

IBIDEN Group
Green Procurement Guidelines
Annex
(Version 1)



October 1, 2017

IBIDEN **IBIDEN Co.,Ltd.**

[Table of Contents]

[Appendix]

Table 1:	List of Prohibited Substances	P 3
Table 2:	List of Controlled Substances	P 5
Table 3:	List of Exemptions	P 6
Table 4:	List of Examples Prohibited Substances	P 8
Table 5:	List of Examples of Controlled Substances	P17

Table 1

List of Prohibited Substances

(Group of) chemical substances that are prohibited to be in the products by Ibiden Group standard.
Please refer with attached Table 4 "List of Prohibited Substances".
If applicable substance belong to several groups of chemical substances,
apply concentration limit of smaller category number.

No	Substance Group Name		Major Referenced Laws/Regulations	maximum allowable concentration
1	Asbestos		EU Directive 76/769/EC, US TSCA, JAPAN Industrial Safety and Health Law	Intentional use prohibited
2	Azo dye and pigment forming specified amines		EU Directive 76/769/EC, German Consumer Goods Ordinance	Intentional use prohibited
3	Cadmium and its compounds ※2	All, except as noted below	EU Directive 76/769/EC, EU RoHS Directive, China MII Methods, Korea RoHS, Japan J-MOSS, US/CA SB-20/50	Intentional use prohibited or 0.01% by weight (100 ppm) of homogeneous materials
		Packaging material	EU Packaging Directive, US regulations on heavy metals in packaging	Intentional use prohibited or 0.01% by weight (100 ppm) of homogeneous materials ※ 1
4	Chromium VI compounds ※2	All, except as noted below	RoHS Directive, China MII Methods, Korea RoHS, Japan J-MOSS, US/CA SB-20/50	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of homogeneous materials
		Packaging material	EU Packaging Directive, US regulations on heavy metals in packaging	Intentional use prohibited or 0.01% by weight (100 ppm) of homogeneous materials ※ 1
5	Lead and its Compounds ※2	All, except as noted below	RoHS Directive, China MII Methods, Korea RoHS, Japan J-MOSS, US/CA SB-20/50	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of homogeneous materials
		Packaging material	EU Packaging Directive, US regulations on heavy metals in packaging	Intentional use prohibited or 0.01% by weight (100 ppm) of homogeneous materials ※ 1
6	Mercury and its compounds ※2	All, except as noted below	RoHS Directive, China MII Methods, Korea RoHS, Japan J-MOSS, US/CA SB-20/50	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of homogeneous materials
		Packaging material	EU Packaging Directive, US regulations on heavy metals in packaging	Intentional use prohibited or 0.01% by weight (100 ppm) of homogeneous materials ※ 1
7	Ozone-depleting substances		Montreal Protocol	Intentional use prohibited
8	Polybrominated Biphenyls (PBBs)		RoHS Directive, China MII Methods, Korea RoHS, Japan J-MOSS	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of homogeneous materials
9	Polybrominated Diphenylethers (PBDEs)		RoHS Directive, China MII Methods, Korea RoHS, Japan J-MOSS	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of homogeneous materials
10	Polychlorinated biphenyls (PCBs)		EU Directive 76/769/EC, US TSCA, JAPAN Chemical Substances Control Law	Intentional use prohibited
11	Polychlorinated terphenyls (PCTs)		EU Directive 76/769/EC, US TSCA	Intentional use prohibited
12	Polychloronaphthalene (number of chlorine 3 or more)		JAPAN Chemical Substances Control Law	Intentional use prohibited

No	Substance Group Name	Major Referenced Laws/Regulations	maximum allowable concentration
13	Radioactive substances	EU-D 96/29/Euratom	Intentional use prohibited
14	Short-chain paraffin chloride (C10-13)	REACH Regulation	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
15	Organotin compounds applied to the following: • Tri-substituted organostannic compounds • Dibutyltin compounds • Dioctyltin compounds	JAPAN Chemical Substances Control Law	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
16	Tributyl Tin Oxide (TBTO)	REACH Regulation JAPAN Chemical Substances Control Law	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
17	JAPAN Chemical Substances Control Law Class 1 Specified Chemical Substances (Substances that apply to chemSHERPA Relevant standard LR01)	JAPAN Chemical Substances Control Law	Intentional use prohibited
18	JAPAN Industrial Safety and Health Act Prohibited Substances for Manufacturing Industries	JAPAN Industrial Safety and Health Act	Intentional use prohibited
19	JAPAN Poisonous and Deleterious Substances Control Act Specified Chemical Substances	JAPAN Poisonous and Deleterious Substances Control Act	Intentional use prohibited
20	Rotterdam Convention (PIC Convention) Chemical substances listed in the upper column of Annex III (Substances that apply to Export Trade Control Order Appended Table 2, 35-3)	The Rotterdam Convention, Export Trade Control Ordinance	Intentional use prohibited
21	Chemical Weapons Convention (Restricted substances)	Chemical Weapons Convention	Intentional use prohibited
22	dioxins		Intentional use prohibited
23	Fluorinated greenhouse gases (PFC, SF6, HFC)	EU No.842/2006	Intentional use prohibited
24	Perchlorates	US/CA DTSC Rulemaking	Intentional use prohibited or 0.000006 % by weight (0.006 ppm) of the product
25	Perfluorooctane sulfonate and its salts ※3	EU Directive 76/769/EC, 2006/122/EC	Intentional use prohibited
26	Tris (2-chloroethyl) phosphate (TCEP)	ECHA Registry of Intentions	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
27	Dimethylfumarate (DMF)	EU Regulation	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
28	EU POPs regulation Restricted substances, Annex I (Substances that apply to chemSHERPA Relevant standard LR05)	EU POPs regulation The Stockholm Convention	Intentional use prohibited
29	Certain Phthalates (DEHP, BBP, DBP, DIBP)	EU RoHS	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product

※ 1 The total volume of metals (in weight ratio) in lead, cadmium, mercury and hexavalent chromium must be less than 100 ppm in each homogeneous materials.

