

**■ Fujitsu Group specified Common Banned Substances**

Fujitsu group defines the substances which are harmful to human health and the environment as "Fujitsu Group specified Banned Substances", and we have been offering the products which don't contain them by working on the strict elimination through our green product assessment and green procurement activity. "Fujitsu Group specified Banned Substances" consists of global common core banned substances and regional specific banned substances. Target substances are as follows.

**Table 1. "A. Global Common Banned Substances"**

No.	Substance Name	Banned Standards	Remarks
A001	Asbestos	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
A002	Azocolorants and Azodyes which form certain aromatic amines	1. Ban of Intentional Addition 2. The concentrations in material must not exceed 30ppm.	This applies to cases that azo dyes and azo pigments are used for leather products, textile products or their parts that are possible to contact human skins directly for a long time and that form specified amines listed in Table 1b as a result of decomposition of azo group.
A003	Cadmium / Cadmium Compounds	1. Ban of Intentional Addition 2. Concentration in Material must not exceed 100 ppm.  <Packaging material> 1. and sum of concentration in Packaging Material of the 4 substances <sup>(*)</sup> must not exceed 100 ppm.	Refer to Exempted Application in Table 1a.  This does not apply to textiles used under the conditions specified in A036.
A004	Chromium VI compounds	1. Ban of Intentional Addition 2. Concentration in Material must not exceed 1000 ppm.  <In the case of leather articles or articles containing leather parts coming into contact with the skin> 1. and the concentrations in total dry weight of the leather of those leather part must be less than 3ppm.  <Packaging material> 1. and sum of concentration in Packaging Material of the 4 substances <sup>(*)</sup> must not exceed 100 ppm.	This does not apply to textiles used under the conditions specified in A036.
A005	Lead / Lead Compounds	<Electrical and electronic equipment> 1. Ban of Intentional Addition 2. Concentration in Material must not exceed 1000 ppm even contained. In this regard, however, concentration in Material must not exceed 300 ppm in the case of cables/cords with thermoset or thermoplastic coatings.  <Packaging material> 1. and sum of concentration in Packaging Material of the 4 substances <sup>(*)</sup> must not exceed 100 ppm  <Other> 1., 2. and If those articles or accessible parts thereof may, during normal or reasonably foreseeable conditions of use, be placed in the mouth by children <sup>(*)</sup> , the concentration of lead (expressed as metal) in those articles or accessible parts thereof must not be equal to or greater than 500ppm by weight.	Exempted Application: Table 1a.  This does not apply to textiles used under the conditions specified in A036.

No.	Substance Name	Banned Standards	Remarks
A006	Mercury / Mercury Compounds	1. Ban of Intentional Addition 2. Concentration in Material must not exceed 1000 ppm.  <Packaging material> 1. and sum of concentration in Packaging Material of the 4 substances <sup>(*)</sup> must not exceed 100 ppm	Exempted Application: Table 1a.
A007	Ozone Depleting Substances (CFCs, HCFCs, HBFCs, carbon tetrachloride, etc.)  Details: Table 1c.	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
A008	PFOS / PFOS-related substances	1. Ban of Intentional Addition 2. Concentration must not exceed the following levels even contained - 0.1% by weight. - Only ink or tonner: 0.001% by weight. - Amount in the coated materials: 1µg/m <sup>2</sup>	
A009	Polybrominated Biphenyls (PBBs)	1. Ban of Intentional Addition 2. Concentration in Material must not exceed 1000 ppm even contained.	
A010	Polybrominated Diphenylethers (PBDEs)	<Electrical and electronic equipment> 1. Ban of Intentional Addition 2. Concentration in Material must not exceed 1000 ppm even contained.  <Other than electrical and electronic equipment (including packaging materials)> Sum of concentration of those substances in articles must not exceed 500 ppm	
A011	Polychlorinated Biphenyls (PCBs) and specific substitutes  Details: Table 1d.	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
A012	Polychlorinated Terphenyls (PCTs)	1. Ban of Intentional Addition 2. Concentration in Material must not exceed 50 ppm even contained.	
A013	Shortchain Chlorinated Paraffins (C10-C13)	1. Ban of Intentional Addition 2. Concentration in Material must not exceed 1000 ppm even contained.	
A014	Tri-substituted organostannic compounds (other than TBTO)	Concentration of tin in the article, or part thereof, must not exceed 1000 ppm.	
A015	Tributyl Tin Oxide (TBTO)	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
A016	Dimethylfumarate (DMF) CAS No 624-49-7	Concentration in the article, or part thereof, must not exceed 0.1 ppm.	
A017	Dibutyltin compounds (DBT)	Concentration of tin in the article, or part thereof, must not exceed 1000 ppm.	
A018	Diocetyl tin compounds (DOT)	Concentration of tin in the article, or part thereof, must not exceed 1000 ppm.	This applies to cases that are used for textile, leather products or their parts intended to come into contact with the skin directly, and the case that are used for two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits).
A019	Fluorinated greenhouse gases (HFC, PFC, SF6)  Details: Table 1e.	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	Unless confined system and a recovery scheme for the substances have been established

