Chlorodifluoromethane (HCFC 22)	75-45-6
	Chlorofluoromethane (HCFC 31)	593-70-4
	Tetrachlorofluoroethane (HCFC 121)	134237-32-4
	1,1,1,2-tetrachloro-2-fluoroethane (HCFC 121a)	354-11-0
	1,1,2,2-tetrachloro-1-fluoroethane	354-14-3
	Trichlorodifluoroethane (HCFC 122)	41834-16-6
	1,2,2-trichloro-1,1-difluoroethane	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(HCFC 123)	34077-87-7
	1,1-dichloro-2,2-trifluoroethane (HCFC-123)	306-83-2
	1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)	354-23-4
	1,1-dichloro-1,2,2-trifluoroethane (HCFC-123b)	90454-18-5
	1,1-dichloro-1,2,2-trifluoroethane (HCFC-123b)	812-04-4
	Chlorotetrafluoroethane (HCFC 124)	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
	1,1,2-Trichloro-2-fluoroethane (HCFC-131)	(134237-34-6)
	1,1,2-Trichloro-1-fluoroethane (HCFC131a)	359-28-4
	1,1,1-Trichloro-2-fluoroethane (HCFC-131b)	811-95-0
	1,1,1-Trichloro-2-fluoroethane (HCFC-131b)	2366-36-1
	Dichlorodifluoroethane (HCFC 132)	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 (HCFC 133)	1330-45-6
	1-chloro-1,2,2-trifluoroethane (HCFC 133)	431-07-2
	2-chloro-1,1,1-trifluoroethane (HCFC- 133a)	1330-45-6
	1-Chloro-1,1,2-trifluoroethane (HCFC-133b)	75-88-7
1-Chloro-1,1,2-trifluoroethane (HCFC-133b)	421-04-5	
Dichlorofluoroethane(HCFC 141)	1717-00-6	
1,2-dichloro-1-fluoroethane (HCFC 141)	(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 (HCFC 142)	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	

Chemical substance group	Substance name	CAS No.
Ozone depleting substance / Hydrochlorofluorocarbon (HCFC)	Hexachlorofluoropropane (HCFC-221)	134237-35-7 29470-94-8 422-26-4
	1,1,1,2,2,3-Hexachloro-3-fluoropropane (HCFC-221 ab)	
	Pentachlorodifluoropropane (HCFC-222)	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 (HCFC-223)	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 (HCFC-224)	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)	422-51-7
	Dichloropentafluoropropane, (Ethyne, fluoro)-(HCFC 225)	127564-92-5 (2713-09-9)
	2,2-Dichloro-1,1,1,3,3-pentafluoropropane(HCFC 225aa)	128903-21-9
	2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC 225ba)	422-48-0
	1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC 225bb)	422-44-6
	3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC 225ca)	422-56-0
	1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC 225cb)	507-55-1
	1,1-Dichloro-1,2,2,3,3-pentafluoropropane (HCFC 225cc)	13474-88-9
	1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC 225da)	431-86-7
	1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC 225ea)	136013-79-1
	1,1-Dichloro-1,2,3,3,3-pentafluoropropane (HCFC 225eb)	111512-56-2
	Chlorohexafluoropropane (HCFC 226)	134308-72-8
	2-Chloro-1,1,1,3,3,3-hexafluoro-propane (HCFC-226da)	431-87-8
	Pentachlorofluoropropane (HCFC 231)	134190-48-0
	1,1,1,2,3-pentachloro-2-fluoro-propane (HCFC-231bb)	421-94-3
	Tetrachlorodifluoropropane (HCFC 232)	134237-39-1
	1,1,1,3-Tetrachloro-3,3-difluoropropane (HCFC-232fc)	460-89-9
	Trichlorotrifluoropropane (HCFC 233)	134237-40-4
	1,1,1-Trichloro-3,3,3-trifluoropropane (HCFC 233fb)	7125-83-9
	Dichlorotetrafluoropropane (HCFC 234)	127564-83-4
	1,2-Dichloro-1,2,3,3-tetrafluoropropane (HCFC-234db)	425-94-5
	Chloropentafluoropropane (HCFC 235)	134237-41-5
	1-Chloro-1,1,3,3,3-pentafluoropropane (HCFC 235fa)	460-92-4
	Tetrachlorofluoropropane (HCFC 241)	134190-49-1
	1,1,2,3-Tetrachloro-1-fluoropropane (HCFC-241 db)	666-27-3
	Trichlorodifluoropropane (HCFC 242)	134237-42-6
	1,3,3,Trichloro-1,1-difluoropropane (HCFC-242fa)	460-63-9
	Dichlorotrifluoropropane (HCFC 243)	134237-43-7
	1,1-dichloro-1,2,2-trifluoropropane (HCFC 243cc)	7125-99-7
	2,3-dichloro-1,1,1-trifluoropropane (HCFC 243db)	338-75-0
	3,3-dichloro-1,1,1-trifluoropropane (HCFC 243fa)	460-69-5
	Chlorotetrafluoropropane (HCFC 244)	134190-50-4
	3-chloro-1,1,2,2-tetrafluoropropane (HCFC 244ca)	679-85-6
	1-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244cc)	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-fluoro-propane (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)	421-02-3	
Chlorofluoropropane (HCFC-271)	134190-54-8	
2-Chloro-2-fluoropropane (HCFC-271ba)	420-44-0	
1-Chloro-1-fluoropropane (HCFC-271fb)	430-55-7	