※ 2 The use of lead, cadmium, mercury and hexavalent chromium is permitted only when the reason applies in Table 3.

※ 3 Except only when they are permitted that it is difficult to make substitutions.

Table 2

List of Controlled Substances

It is the (group of) chemical substances that their contents must be checked ahead of time according to Ibiden Group Standard. Please refer to attached Table 5 "List of Controlled Substances".
If the substance is included in both Prohibited Substances and Controlled Substances, give priority to the requirements for Prohibited Substances.

No	Substance Group Name	Major Referenced Laws/Regulations	controlled value
1	Antimony/Antimony Compounds		Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
2	Arsenic/Arsenic Compounds	EU Directive 76/769/EC	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
3	Beryllium/Beryllium Compounds		Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
4	Bismuth/ Bismuth Compounds		Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
5	Nickel ※1	EU Directive 76/769/EC、EU Directive 94/27/EC	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
6	Selenium/Selenium Compounds		Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
7	Polyvinyl Chloride (PVC)	IEEE1680(EPEAT)	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
8	Brominated flame retardants ※2	DIGITALEUROPE/CECED /AeA/EERA Guidance	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
9	Certain Phthalates ※3		Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
10	Substances in the EU REACH Regulation, SVHC Candidate List. ※4 (Substances that apply to chemSHERPA Relevant standard LR06)	REACH Regulation	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
11	EU REACH Regulation, Restricted Substances ※4 (Substances that apply to chemSHERPA Relevant standard LR07)	REACH Regulation Restricted Substances in Annex XVII	Intentional use prohibited or 0.1 % by weight (1,000 ppm) of the product
12	Applicable Substances in GADSL List ※4 (Substances that apply to chemSHERPA Relevant standard IC01)	GADSL (Global Automotive Declarable Substance List)	Intentional use prohibited
13	Applicable Substances in IEC 62474 Criteria 1~3 List (Substances that apply to chemSHERPA Relevant standard IC02)	Material Declaration for Products of and for the Electrotechnical Industry	Intentional use prohibited
14	Toxic Substances Control Act (TSCA) (US): Section 6 (Substances that apply to chemSHERPA Relevant standard LR02)	Toxic Substances Control Act (TSCA) (US): Section 6	Intentional use prohibited

- ※ 1 It is only used for the part that contacts skin for a long time.
 ※ 2 Except for PBB, PBDE, and HBCDD
 ※ 3 Except for phthalates indicated in the List of Prohibited Substances
 ※ 4 Except for substances listed in the List of Prohibited Substances

Table 3

List of Exemptions

If the usage of mercury, cadmium, hexavalent chromium and lead is due to followings listed below, we approve the containment of those substances; however, we will substitute substances as priority.

Substance Group Name	Exempted applications
Mercury and its compounds	Mercury in compact fluorescent lamps not exceeding 3.5mg per lamp
	Mercury in straight fluorescent lamps for general purposes not exceeding: - triphosphate with normal lifetime 5 mg - triphosphate with long lifetime 8 mg
	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.
	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
Cadmium and its compounds	Cadmium in cadmium oxide in thick film pastes used on aluminum bonded beryllium oxide
Lead and its compounds	Lead in glass used in CRT, fluorescent tubes not exceeding 0,2 % by weight
	Aluminum materials containing 0.4% or less of lead by weight
	Copper alloy containing 4% or less of lead by weight (e.g. brass, phosphor bronze)
	Lead in high-melting point solder (lead alloy containing above 85% of lead by weight)
	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
	Lead in soldering for servers, storage and storage array systems, and network infrastructure equipment for switching, signaling, transmission and network management for telecommunication
	Lead in solder for connecting semiconductor dies and carriers in flip chip IC packages
	Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications.
	Lead in printing inks for the application of enamels on borosilicate glass
	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors
	Lead in lead bound in crystal glass as defined in Annex I (Categories 1,2,3 and 4) of Council Directive 69/493/EEC
	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers
	Lead in cermet-based trimmer potentiometer elements
	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body
	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)
	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 micro-channel plates (MCPs) used in equipment where at least one of the following properties is present: (a) a compact size of the detector for electrons or ions, where the space for the detector is limited to a maximum of 3 mm/MCP (detector thickness + space for installation of the MCP), a maximum of 6 mm in total, and an alternative design yielding more space for the detector is scientifically and technically impracticable; (b) a two-dimensional spatial resolution for detecting electrons or ions, where at least one of the following applies: (i) a response time shorter than 25 ns; (ii) a sample detection area larger than 149 mm ² ; (iii) a multiplication factor larger than 1,3 × 10 ³ . (c) a response time shorter than 5 ns for detecting electrons or ions; (d) a sample detection area larger than 314 mm ² for detecting electrons or ions; (e) a multiplication factor larger than 4,0 × 10 ⁷ .
	Lead in solder in one interface of large area stacked die elements with more than 500 interconnects per interface which are used in X-ray detectors of computed tomography and X-ray systems.

Substance Group Name	Exempted applications
Lead and its compounds(cont'd)	Lead in platinized platinum electrodes used for conductivity measurements where at least one of the following conditions applies: (a) wide-range measurements with a conductivity range covering more than 1 order of magnitude (e.g. range between 0,1 mS/m and 5 mS/m) in laboratory applications for unknown concentrations; (b) measurements of solutions where an accuracy of $\pm 1\%$ of the sample range and where high corrosion resistance of the electrode are required for any of the following: (i) solutions with an acidity $< \text{pH } 1$; (ii) solutions with an alkalinity $> \text{pH } 13$; (iii) corrosive solutions containing halogen gas; (c) measurements of conductivities above 100 mS/m that must be performed with portable instruments.
	Lead used in other than C-press compliant pin connector systems for industrial monitoring and control instruments.

Table 4

List of Examples of Prohibited Substances

※This list shows examples of applicable substances. Any substance not included in this list but classified as a “Prohibited Substance” shall be reported.