No.	Substance Name	Banned Standards	Remarks
A020	Formaldehyde	1. Ban of Intentional Addition 2. Concentration in Material must not exceed 75 ppm even contained.	This applies to cases that are used for textile products or their parts.  This does not apply to textiles used under the conditions specified in A036.
A021	Tris(2,3-dibromopropyl)phosphate (TRIS) CAS No 126-72-7	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	This applies to cases that are used for textile products or their parts intended to come into contact with the skin directly.
A022	Tris(1-aziridinyl)phosphine oxide (TEPA) CAS No 545-55-1	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	This applies to cases that are used for textile products or their parts intended to come into contact with the skin directly.
A023	Nickel (CAS No 7440-02-0) / Nickel Compounds	Ban of use as alloys containing nickel, such as stainless steels or nickel plating.	This applies to cases that are used for regions where prolonged skin contact is expected. <sup>(*3)</sup>
A024	Polycyclic aromatic hydrocarbons (PAH)  Details: Table 1f.	1. Ban of Intentional Addition 2. Concentration must not exceed 0,0001 % by weight of rubber or plastic component even contained.	This applies to rubber or plastic component where direct and prolonged contact, or repeated in short-term contact with the human skin or the oral cavity are expected. <sup>(*4)</sup>  This does not apply to textiles used under the conditions specified in A036.
A025	Hexabromocyclododecane (HBCDD)  Details: Table 1f.	< Articles > 1. Ban of Intentional Addition 2. Concentration in Material must not exceed 0.01% even contained. < Chemicals > Concentration in chemicals must not exceed 0.01% by weight.	
A026	Bis(2-ethylhexyl) phthalate (DEHP)	Common standard from A026 to A029  <Electrical and electronic equipment> 1. Ban of Intentional Addition 2. Concentration in Material must not exceed 1000 ppm even contained as impurities.	
A027	Butyl benzyl phthalate (BBP)	<Other than electrical and electronic equipment (including packaging materials)> 1. Ban of Intentional Addition 2. Sum of concentration of the four substances (A026 - A029) in the plasticised material (*5) in the article must not be equal to or greater than 1000 ppm.	
A028	Dibutyl phthalate (DBP)		
A029	Diisobutyl phthalate (DIBP)		
A030	Polychlorinated Naphthalenes (more than 1 chlorine atom)	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
A031	Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)-;2-benzotriazol-2-yl-4,6-di-tert-butyl phenol (UV-320)	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
A032	Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds	<Mixture, Article> 1. Equal to or below 25 ppb by weight 2. Any individual PFOA-related compound <sup>(*6)</sup> or a combination of PFOA-related compounds equal to or below 1000 ppb by weight.	Exempted Application: Table 1a