Chemical substance group	Substance name	CAS No.
Ozone depleting substance / Others	Tetrachloromethane (carbon tetrachloride)	56-23-5
	1,1,1-Trichloroethane (methyl chloroform)	71-55-6
	Bromomethane (methyl bromide)	74-83-9
	Bromoethane (ethyl bromide)	74-96-4
	1-Bromopropane (n-propyl bromide)	106-94-5
	Trifluoriodomethane (trifluoromethyl iodide)	2314-97-8
	Chloromethane (methyl chloride)	74-87-3
Cadmium and its compounds	Cadmium	7440-43-9
	Cadmium oxide	1306-19-0
	Cadmium sulfide	1306-23-6
	Cadmium chloride	10108-64-2
	Cadmium sulfate	10124-36-4
	Other cadmium compounds	-
Mercury and its compounds	Mercury	7439-97-6
	Mercury 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
	Other mercury compounds	-
Lead and its compounds	Lead	7439-92-1
	Lead (II) sulfate	7446-14-2
	Lead (II) carbonate	598-63-0
	Lead (II) chromate	7758-97-6
	Lead chromate molybdate sulphate red	12656-85-8
	Lead hydrocarbonate	1319-46-6
	Lead acetate	301-04-2
	Lead (II) acetate, trihydrate	6080-56-4
	Lead phosphate	7446-27-7
	Lead selenide	12069-00-0
	Lead (IV) oxide	1309-60-0
	Lead (II,IV) oxide	1314-41-6
	Lead (II) sulfide	1314-87-0
	Lead (II) oxide	1317-36-8
	Lead (II) carbonate basic	1319-46-6
	Lead hydroxidcarbonate	1344-36-1
	Lead (II) phosphate	7446-27-7
	Lead sulfochromate yellow	1344-37-2
	Lead (II) titanate	12060-00-3
	Lead sulfate, sulphuric acid, lead salt	15739-80-7
Lead sulphate, tribasic	12202-17-4	
Lead stearate	1072-35-1	
Other lead compounds -	-	
Hexavalent chromium and its compounds	Chromium (VI) oxide	1333-82-0
	Barium chromate	10294-40-3
	Calcium chromate	13765-19-0
	Lead (II) chromate	7758-97-6
	Lead chromate molybdate sulphate red	12656-85-8
	Lead sulfochromate yellow	1344-37-2
	Sodium chromate	7775/11/3
	Sodium dichromate	10588-01-9
	Strontium chromate	7789-06-2
	Potassium dichromate	7778-50-9
	Potassium chromate	7789-00-6
	Zinc chromate	13530-65-9
	Other chromium VI compounds -	-

Chemical substance group	Substance name	CAS No.
Brominated flame retardants (excluding PBBs, PBDEs, HBCDD)	Brominated Flame retardant which comes under notation of ISO 1043-4 code number FR(14) [Aliphatic/alicyclic brominated compounds]	—
	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 (TBBA)	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	

Chemical substance group	Substance name	CAS No.
Brominated flame retardants (excluding PBBs, PBDEs, HBCDD)	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	-
	Polyvinyl chloride (PVC)	Polyvinyl chloride (PVC)
Other Polyvinyl chlorides		
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	-
PFOS and its compounds	Perfluorooctane Sulfonates (PFOS)	
	C ₈ F ₁₇ SO ₂ X, where X = OR, NR or other derivative	-
Dibutyltin and its Compounds	Dibutyltin oxide	818-08-6
	Dibutyltin diacetate	1067-33-0
	Dibutyltin dilaurate	77-58-7
	Dibutyltin maleate	78-04-6
	Other dibutyltin compounds	-
Dioctyltin and its Compounds	Dioctyl Tin Oxide	870-08-6
	Dioctyltin dilaurate	3648-18-8
	Other Dioctyltin compounds	-
Antimony and its compounds	Antimony (metallic)	7440-36-0
	Antimony trioxide	1309-64-4
	Antimony pentoxide	1314-60-9
	Antimony trichloride	10025-91-9
	Sodium antimonate	15432-85-6
	Other antimony compounds	-
Selenium and its compounds	Selenium	7782-49-2
	Hydrogen selenide	7783-07-5
	Sodium selenide	1313-85-5
	Selenium dioxide	7446-08-4
	Sodium selenate	10112-94-4
	Dimethyl selenide	593-79-3
	Selenium oxide	12640-89-0
	Other selenium compounds	-
Nickel compounds	Nickel	7440-02-0
	Nickel monoxide	1313-99-1
	Nickel sulfide	11113-75-0
	Other nickel compounds	-
Bismuth and its compounds	Bismuth	7440-69-9
	Bismuth trioxide	1304-76-3
	Bismuth nitrate	10361-44-1
	Other bismuth compounds	-