No	Substance Group Name	Substance Name	CAS Numbers
1	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
		Other Asbestos	—
2	Azo dye and pigment forming specified amines	Biphenyl-4-ylamine	92-67-1
		Benzidine	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'-methylenedi-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
		ortho-Toluidine	95-53-4
		4-methyl-m-phenylenediamine	95-80-7
		2,4,5-trimethylaniline	137-17-7
3	Cadmium and its compounds	o-anisidine	90-04-0
		4-amino azobenzene	60-09-3
		Cadmium	17440-43-9
		Cadmium oxide	1306-19-0
		Cadmium sulphide	1306-23-6
		Cadmium chloride	10108-64-2
4	Chromium VI compounds	Cadmium sulphate	10124-36-4
		Other cadmium compounds	—
		Chromium (VI) oxide, Chromium trioxide	1333-82-0
		Barium chromate	10294-40-3
		Calcium chromate	13765-19-0
		Lead (II) chromate	7758-97-6
		Sodium chromate (Na ₂ CrO ₄)	7775-11-3
		Sodium dichromate	10588-01-9
		Strontium chromate	7789-06-2
		Potassium dichromate	7778-50-9
		Potassium chromate	7789-00-6
5	Lead and its compounds	Zinc chromate	13530-65-9
		Other hexavalent chromium compounds	—
		Lead	7439-92-1
		Lead (II) sulfate	7446-14-2
		Lead (II) carbonate	598-63-0
		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 dioxide	1309-60-0
		Lead (II,IV) oxide	1314-41-6
		Lead sulphide	1314-87-0

No	Substance Group Name	Substance Name	CAS Numbers
5	Lead and its compounds(cont'd)	Lead monoxide (PbO)	1317-36-8
		Lead (II) carbonate basic	1319-46-6
		Lead hydroxidcarbonate	1344-36-1
		Trilead bis(orthophosphate)	7446-27-7
		Lead hydrogen arsenate	7784-40-9
		Lead(II) chromate	7758-97-6
		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	-
6	Mercury and its compounds	Mercury	7439-97-6
		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
		Other mercury compounds	-
7	Ozone Depleting Substances	Trichlorofluoromethane	75-69-4
		Dichlorodifluoromethane (CFC12)	75-71-8
		Chlorotrifluoromethane (CFC 13)	75-72-9
		Pentachlorofluoroethane (CFC 111)	354-56-3
		Tetrachlorodifluoroethane (CFC 112)	76-12-0
		Trichlorotrifluoroethane (CFC 113)	354-58-5
		1,1,2 Trichloro-1,2,2 trifluoroethane	76-13-1
		Dichlorotetrafluoroethane (CFC 114)	76-14-2
		Monochloropentafluoroethane (CFC 115)	76-15-3
		Heptachlorofluoropropane (CFC 211)	422-78-6 135401-87-5
		Hexachlorodifluoropropane (CFC 212)	3182-26-1
		Pentachlorotrifluoropropane (CFC 213)	2354-06-5 134237-31-3
		Tetrachlorotetrafluoropropane (CFC 214)	29255-31-0
		1,1,1,3-Tetrachlorotetrafluoropropane	2268-46-4
		Trichloropentafluoropropane (CFC 215)	1599-41-3
		1,1,1-Trichloropentafluoropropane	4259-43-2
		1,2,3-Trichloropentafluoropropane	76-17-5
		Dichlorohexafluoropropane (CFC 216)	661-97-2
		Monochloroheptafluoropropane (CFC 217)	422-86-6
		Bromochlorodifluoromethane (Halon 1211)	353-59-3
		Bromotrifluoromethane (Halon 1301)	75-63-8
		Dibromotetrafluoroethane (Halon 2402)	124-73-2
		Carbon Tetrachloride (Tetrachloromethane)	56-23-5
		1,1,1, - Trichloroethane (methyl chloroform) and its isomers except 1,1,2-trichloroethane	71-55-6
		Bromomethane (Methyl Bromide)	74-83-9
		Dibromofluoromethane	1868-53-7
		Bromodifluoromethane	1511-62-2
		Bromofluoromethane	373-52-4
		Tetrabromofluoroethane	306-80-9
		Tribromodifluoroethane	-
		Dibromotrifluoroethane	354-04-1
		Bromotetrafluoroethane	124-72-1
		Tribromofluoroethane	-
		Dibromodifluoroethane	75-82-1
		Bromotrifluoroethane	421-06-7
		Dibromofluoroethane	358-97-4
		Bromodifluoroethane	420-47-3
		Bromofluoroethane	762-49-2
		Hexabromofluoropropane	-
		Pentabromodifluoropropane	-
		Tetrabromotrifluoropropane	-
		Tribromotetrafluoropropane	-
		Dibromopentafluoropropane	431-78-7
		Bromohexafluoropropane	2252-78-0
		Pentabromofluoropropane	-
		Tetrabromodifluoropropane	-
		Tribromotrifluoropropane	-
		Dibromotetrafluoropropane	-