No.	Substance Name	Banned Standards	Remarks
A034	Cobalt dichloride	<Silica gel or other chemicals> Concentration in silica gel or other chemicals must be less than 0.01 wt%	Applied to consumer products
A035	4,4'-isopropylidenediphenol; Bisphenol A CAS No. 80-05-7	<Thermal paper> Concentration in the thermal paper must be less than 0.02 wt%	
A036	Certain substances classified as carcinogenic, mutagenic or toxic for reproduction (CMRs) Details: Table 1h.	1. Ban of Intentional Addition 2. Concentration in Material must not be equal to or greater than that specified for that substance in Table 1h.	This applies to textiles which under normal or reasonably foreseeable conditions of use, come into contact with human skin to an extent similar to clothing and footwear.
A037	Pentachlorophenol, Pentachlorophenol-salts, Pentachlorophenol -esters	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
A038	Kelthane (Dicofol)	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
A039	Bis(pentabromophenyl)ether (decabromodiphenyl ether; decaBDE) CAS No. 1163-19-5	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	It does not apply if decaBDE is derived from recycled plastic and its concentration meets the criteria of A010.
A040	Phenol, isopropylated, phosphate (3:1) (PIP (3:1)) CAS No. 68937-41-7	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	In force from 9th March 2022 except for some products.  It does not apply if PIP(3:1) for use in adhesives and sealants (until 5th January 2025), for use in lubricants and greases, or derived from recycled plastic.
A041	Hexachlorobutadiene (HCBd) CAS No. 87-68-3	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
A042	Pentachlorothiophenol (PCTP) CAS No. 133-49-3	The concentration in articles must not exceed 1 wt%.	

(\*1) In the case of packaging materials, 4 substances are Cadmium / Cadmium compounds, Chromium IV compounds, Lead / Lead compounds and Mercury / Mercury compounds.

(\*2) It is considered that an article or accessible part of an article may be placed in the mouth by children if it is smaller than 5 cm in one dimension or has a detachable or protruding part of that size.

(\*3) Regions where prolonged skin contact is expected are the most outside surface of the following:  
Keyboard, mouse, palm rest of laptop, chassis of mobile phone and liquid crystal touch panel.

(\*4) Rubber or plastic component where direct and prolonged contact, or repeated in short-term contact with the human skin or the oral cavity are expected are the following:  
Rubber or plastic material of the most outside surface of keyboard, mouse, palm rest of laptop, chassis of mobile phone and liquid crystal touch panel.

(\*5) 'plasticised material' means any of the following homogeneous materials:  

- polyvinyl chloride (PVC), polyvinylidene chloride (PVDC), polyvinyl acetate (PVA), polyurethanes,
- any other polymer (including, inter alia, polymer foams and rubber material) except silicone rubber and natural latex coatings,
- surface coatings, non-slip coatings, finishes, decals, printed designs,
- adhesives, sealants, paints and inks.

(\*6) PFOA-related compounds which, for the purposes of the Convention, are any substances that degrade to PFOA, including any substances (including salts and polymers) having a linear or branched perfluoroheptyl group with the moiety (C7F15)C as one of the structural elements.

The following compounds are not included as PFOA-related compounds:

- C8F17-X, where X = F, Cl, Br;
- fluoropolymers that are covered by CF<sub>3</sub>[CF<sub>2</sub>]<sub>n</sub>-R', where R'=any group, n > 16;
- perfluoroalkyl carboxylic acids (including their salts, esters, halides and anhydrides) with ≥ 8 perfluorinated carbons;
- perfluoroalkane sulfonic acids and perfluoro phosphonic acids (including their salts, esters, halides and anhydrides) with ≥ 9 perfluorinated carbons;

– perfluorooctane sulfonic acid and its derivatives (PFOS), as listed in this Table