Chemical substance group	Substance name	CAS No.
Arsenic and its compounds	Arsenic	7440-38-2
	Gallium arsenide	1303-00-0
	Calcium arsenate	7778-44-1
	Calcium arsenite	27152-57-4
	Arsenic pentoxide	1303-28-2
	Arsenic trioxide	1327-53-3
	Potassium arsenite	10124-50-2
	Potassium arsenate	7784-41-0
	Lead arsenate	3687-31-8
	Other arsenic compounds	-
Beryllium and its compounds	Beryllium	7440-41-7
	Beryllium-aluminum alloy	12770-50-2
	Beryllium chloride	7787-47-5
	Beryllium fluoride	7787-49-7
	Beryllium hydroxide	13327-32-7
	Beryllium oxide	1304-56-9
	Beryllium phosphate	13598-15-7
	Beryllium sulfate	13510-49-1
	Beryllium sulfate tetrahydrate	7787-56-6
	Beryl ore	1302-52-9
Other beryllium compounds	-	
Boric acid	Boric acid	10043-35-3 11113-50-1
Disodium tetraborate anhydrous	Disodium tetraborate decahydrate	1303-96-4
	Disodium tetraborate, anhydrous	1330-43-4
	Disodium tetraborate, pentahydrate	12179-04-3
Perchlorate Compounds	Lithium perchlorate	7791-03-9
	Other perchlorate compounds	—
Phthalates (except DEHP and BBP and DBP and DIBP)	Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1
	Diisononyl phthalate (DINP)	28553-12-0 68515-48-0
	Di-n-octyl phthalate (DNOP)	117-84-0
	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4
	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6
Hexabromocyclododecane (HBCDD)		25637-99-4
		4736-49-6
		65701-47-5
		138257-17-7
	Hexabromocyclododecane	138257-18-8
		138257-19-9
		169102-57-2
		678970-15-5
		678970-16-6
		678970-17-7
	1,2,5,6,9,10 Hexabromocyclododecane	3194-55-6
	α -Hexabromocyclododecane	134237-50-6
β -Hexabromocyclododecane	134237-51-7	
γ -Hexabromocyclododecane	134237-52-8	

Substance group	Example substances	CAS No.
Polycyclic aromatic hydrocarbons (PAHs)	Benzo(a)pyrene (BaP)	50-32-8
	Benzo(e)pyrene (BeP)	192-97-2
	Benzo(a)anthracene (BaA)	56-55-3
	Chrysene (CHR)	218-01-9
	Benzo(b)fluoranthene (BbFA)	205-99-2
	Benzo(j)fluoranthene (BjFA)	205-82-3
	Benzo(k)fluoranthene (BkFA)	207-08-9
	Dibenz(a,h)anthracene (DBAhA)	53-70-3

4.3 Analysis

Analysis intends to confirm RoHS compliance of relevant lots of parts and materials. Suppliers shall ensure RoHS compliance of their products being delivered to Fuji Xerox based on Product Quality Management System.

◆ Analysis on bulk-purchase materials (steels and plastics) designated by Fuji Xerox

We will request raw material suppliers to analyze the RoHS substances contained in bulk-purchase materials specified by Fuji Xerox. If a supplier uses the materials whose chemical composition is changed from that of bulk-purchase materials, by adding new materials to the bulk-purchase materials or by intentionally making chemical reaction, such supplier must analyze said materials.

◆ Portions to be analyzed

In principle, analysis shall be made per homogeneous material.

Although “homogeneous material” is not clearly defined by the RoHS Directive, we have defined it as below.

“Homogeneous material” refers to the material that cannot be mechanically separated into different sub-materials. Examples are resins, plastics, metals, alloys, glasses, paper and ceramics. Since a plastic cover is a homogeneous material, a plastic cover shall be independently analyzed.