No	Substance Group Name	Substance Name	CAS Numbers
7	Ozone Depleting Substances(cont'd)	Bromopentafluoropropane	460-88-8
		Tetrabromofluoropropane	-
		Tribromodifluoropropane	70192-80-2
		Dibromotrifluoropropane	431-21-0
		Bromotetrafluoropropane	679-84-5
		Tribromofluoropropane	75372-14-4
		Dibromodifluoropropane	460-25-3
		Bromotrifluoropropane	421-46-5
		Dibromofluoropropane	51584-26-0
		Bromodifluoropropane	-
		Bromofluoropropane	1871-72-3
		Bromochloromethane	74-97-5
		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
		Dichlorotrifluoroethane(HCFC 123)	34077-87-7
		Dichloro-1,1,2-trifluoroethane	90454-18-5
		2,2-dichloro-1,1,1-trifluoroethane	306-83-2
		1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)	354-23-4
		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	2837-89-0
		1-chloro-1,1,2,2-tetrafluoroethane (HCFC 124a)	354-25-6
		Trichlorofluoroethane (HCFC 131)	27154-33-2;
		1-Fluoro-1,2,2-trichloroethane	(134237-34-6)
		1,1,1-trichloro-2-fluoroethane (HCFC131b)	359-28-4
			811-95-0
		1-Chloro-1-fluoroethane (HCFC-151)	1615-75-4
		Dichlorodifluoroethane (HCFC 132)	25915-78-0
		1,2-dichloro-1,1-difluoroethane (HCFC 132b)	1649-08-7
		1,1-dichloro-1,2-difluoroethane (HCFC 132c)	1842-05-3
		1,1-dichloro-2,2-difluoroethane	471-43-2
		1,2-dichloro-1,2-difluoroethane	431-06-1
		Chlorotrifluoroethane (HCFC 133)	1330-45-6
		1-chloro-1,2,2-trifluoroethane	1330-45-6
		2-chloro-1,1,1-trifluoroethane (HCFC-133a)	75-88-7
		Dichlorofluoroethane(HCFC 141)	1717-00-6;
		1,1-dichloro-1-fluoroethane (HCFC-141b)	(25167-88-8)
		1,2-dichloro-1-fluoroethane	1717-00-6
			430-57-9
		Chlorodifluoroethane (HCFC 142)	25497-29-4
		1-chloro-1,1-difluoroethane (HCFC142b)	75-68-3
		1-chloro-1,2-difluoroethane (HCFC142a)	25497-29-4
		Hexachlorofluoropropane (HCFC 221)	134237-35-7
		Pentachlorodifluoropropane (HCFC 222)	134237-36-8
		Tetrachlorotrifluoropropane (HCFC 223)	134237-37-9
		Trichlorotetrafluoropropane (HCFC 224)	134237-38-0
		Dichloropentafluoropropane, (Ethyne, fluoro-) (HCFC 225)	127564-92-5;
		2,2-Dichloro-1,1,1,3,3-pentafluoropropane(HCFC 225aa)	(2713-09-9)
		2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC 225ba)	128903-21-9
		1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC 225bb)	422-48-0
		3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC 225ca)	422-44-6
		1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC 225cb)	422-56-0
		1,1-Dichloro-1,2,2,3,3-pentafluoropropane(HCFC 225cc)	507-55-1
		1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC 225da)	13474-88-9
		1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC 225ea)	431-86-7
		1,1-Dichloro-1,2,3,3,3-pentafluoropropane(HCFC 225eb)	136013-79-1
			111512-56-2
		Chlorohexafluoropropane (HCFC 226)	134308-72-8
		Pentachlorofluoropropane (HCFC 231)	134190-48-0
		Tetrachlorodifluoropropane (HCFC 232)	134237-39-1
		Trichlorotrifluoropropane (HCFC 233)	134237-40-4
		1,1,1-Trichloro-3,3,3-trifluoropropane	7125-83-9

No	Substance Group Name	Substance Name	CAS Numbers
7	Ozone Depleting Substances(cont'd)	Dichlorotetrafluoropropane (HCFC 234)	127564-83-4
		Chloropentafluoropropane (HCFC 235)	134237-41-5
		1-Chloro-1,1,3,3,3-pentafluoropropane	460-92-4
		Tetrachlorofluoropropane (HCFC 241)	134190-49-1
		Trichlorodifluoropropane (HCFC 242)	134237-42-6
		Dichlorotrifluoropropane (HCFC 243)	134237-43-7
		1,1-dichloro-1,2,2-trifluoropropane	7125-99-7
		2,3-dichloro-1,1,1-trifluoropropane	338-75-0
		3,3-Dichloro-1,1,1-trifluoropropane	460-69-5
		Chlorotetrafluoropropane (HCFC 244)	134190-50-4
		3-chloro-1,1,2,2-tetrafluoropropane	679-85-6
		Trichlorofluoropropane (HCFC 251)	134190-51-5
		1,1,3-trichloro-1-fluoropropane	818-99-5
		Dichlorodifluoropropane (HCFC 252)	134190-52-6
		Chlorotrifluoropropane (HCFC 253)	134237-44-8
		3-chloro-1,1,1-trifluoropropane (HCFC 253fb)	460-35-5
8	Polybrominated Biphenyls (PBBs)	Dichlorofluoropropane (HCFC 261)	134237-45-9
		1,1-dichloro-1-fluoropropane	7799-56-6
		Chlorodifluoropropane (HCFC 262)	134190-53-7
		2-chloro-1,3-difluoropropane	102738-79-4
		Chlorofluoropropane (HCFC 271)	134190-54-8
		2-chloro-2-fluoropropane	420-44-0
		Polybrominated Biphenyls	59536-65-1
		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
9	Polybrominated Diphenylethers (PBDEs)	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
		Nonabiphenyl	27753-52-2
		Decabromobiphenyl	13654-09-6
		Bromodiphenyl ether	101-55-3
		Dibromodiphenyl ethers	2050-47-7
		Tribromodiphenyl ether	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 number used for commercial grades of PeBDPO)
10	Polychlorinated biphenyls (PCBs)	Hexabromodiphenyl ether	36483-60-0
		Heptabromodiphenylether	68928-80-3
		Octabromodiphenyl ether	32536-52-0
		Nonabromodiphenylether	63936-56-1
11	Polychlorinated terphenyls (PCTs)	Decabromodiphenylether	1163-19-5
		Polychlorinated Biphenyls	1336-36-3
		Monomethyl-tetrachloro-diphenyl methane (Ugilec 141)	76253-60-6
		Monomethyl-dichloro-diphenylmethane (Ugilec121,Ugilec21)	81161-70-8
12	Polychlorinated naphthalene (number of chlorine 3 or more)	Monomethyl-dibromo-diphenyl methane (DBBT)	99688-47-8
		Polychlorinated Terphenyls	61788-33-8
		Polychlorinated Naphthalenes	70776-03-3
		Other polychlorinated Naphthalenes	-
13	Radioactive substances	Uranium	7440-61-1
		Radon	10043-92-2
		Americium-241	14596-10-2
		Thorium	7440-29-1
		Cesium (Radioactive Isotopes only)	(elemental 7440-46-2) (Cs-137 10045-97-3)
		Strontium (Radioactive Isotopes only)	(elemental 7440-29-6) (Sr-90 10098-97-2)
		Other radioactive substances	-