**Table 1a. Exempted Applications (Exemption from the Banned Standards shown in Table 1)**

No	Substance Name	Exempted Application (The number in this column is the exemption number described in RoHS directive.)
A003	Cadmium / Cadmium Compounds	8(b)-I. Cadmium and its compounds in electrical contacts used in: <ul style="list-style-type: none"> <li>- circuit breakers,</li> <li>- thermal sensing controls,</li> <li>- thermal motor protectors (excluding hermetic thermal motor protectors),</li> <li>- AC switches rated at:                             <ul style="list-style-type: none"> <li>- 6 A and more at 250 V AC and more, or</li> <li>- 12 A and more at 125 V AC and more,</li> </ul> </li> <li>- DC switches rated at 20 A and more at 18 V DC and more, and</li> <li>- switches for use at voltage supply frequency <math>\geq</math> 200 Hz.</li> </ul>
		13(b)-(II). Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex
		13(b)-(III). Cadmium in glazes used for reflectance standards
A005	Lead/Lead Compounds	5(b). Lead in glass of fluorescent tubes not exceeding 0.2% by weight
		6(a)-I. Lead as an alloying element in steel for machining purposes containing up to 0.35 % lead by weight and in batch hot dip galvanised steel components containing up to 0.2 % lead by weight
		6(b)-I. Lead as an alloying element in aluminium containing up to 0.4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling
		6(b)-II. Lead as an alloying element in aluminium for machining purposes with a lead content up to 0.4 % 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(c)-I. Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound
		7(c)-II. Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher
		13(a). Lead in white glasses used for optical applications
		13(b)-(I). Lead in ion coloured optical filter glass types
13(b)-(III). Lead in glazes used for reflectance standards		
15(a) Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies: <ul style="list-style-type: none"> <li>- a semiconductor technology node of 90 nm or larger;</li> <li>- a single die of 300 mm<sup>2</sup> or larger in any semiconductor technology node;</li> <li>- stacked die packages with die of 300 mm<sup>2</sup> or larger, or silicon interposers of 300 mm<sup>2</sup> or larger.</li> </ul>		
A006	Mercury/Mercury Compounds	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp) <ul style="list-style-type: none"> <li>3(a). Short length (<math>\leq</math> 500 mm) : 3.5mg may be used per lamp</li> <li>3(b). Medium length (<math>&gt;</math> 500mm and <math>\leq</math> 1500 mm) : 5mg may be used per lamp</li> <li>3(c). Long length (<math>&gt;</math> 1500 mm) : 13mg may be used per lamp</li> </ul>
A032	Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds	<ul style="list-style-type: none"> <li>- Photographic coatings applied to films, until 4 July 2025</li> <li>- Photolithography or etch processes in semiconductor manufacturing, until 4 July 2025</li> </ul>

**Table 1b. Amines formed from Azocolorants and Azodyes**

Specified Amines	CAS No.
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
o-toluidine	95-53-4
4-methyl-m-phenylenediamine	95-80-7
2,4,5-trimethylaniline	137-17-7
o-anisidine	90-04-0
4-amino azobenzene	60-09-3

**Table 1c. Ozone depleting Substances**

Substance Name	Chemical Formula	
CFC-11	Trichlorofluoromethane	CFCl <sub>3</sub>
CFC-12	Dichlorodifluoromethane	CF <sub>2</sub> Cl <sub>2</sub>
CFC-113	Trichlorotrifluoroethane	C <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub>
CFC-114	Dichlorotetrafluoroethane	C <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>
CFC-115	Chloropentafluoroethane	C <sub>2</sub> F <sub>5</sub> Cl
CFC-13	Chlorotrifluoromethane	CF <sub>3</sub> Cl
CFC-111	Pentachlorofluoroethane	C <sub>2</sub> FCl <sub>5</sub>
CFC-112	Tetrachlorodifluoroethane	C <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub>
CFC-211	Heptachlorofluoropropane	C <sub>3</sub> FCl <sub>7</sub>
CFC-212	Hexachlorodifluoropropane	C <sub>3</sub> F <sub>2</sub> Cl <sub>6</sub>
CFC-213	Pentachlorotrifluoropropane	C <sub>3</sub> F <sub>3</sub> Cl <sub>5</sub>
CFC-214	Tetrachlorotetrafluoropropane	C <sub>3</sub> F <sub>4</sub> Cl <sub>4</sub>
CFC-215	Trichloropentafluoropropane	C <sub>3</sub> F <sub>5</sub> Cl <sub>3</sub>
CFC-216	Dichlorohexafluoropropane	C <sub>3</sub> F <sub>6</sub> Cl <sub>2</sub>
CFC-217	Chloroheptafluoropropane	C <sub>3</sub> F <sub>7</sub> Cl
halon-1211	Bromochlorodifluoromethane	CF <sub>2</sub> BrCl
halon-1301	Bromotrifluoromethane	CF <sub>3</sub> Br
halon-2402	Dibromotetrafluoroethane	C <sub>2</sub> F <sub>4</sub> Br <sub>2</sub>
CTC	Tetrachloromethane (carbon tetrachloride)	CCl <sub>4</sub>
1,1,1-TCA	1,1,1-Trichloroethane (methylchloroform)	C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub> (*1)
methyl bromide	Bromomethane	CH <sub>3</sub> Br
HBFC-21 B2	Dibromofluoromethane	CHFBr <sub>2</sub>
HBFC-22 B1	Bromodifluoromethane	CHF <sub>2</sub> Br
HBFC-31 B1	Bromofluoromethane	CH <sub>2</sub> FBr
HBFC-121 B4	Tetrabromofluoroethane	C <sub>2</sub> HFBBr <sub>4</sub>
HBFC-122 B3	Tribromodifluoroethane	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Br <sub>3</sub>
HBFC-123 B2	Dibromotrifluoroethane	C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Br <sub>2</sub>