“Mechanical separation” means to separate a material by a mechanical method such as removal of screws, cutting, grinding or crushing. For example, a covered electrical cable can be mechanically separated into an electrical cable and a cover. It is necessary to separate an electrical cable from a cover and analyze the sub-materials individually.

A nickel-plated steel material is not a homogeneous material. It is necessary to analyze nickel-plating and steel individually.

A semiconductor package contains various homogeneous materials such as plastic moldings, tin coatings electroplated on a lead frame, and alloy lead frame. Moreover a capacitor may contain a heterogeneous material. It is necessary to separate a heterogeneous material (e.g., semiconductor, capacitor) into homogeneous materials and analyze per homogeneous material.

◆ Analysis on parts made from same material

When there are multiple parts made from identical material that has identical chemical composition and made from one supplier, an analysis on said material used in one part can cover said material used in the other parts. If, for example, Part X uses Materials A, B and C; Part Y uses Materials A, D and E; a chemical composition of Material A is the same between Part X and Part Y; and Material A is supplied from one supplier, only an analysis on Material A contained in either Part X or Part Y is needed. It means that the analytical data taken from Part X or Y can also be used as the data for another part. Materials B, C, D and E must be analyzed individually.

◆ Analysis on PWBA

For Fuji Xerox designated or supplied parts (i.e., standard parts such as electronic parts and connectors) to be mounted in PWBA, the PWBA suppliers can decide a way to assure compliance with this standard (e.g., analytical data, survey results and certification document). This is also applicable to non-designated parts.

◆ Analysis methods

Analysis methods should be basically in accordance with IEC 62321 Ed.1: Electrotechnical Products - Determination of Six Regulated Substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers).
Fluorescent X-ray analysis is used for screening. However, a precise analysis is not required if uncertainty of their fluorescent X-ray analysis and/or supplier survey results (e.g., analysis data) show RoHS compliance of the parts and materials being delivered to Fuji Xerox.

◆ Analytical laboratories

Any analytical laboratories that can guarantee the minimum limit of determination and issue a measurement certificate can be accepted.

◆ Contact

E-mail : rohs@fujixerox.co.jp

Environment & Product Safety

Customer Satisfaction Quality Assurance Group

Fuji Xerox Co., Ltd.

Revision History

Version	Date of revision	Description of revision
Ver1.0	February 2003	Established
Ver2.0	February 2005	Overall revision
Ver3.0	March 2006	<ul style="list-style-type: none"> - Revised to “2.1 Prohibited Substances and Exempted Applications” - Revised to “3.4 Assurance of Non-inclusion of Prohibited Substances” - Revised to “Chapter 5 Document Submitted by suppliers”
Ver4.0	October 2008	<ul style="list-style-type: none"> - Added to “1.4 Principle for Inclusion of Chemical Substances” - Revised to “1.6 Amendment of Green Procurement Standard “ - Revised to “2.1 Prohibited Substances and Exempted Applications” - Deletion from “Grace Period for Prohibited Substances” - Revised to “2.3 Restricted Substances” - Revised to “2.4 Regulated Substances in Manufacturing Process” - Revised to “3.8 Management of Lead-free Solders in Manufacturing Process “ - Added to “3.9 Responsibilities of Suppliers” - Deletion from “Example of Substances Management for Environment” - Revised to “4.2 Chemical Substance List “ - Revised to “4.4 Analysis” - Deletion from “Document Submitted by suppliers”
Ver5.0	January 2012	<ul style="list-style-type: none"> - Revised to “2.1 Prohibited Substances and Exempted Applications” - Revised to “2.3 Restricted Substances” - Revised to “2.4 Regulated Substances in Manufacturing Process” - Revised to “3.6 Submission of Survey Data of Chemical Composition and Chemical Substances in Parts/Materials” - Revised to “4.1 Legal Basis on Substances under Environmental Management” - Revised to “4.2 Chemical Substance List” - Revised to “4.3 Analysis”
Ver5.1	July 2014	<ul style="list-style-type: none"> - Format of “Green Procurement Standard” is changed. - Added to “3.10 Supporting Individual Requirements of Environmental Standards”
Ver6.0	July 2016	<ul style="list-style-type: none"> - Modified wording in “1.2 Scope” - Made corrections to “1.3 Application Timing” - Revised to “2.1 Prohibited Substances” <ul style="list-style-type: none"> - Added PAHs and red phosphorous - Added specific notation on HBCDD (of the brominated flame retardants) - Changed exemption conditions of four phthalates (DEHP, BBP, DBP, DIBP) - Added “2.2 Exempted Applications of Prohibited Substances ” - Revised “3.6 Submission of Data on Chemical Substances Included in Parts” - Revised to “4.1 Laws, Regulations, etc. Concerning Substances Subject to Environmental Control” - Revised to “4.2 Chemical Substance List”

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