No	Substance Group Name	Substance Name	CAS Numbers
14	Short-chain paraffin chloride(C10-13)	Chloroalkane(C10-13)	85535-84-8
15	Organotin compounds applied to the following: • Tri-substituted organostannic compounds • Dibutyltin compounds • Dioctyltin compounds	Triphenyltin=N, N-dimethyldithiocarbamate	1803-12-9
		Bromotrimethylstannane	1066-44-0
		Trimethyltin chloride	1066-45-1
		Tributyltin methoxide	1067-52-3
		Tributyltin hydroxide	1067-97-6
		Trimethyltin azide	1118-03-2
		Trimethyltin acetate	1118-14-5
		tributyltin methanesulphonate	13302-06-2
		Tributyltin Acrylate	13331-52-7
		Tributyltin bromide	1461-23-0
		Triethyltin phenoxide	1529-30-2
		Triethyltin acetate	1907-13-7
		Tributyltin dimethyldithiocarbamate	20369-63-5
		tributyltin cyanide	2179-92-2
		Tripropyltin chloride	2279-76-7
		Tributyltin linoleate	24124-25-2
		Butanedioic acid, 2-methylene-, 1,4-bis(tributylstannyl) ester; Bis(tributyltin)itaconate	25711-26-6
		Tributyltin cinnamate	27147-18-8
		Tripropyltin bromide	2767-61-5
		Triethyltin iodide	2943-86-4
		Tributyl(oleoyloxy)stannane	3090-35-5
		Tributyltinlaurate; Tributyl(lauroyloxy)stannane	3090-36-6
		Bis(tributyltin) meso-2,3-dibromosuccinate; Bis(tributyltin) mesodibromosuccinate; (2R,3S)-rel-butanedioic acid, 2,3-dibromo-, 1,4-bis(tributylstannyl) ester	31732-71-5
		Tripropyltin acetate	3267-78-5
		Tributyltin gamma-chlorobutyrate	33550-22-0
		4-nitrophenoxytributyltin; P-Nitrophenoxytributyltin	3644-32-4
		(2-biphenyloxy)tributyltin	3644-37-9
		tributyltin naphthenate	36631-23-9
		Tributyltin nonanoate	4027-14-9
		tributyltin cyanate	4027-17-2
		2-Butenoic acid,4-oxo-4-[(tributylstannyl)oxy]but-2-enoic acid	4027-18-3
		Tripropyltin methacrylate	4154-35-2
		Tri-n-butyl tin salicylate	4342-30-7
		Tributyltin benzoate	4342-36-3
		Trimethyltin thiocyanate	4638-25-9
		Tributyltin 2-ethylhexanoate	5035-67-6
		tributyltin isopropylsuccinate	53404-82-3
		Tributyltin monopropylene glycol maleate	53466-85-6
		Trimethyltin hydroxide	56-24-6
		Tributyltin	56573-85-4
		Tripropyltin laurate	57808-37-4
		tributyltin chloroacetate	5847-52-9
		Trimethyltin sulphate	63869-87-4
		Tributyltin isothiocyanate	681-99-2
		Tributyltin (and salts and esters)	688-73-3
		tributyltin undecylenate	69226-47-7
		Tripropyltin iodide	7342-45-2
		Tributyltin iodide	7342-47-4
		Tripropyltin iodoacetate	73927-92-1
		tributyltin o-iodobenzoate	73927-93-2
		Tributyltin beta-iodopropionate	73927-95-4
		Tributyltin isooctylthioacetate	73927-97-6
		tributyltin p-iodobemzoate	73940-88-2
		Tributyltin alpha-(2,4,5-trichlorophenoxy) propionate	73940-89-3
		1,3,5-tris(tributyltin)-S-triazine-2,4,6-trione	752-58-9
		Trimethyltin iodide	811-73-4
		Triphenyltin hydride	892-20-6
		Triphenyltin iodide	894-09-7
		Triethyltin chloride	994-31-0
		Triethyltin hydroxide	994-32-1
		Bis (triphenyltin) oxide	1262-21-1
		Triphenyltin and compounds - as TPT	668-34-8
		Tributyltin ethoxide	682-00-8
		Phthalic acid bis(triphenylstannyl) ester	1954-36-5
		Triphenyltinfluoride	379-52-2
		Triphenyltinacetate	900-95-8
		Triphenyltinchloride	639-58-7
		Triphenyltinhydroxide	76-87-9