HBFC-124 B1	Bromotetrafluoroethane	C2HF4Br
HBFC-131 B3	Tribromofluoroethane	C2H2FBr3
HBFC-132 B2	Dibromodifluoroethane	C2H2F2Br2
HBFC-133 B1	Bromotrifluoroethane	C2H2F3Br
HBFC-141 B2	Dibromofluoroethane	C2H3FBr2
HBFC-142 B1	Bromodifluoroethane	C2H3F2Br
HBFC-151 B1	Bromofluoroethane	C2H4FBr
HBFC-221 B6	Hexabromofluoropropane	C3HFBr6
HBFC-222 B5	Pentabromodifluoropropane	C3HF2Br5
HBFC-223 B4	Tetrabromotrifluoropropane	C3HF3Br4
HBFC-224 B3	Tribromotetrafluoropropane	C3HF4Br3
HBFC-225 B2	Dibromopentafluoropropane	C3HF5Br2
HBFC-226 B1	Bromohexafluoropropane	C3HF6Br
HBFC-231 B5	Pentabromofluoropropane	C3H2FBr5
HBFC-232 B4	Tetrabromodifluoropropane	C3H2F2Br4
HBFC-233 B3	Tribromotrifluoropropane	C3H2F3Br3
HBFC-234 B2	Dibromotetrafluoropropane	C3H2F4Br2
HBFC-235 B1	Bromopentafluoropropane	C3H2F5Br
HBFC-241 B4	Tetrabromofluoropropane	C3H3FBr4
HBFC-242 B3	Tribromodifluoropropane	C3H3F2Br3
HBFC-243 B2	Dibromotrifluoropropane	C3H3F3Br2
HBFC-244 B1	Bromotetrafluoropropane	C3H3F4Br
HBFC-251 B1	Tribromofluoropropane	C3H4FBr3
HBFC-252 B2	Dibromodifluoropropane	C3H4F2Br2
HBFC-253 B1	Bromotrifluoropropane	C3H4F3Br
HBFC-261 B2	Dibromofluoropropane	C3H5FBr2
HBFC-262 B1	Bromodifluoropropane	C3H5F2Br
HBFC-271 B1	Bromofluoropropane	C3H6FBr
HCFC-21 (*2)	Dichlorofluoromethane	CHFCl2
HCFC-22 (*2)	Chlorodifluoromethane	CHF2Cl
HCFC-31	Chlorofluoromethane	CH2FCl
HCFC-121	Tetrachlorofluoroethane	C2HFCl4
HCFC-122	Trichlorodifluoroethane	C2HF2Cl3
HCFC-123 (*2)	Dichlorotrifluoroethane	C2HF3Cl2
HCFC-124 (*2)	Chlorotetrafluoroethane	C2HF4Cl
HCFC-131	Trichlorofluoroethane	C2H2FCl3
HCFC-132	Dichlorodifluoroethane	C2H2F2Cl2
HCFC-133	Chlorotrifluoroethane	C2H2F3Cl
HCFC-141	Dichlorofluoroethane	C2H3FCl2
HCFC-141b (*2)	1,1-Dichloro-1-fluoroethane	CH3CFCl2
HCFC-142	Chlorodifluoroethane	C2H3F2Cl
HCFC-142b (*2)	1-Chloro-1,1-difluoroethane	CH3CF2Cl
HCFC-151	Chlorofluoroethane	C2H4FCl
HCFC-221	Hexachlorofluoropropane	C3HFCl6
HCFC-222	Pentachlorodifluoropropane	C3HF2Cl5
HCFC-223	Tetrachlorotrifluoropropane	C3HF3Cl4
HCFC-224	Trichlorotetrafluoropropane	C3HF4Cl3
HCFC-225	Dichloropentafluoropropane	C3HF5Cl2
HCFC-225ca (*2)	3,3-Dichloro-1,1,1,2,2-pentafluoropropane	CF3CF2CHCl2
HCFC-225cb (*2)	1,3-Dichloro-1,1,2,2,3-pentafluoropropane	CF2ClCF2CHClF
HCFC-226	Chlorohexafluoropropane	C3HF6Cl
HCFC-231	Pentachlorofluoropropane	C3H2FCl5
HCFC-232	Tetrachlorodifluoropropane	C3H2F2Cl4
HCFC-233	Trichlorotrifluoropropane	C3H2F3Cl3
HCFC-234	Dichlorotetrafluoropropane	C3H2F4Cl2
HCFC-235	Chloropentafluoropropane	C3H2F5Cl
HCFC-241	Tetrachlorofluoropropane	C3H3FCl4
HCFC-242	Trichlorodifluoropropane	C3H3F2Cl3
HCFC-243	Dichlorotrifluoropropane	C3H3F3Cl2