No	Substance Group Name	Substance Name	CAS Numbers
15	Organotin compounds applied to the following: • Tri-substituted organostannic compounds • Dibutyltin compounds • Dioctyltin compounds (Cont'd)	Triphenyltin fattyacid((9-11)salt)	18380-71-7 18380-72-8 47672-31-1 94850-90-5
		Triphenyltinchloroacetate	7094-94-2
		Tributyltinmethacrylate	2155-70-6
		Bis(tributyltin)fumalate	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
		tributylchlorostannane	1461-22-9、 7342-38-3
		Tributyltin cyclopentane carbonate=mixture	5409-17-2
		Mixture of tributyltin cyclopentanecarboxylate and its analogs (Tributyltin naphthenate)	85409-17-2
16	Tributyl Tin Oxide (TBTO)	Tributyltin-1, 2,3,4,4a, 4b, 5,6,10,10a-decahydro-7-isopropyl-1, 4a-dimethyl-1-phenanthrenecarboxylatemix	26239-64-5
		Bis(tri-n-butyltin) oxide	56-35-9
17	JAPAN Chemical Substances Control Law Class 1 Specified Chemical Substances (Substances that apply to chemSHERPA Relevant standard LR01)	Polychlorinated Biphenyls	—
		Polychloronaphthalene(number of chlorine 3 or more)	70776-03-3
		Benzene, hexachloro-	118-74-1
		Aldrin	309-00-2
		Dieldrin	60-57-1
		Endrin	72-20-8
		1,1,1-Trichloro-2,2-bis(4-chlorophenyl)ethane (Synonym: DDT)	50-29-3
		Chlordane , pur	57-74-9
		Chlordanes	—
		Heptachlor	76-44-8
		Bis(tri-n-butyltin) oxide	56-35-9
		1,4-Benzenediamine, N1,N4-bis(methylphenyl)-	27417-40-9
		1,4-Benzenediamine, N-(dimethylphenyl)-N'-(methylphenyl)-	70290-05-0
		1,4-Benzenediamine, N,N'-bis(dimethylphenyl)-	28726-30-9
		2,4,6-Tri-tert-butylphenol	732-26-3
		Toxaphene	8001-35-2
		Mirex	2385-85-5
		Dicofol	115-32-2
		PFOSs	—
		PFOSFs	—
		Diphenyl ether, pentabromo derivative; 2,2',4,4',5-pentabromodiphenyl ether; BDE-99; Pentabromodiphenyl ether ('Penta')	32534-81-9
		Hexabromobiphenyl	36355-01-8
		Hexabromodiphenyl ether	36483-60-0
		Tetrabromodiphenyl ethers; BDE-47; 2,2',4,4'-tetrabromodiphenyl ether	40088-47-9
		Heptabromodiphenylether	68928-80-3
		Decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one; Chlordecone; Kepone	143-50-0
		(1alpha,2alpha,3beta,4alpha,5beta,6beta)-1,2,3,4,5,6-hexachlorocyclohexane	319-84-6
		(1alpha,2beta,3alpha,4beta,5alpha,6beta)-1,2,3,4,5,6-hexachlorocyclohexane; Beta-HCH	319-85-7
		Hexachlorocyclohexane ;Gamma-HCH; Lindane	58-89-9
		Pentachlorobenzene	608-93-5
		Hexachlorobuta-1,3-diene	87-68-3
		Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)-	3846-71-7
		alpha-Benzoeopin	959-98-8
		Hexabromocyclododecane	25637-99-4
18	JAPAN Industrial Safety and Health Act Prohibited Substances for Manufacturing Industries	Yellow phosphorus matches	12185-10-3、 7723-14-0
		Benzidine and its salt	92-87-5
		4-aminobiphenyl and its salt	92-67-1
		Asbestos	—
		4-nitrobiphenyl and its salt	92-93-3
		Oxybis[chloromethane]	542-88-1
		2-naphthylamine and its salt	91-59-8
		Salts of 2-naphthylamine; 2-Naphthylammoniumacetat	553-00-4
		Benzene	71-43-2

No	Substance Group Name	Substance Name	CAS Numbers
19	JAPAN Poisonous and Deleterious Substances Control Act Specified Chemical Substances	Schradan	152-16-9
		Lead, tetraethyl-	78-00-2
		O,O-Diethyl O-(4-nitrophenyl) phosphorothioate	56-38-2
		Demeton-methyl	8022-00-2
		Phosphamidon	13171-21-6
		(Z)-Phosphamidon	23783-98-4
		(E)-Phosphamidon	297-99-4
		Parathion, methyl-	298-00-0
		TEPP	107-49-3
20	Rotterdam Convention (PIC Convention) Chemical substances listed in the upper column of Annex III (Substances that apply to Export Trade Control Order Appended Table 2, 35-3)	Acetic acid, fluoro- and its salt	144-49-0
		2-fluoroacetamide	640-19-7
		Aluminum phosphide	20859-73-8
		2,4,5-T and its salts and esters	93-76-5
		Aldrin	309-00-2
		Benzene, hexachloro-	118-74-1
		Dieldrin	60-57-1
		D.D.T.	50-29-3
		Chlordane, pur	57-74-9
		Chlordanes	—
		Toxaphene	8001-35-2
		Ethylene oxide	75-21-8
		Binapacryl	485-31-4
		Captafol (ISO); 1,2,3,6-tetrahydro-N-(1,1,2,2-tetrachloroethylthio)phthalimide	2425-06-1
		chlordimeform (ISO); N 2-(4-chloro-o-tolyl)-N 1,N 1- dimethylformamidine	6164-98-3
		Chlorobenzilate	510-15-6
		Dinitro-ortho-cresol (DNOC) and its salts (such as ammonium salt, potassium salt and sodium salt)	534-52-1 2980-64-5 5787-96-2 2312-76-7
		Dinoseb and Dinoseb Salts	88-85-7
		1,2-Dibromoethane	106-93-4
		1,2-Dichloroethane	107-06-2
		Fluoroacetic acid amide	640-19-7
		HCH (mixed isomers)	608-73-1
		Heptachlor	76-44-8
		Lindane	58-89-9
		Monocrotophos	6923-22-4
		O,O-Diethyl O-(4-nitrophenyl) phosphorothioate	56-38-2
		Pentachlorophenol and its salts and esters	87-86-5 (Pentachlorophenol)
		Benomyl	17804-35-2
		Carbofuran	1563-66-2
		Thiram	137-26-8
		Methamidophos	10265-92-6
		Phosphamidon	13171-21-6
		(Z)-Phosphamidon	23783-98-4
		(E)-Phosphamidon	297-99-4
		Parathion, methyl-	298-00-0
		Tributyltin Compounds	56-35-9 1983-10-4 2155-70-6 4342-36-3 1461-22-9 24124-25-2 85409-17-2
		Tris(2,3 dibromopropyl)phosphate	126-72-7
		Alachlor	15972-60-8
		Aldicarb	116-06-3
		Endosulfan	115-29-7
		Mercury compounds, including inorganic mercury compounds, alkyl mercury compounds and alkyloxyalkyl and aryl mercury compounds	—
		Actinolite asbestos	77536-66-4
		Anthophyllite	77536-67-5
		Amosite asbestos	12172-73-5
		Crocidolite	12001-28-4
		Tremolite	77536-68-6
		Polybrominated Biphenyls (PBBs)	36355-01-8 27858-07-7 13654-09-6
		Polychlorinated Biphenyls (PCBs)	1336-36-3
		Polychlorinated Terphenyls (PCTs)	61788-33-8

No	Substance Group Name	Substance Name	CAS Numbers
20	Rotterdam Convention (Cont'd)	Tetraethyl lead	78-00-2
		Tetramethyl lead	75-74-1
		Azinphos-methyl	86-50-0
		Commercial pentabromodiphenyl ether including tetrabromodiphenyl ether pentabromodiphenyl ether	40088-47-9 32534-81-9
		Commercial octabromodiphenyl ether including Hexabromodiphenyl ether Heptabromodiphenyl ether	36483-60-0 68928-80-3
		Perfluorooctane sulfonic acid, perfluorooctane sulfonates, perfluorooctane sulfonamides and perfluorooctane sulfonyls including	
		Perfluorooctane sulfonic acid	1763-23-1
		Potassium perfluorooctane sulfonate	2795-39-3
		Lithium perfluorooctane sulfonate	29457-72-5
		Ammonium perfluorooctane sulfonate	29081-56-9
		Diethanolammonium perfluorooctane sulfonate	70225-14-8
		Tetraethylammonium perfluorooctane sulfonate	56773-42-3
		Didecyltrimethylammonium perfluorooctane sulfonate	251099-16-8
		N-Ethylperfluorooctane sulfonamide	4151-50-2
		N-Methylperfluorooctane sulfonamide	31506-32-8
		N-Ethyl-N-(2-hydroxyethyl) perfluorooctane sulfonamide	1691-99-2
21	Chemical Weapons Convention (Restricted substances)	N-(2-Hydroxyethyl)-N-methylperfluorooctane sulfonamide	24448-09-7
		Perfluorooctane sulfonyl fluoride	307-35-7
		O-Alkyl (<C10, incl. cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)- phosphonofluoridates	107-44-8 96-64-0
		O-Alkyl (<C10, incl. cycloalkyl) N,N-dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidocyanidates	77-81-6
		O-Alkyl (H or <C10, incl. cycloalkyl) S-2-dialkyl (Me, Et, n-Pr or i- Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonothiolates and corresponding alkylated or protonated salts	50782-69-9
		O-Isopropyl methylphosphonochloridate and corresponding alkylated or protonated salts	—
		2-Chloroethylchloromethylsulfide	2625-76-5
		Ethane, 1,1'-thiobis[2-chloro-	505-60-2
		Bis(2-chloroethylthio)methane	63869-13-6
		1,2-Bis(2-chloroethylthio)ethane	3563-36-8
		1,3-Bis(2-chloroethylthio)-n-propane	63905-10-2
		1,4-Bis(2-chloroethylthio)-n-butane	142868-93-7
		1,5-Bis(2-chloroethylthio)-n-pentane	142868-94-8
		Bis(2-chloroethylthiomethyl)ether	63918-90-1
		Bis(2-chloroethylthioethyl)ether	63918-89-8
		Arsonous dichloride, As-(2-chloroethenyl)-	541-25-3
		Bis(2-chlorovinyl)chloroarsine	40334-69-8
		Tris(2-chlorovinyl)arsine	40334-70-1
		Ethanamine, 2-chloro-N-(2-chloroethyl)-N-ethyl-	538-07-8
		Chlormethine	51-75-2
		Ethanamine, 2-chloro-N,N-bis(2-chloroethyl)-	555-77-1
22	dioxins	Saxitoxin	35523-89-8
		Ricin	9009-86-3
23	Fluorinated greenhouse gases (PFC, SF ₆ , HFC)	dioxins and dioxin-like compounds	—
		Carbon tetrafluoride (Perfluoromethane)	75-73-0
		Perfluoroethane (Hexafluoroethane)	76-16-4
		Perfluoropropane (Octafluoropropane)	76-19-7
		Perfluorobutane (Decafluorobutane)	355-25-9
		Perfluoropentane (Dodecafluoropentane)	678-26-2
		Perfluorohexane (Tetradecafluorohexane)	355-42-0
		Perfluorocyclobutane	115-25-3
		Sulfur hexafluoride (SF ₆)	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

No	Substance Group Name	Substance Name	CAS Numbers
23	Fluorinated greenhouse gases (PFC, SF6, HFC) (Cont'd)	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
		Nitrogen trifluoride	7783-54-2
24	Perchlorates	Lithium perchlorate	7791-03-9
		Other perchlorate compounds	-
25	Perfluorooctane sulfonate and its salts	Perfluorooctane Sulfonates (PFOS) C8F17SO2X, where X = OR, NR or other derivative	-
26	Tris (2-chloroethyl) phosphate (TCEP)	Tris (2-chloroethyl)phosphate (TCEP)	115-96-8
27	Dimethylfumarate	Dimethylfumarate (DMF)	624-49-7
28	EU POPs regulation Restricted substances, Annex I (Substances that apply to chemSHERPA Relevant standard LR05)	Please refer to The List of Declarable Substances - Explanations published by chemSHERPA	-
29	Certain Phthalates (DEHP, BBP, DBP, DIBP)	Bis(2-ethylhexan-1-yl) phthalate(DEHP)	117-81-7
		Benzyl butan-1-yl phthalate(BBP)	85-68-7
		Dibutan-1-yl phthalate(DBP)	84-74-2
		Diisobutyl phthalate(DIBP)	84-69-5

Table 5

List of Examples of Controlled Substances

※ This list shows examples of applicable substances. Any substance not included in this list but classified as a “Controlled Substances” shall be reported.