HCFC-244	Chlorotetrafluoropropane	C3H3F4Cl
HCFC-251	Trichlorofluoropropane	C3H4FCI3
HCFC-252	Dichlorodifluoropropane	C3H4F2Cl2
HCFC-253	Chlorotrifluoropropane	C3H4F3Cl
HCFC-261	Dichlorofluoropropane	C3H5FCI2
HCFC-262	Chlorodifluoropropane	C3H5F2Cl
HCFC-271	Chlorofluoropropane	C3H6FCI
BCM	Bromochloromethane	CH2BrCl

(\*1) This formula does not refer to 1,1,2-trichloroethane.

(\*2) Identifies the most commercially viable substance as prescribed in the Montreal Protocol.

**Table 1d. Polychlorinated Biphenyls (PCBs) and specific substitutes**

Substance Name	CAS No.
Polychlorinated Biphenyls (all isomers and congeners)	1336-36-3, etc.
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

**Table 1e. Fluorinated Greenhouse Gases (HFC, PFC and SF6)**

Substance Name		Chemical Formula	
Hydrofluorocarbons (HFCs)	HFC-23	trifluoromethane (fluoroform)	CHF3
	HFC-32	difluoromethane	CH2F2
	HFC-41	fluoromethane (methyl fluoride)	CH3F
	HFC-125	pentafluoroethane	CHF2CF3
	HFC-134	1,1,2,2-tetrafluoroethane	CHF2CHF2
	HFC-134a	1,1,1,2-tetrafluoroethane	CH2FCF3
	HFC-143	1,1,2-trifluoroethane	CH2FCHF2
	HFC-143a	1,1,1-trifluoroethane	CH3CF3
	HFC-152	1,2-difluoroethane	CH2FCH2F
	HFC-152a	1,1-difluoroethane	CH3CHF2
	HFC-161	fluoroethane (ethyl fluoride)	CH3CH2F
	HFC-227ea	1,1,1,2,3,3,3-heptafluoropropane	CF3CHFCF3
	HFC-236cb	1,1,1,2,2,3-hexafluoropropane	CH2FCF2CF3
	HFC-236ea	1,1,1,2,3,3-hexafluoropropane	CHF2CHFCF3
	HFC-236fa	1,1,1,3,3,3-hexafluoropropane	CF3CH2CF3
	HFC-245ca	1,1,2,2,3-pentafluoropropane	CH2FCF2CHF2
	HFC-245fa	1,1,1,3,3-pentafluoropropane	CHF2CH2CF3
	HFC-365 mfc	1,1,1,3,3-pentafluorobutane	CF3CH2CF2CH3
HFC-43-10 mee	1,1,1,2,2,3,4,5,5,5-decafluoropentane	CF3CHFCHFCF2CF3	
Perfluorocarbons (PFCs)	PFC-14	tetrafluoromethane (perfluoromethane, carbon tetrafluoride)	CF4
	PFC-116	hexafluoroethane (perfluoroethane)	C2F6
	PFC-218	octafluoropropane (perfluoropropane)	C3F8
	PFC-3-1-10 (R-31-10)	decafluorobutane (perfluorobutane)	C4F10
	PFC-4-1-12 (R-41-12)	dodecafluoropentane (perfluoropentane)	C5F12
	PFC-5-1-14 (R-51-14)	tetradecafluorohexane (perfluorohexane)	C6F14
	PFC-c-318	octafluorocyclobutane (perfluorocyclobutane)	c-C4F8
Other perfluorinated	sulphur hexafluoride	SF6	

compounds		
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**Table 1f. Polycyclic aromatic hydrocarbons (PAH)**