No	Substance Group Name	Substance Name	CAS Numbers
1	Antimony/Antimony Compounds	Antimony	7440-36-0
		Antimony pentachloride	7647-18-9
		Antimony pentoxide	1314-60-9
		Antimony pentafluoride	7783-70-2
		Diantimony pentasulphide	1315-04-4
		Antimony trichloride	10025-91-9
		Antimony trioxide	1309-64-4
		Antimony trifluoride	7783-56-4
		Antimony triiodide	7790-44-5
		Antimony sulfide (Sb ₂ S ₃)	1345-04-6
		Sodium antimonate	15432-85-6
		Other antimony compounds	—
2	Arsenic/Arsenic Compounds	Calcium arsenite	15194-98-6
		Calcium arsenate	7778-44-1
		Calcium arsenate	10103-62-5
		Disodium hydrogen arsenate	10048-95-0
		Sodium arsenate	7631-89-2
		Lead hydrogen arsenate	7784-40-9
		Arsenic acid (H ₃ AsO ₄), lead salt	7645-25-2
		Copper arsenate	16102-92-4
		Arsenic acid (H ₃ AsO ₄), copper salt	10103-61-4
		Arsenic	7440-38-2
		Phenylarsonic acid	98-05-5
		Calcium bis(methylarsonate)	5902-95-4
		Iron metaarsonate	6585-53-1
		Potassium arsenite	13464-35-2
		Calcium arsenite	52740-16-6
		Calcium arsenite (2:3)	27152-57-4
		Sodium dioxoarsenate	7784-46-5
		Lead arsenite	10031-13-7
		Pentafluoroarsorane	7784-36-3
		Trifluoroarsine	7784-35-2
		Arsenic trichloride	7784-34-1
		Diarsenic trioxide	1327-53-3
		Lead arsenate	3687-31-8
		Other arsenic compounds	—
3	Beryllium/Beryllium Compounds	Zinc beryllium silicate	39413-47-3
		Bis[carbonato-(2-)]dihydroxy-triberyllium	66104-24-3
		Beryllium fluoride	7787-49-7
		Beryllium	7440-41-7
		Beryllium-aluminum alloy	12770-50-2
		Beryl ore	1302-52-9
		Beryllium phosphate	13598-15-7
		Beryllium chloride	7787-47-5
		Beryllium oxide	1304-56-9
		Beryllium hydroxide	13327-32-7
		Beryllium sulphate	13510-49-1
		Beryllium sulfate tetrahydrate	7787-56-6
		Other beryllium compounds	—
4	Bismuth/Bismuth Compounds	Bismuth	7440-69-9
		Other bismuth compounds	—
5	Nickel	Nickel	7440-02-0

No	Substance Group Name	Substance Name	CAS Numbers
6	Selenium/Selenium Compounds	Selenium	7782-49-2
		Zinc selenide	1315-09-9
		Selenium dioxide	7446-08-4
		Arsenic selenide (As ₂ Se ₃)	1303-36-2
		Selenic acid	7783-08-6
		Selenious acid	7783-00-8
		Disodium selenium trioxide	10102-18-8
		Other selenium compounds	—
7	Polyvinyl Chloride (PVC)	Polyvinyl chloride (PVC)	9002-86-2
8	Brominated Flame Retardants (other than PBBs or PBBEs)	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	—
		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-decabromo-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-Dibromophenol	615-58-7
		2,4,6-Tribromophenol	118-79-6
		Pentabromophenol	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

No	Substance Group Name	Substance Name	CAS Numbers
8	Brominated Flame Retardants (other than PBBs or PBBEs) (cont'd)	Poly(tribromostyrene)	57137-10-7
		Tribromostyrene	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
		Brominated trimethylphenyl-lindane	—
		Other Brominated Flame Retardants	—
		Tetrabromocyclooctane	31454-48-5
		1,2-dibromo-4-(1,2-dibromoethyl)cyclohexane	3322-93-8
		TBPA Na salt	25357-79-3
		Tetrabromo phthalic anhydride	632-79-1
9	Certain Phthalates	1,2-Benzenedicarboxylic acid diisodecyl ester (DIDP)	26761-40-0 68515-49-1
		Diisononyl phthalate (DINP)	28553-12-0 68515-48-0
		Bis (2-ethylhexyl) phthalate (DEHP)	117-84-0
		Di-n-hexyl Phthalate (DnHP)	84-75-3
		Di-n-pentyl phthalate	131-18-0
		1,2-Benzenedicarboxylic acid; di-C6-8-branched alkylesters, C7-rich(DIHP)	71888-89-6
		1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkylesters(DHNUP)	68515-42-4
		Bis(2-methoxyethyl) phthalate	117-82-8
		Diisopentylphthalate (DIPP)	605-50-5
		1,2-benzenedicarboxylic acid, dipentylester, branched and linear;	84777-06-0
		N-pentyl-isopentylphthalate	776297-69-9
10	Substances in the EU REACH Regulation, SVHC Candidate List. ※4 (Substances that apply to chemSHERPA Relevant standard LR06)	Please refer to The List of Declarable Substances - Explanations published by chemSHERPA	-
11	EU REACH Regulation, Restricted Substances ※4 (Substances that apply to chemSHERPA Relevant standard LR07)		
12	Applicable Substances in GADSL List ※4 (Substances that apply to chemSHERPA Relevant standard IC01)		
13	Applicable Substances in IEC 62474 Criteria 1~3 List (Substances that apply to chemSHERPA Relevant standard IC02)		
14	Toxic Substances Control Act (TSCA) (US): Section 6 (Substances that apply to chemSHERPA Relevant standard LR02)		

Direct your inquiries to the following divisions:

Inquiries on contents of this Guideline

Environment & Safety Division [TEL:+81-584-89-0802](tel:+81-584-89-0802) E-mail:green_procurement@ibiden.com

Global Purchasing Division [TEL:+81-584-81-7951](tel:+81-584-81-7951)