Substance Name	CAS No.
Benzo[a]pyrene (BaP)	50-32-8
Benzo[e]pyrene (BeP)	192-97-2
Benzo[a]anthracene (BaA)	56-55-3
Chrysen (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
Dibenzo[a,h]anthracene(DBAhA)	53-70-3

**Table 1g. Hexabromocyclododecane (HBCDD)**

Substance Name	CAS No.
Hexabromocyclododecane	25637-99-4
	4736-49-6
	65701-47-5
	138257-17-7
	138257-18-8
	138257-19-9
	169102-57-2
	678970-15-5
	678970-16-6
678970-17-7	
1,2,5,6,9,10-hexabromocyclododecane	3194-55-6
$\alpha$ -hexabromocyclododecane	134237-50-6
$\beta$ -hexabromocyclododecane	134237-51-7
$\gamma$ -hexabromocyclododecane	134237-52-8

**Table 1h. Banned Standard of CMRs**

No.	Substance Name	Banned Standards
1	Cadmium and its compounds	1ppm expressed as Cd metal
2	Chromium VI compounds	1ppm expressed as Cr VI
3	Arsenic compounds	1ppm expressed as As metal
4	Lead and its compounds	1ppm expressed as Pb metal
5	Benzene	5ppm
6	Benz[a]anthracene	1ppm
7	Benz[e]acephenanthrylene	
8	benzo[a]pyrene; benzo[def]chrysene	
9	Benzo[e]pyrene	
10	Benzo[j]fluoranthene	
11	Benzo[k]fluoranthene	

No.	Substance Name	Banned Standards
12	Chrysene	
13	Dibenz[a,h]anthracene	
14	$\alpha$ , $\alpha$ , $\alpha$ , 4-tetrachlorotoluene; p-chlorobenzotrichloride	
15	$\alpha$ , $\alpha$ , $\alpha$ -trichlorotoluene; benzotrichloride	
16	$\alpha$ -chlorotoluene; benzyl chloride	
17	Formaldehyde	75ppm
18	1,2-benzenedicarboxylic acid; di-C 6-8-branched alkylesters, C 7-rich	
19	Bis(2-methoxyethyl) phthalate	
20	Diisopentylphthalate	
21	Di-n-pentyl phthalate (DPP)	
22	Di-n-hexyl phthalate (DnHP)	
23	N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone (NMP)	
24	N,N-dimethylacetamide (DMAC)	
25	N,N-dimethylformamide; dimethyl formamide (DMF)	
26	1,4,5,8-tetraaminoanthraquinone; C.I. Disperse Blue 1	
27	Benzenamine, 4,4' -(4-iminocyclohexa-2,5-dienylidene)methylene)dianilinehydrochloride; C.I. Basic Red 9	
28	[4-[4,4' -bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride; C.I. Basic Violet 3 with $\geq 0,1$ % of Michler's ketone (EC no. 202-027-5)	
29	4-chloro-o-toluidinium chloride	
30	2-Naphthylammoniumacetate	
31	4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	
32	2,4,5-trimethylaniline hydrochloride	
33	Quinoline	

(\*1) Phthalates that are classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 in any of the hazard classes carcinogenicity, germ cell mutagenicity or reproductive toxicity, category 1A or 1B  
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008  
<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1550794756233&uri=CELEX:32008R1272>

**Table 2: "C. Specific Banned Substances in Japan"**

No	Substance Name	Banned Standards	Remarks
C002	Hexachlorobenzene	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	

No	Substance Name	Banned Standards	Remarks
C003	Aldrin	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C004	Dieldrin	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C005	Endrin	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C006	DDT (Chlorophenothane)	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C007	Chlordanes	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C008	N,N'-ditolyl-p-phenylenediamine, N-tolyl-N'-xylyl-p-phenylenediamine and N,N'-dixylyl-p-phenylenediamine	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C009	2,4,6-tri-tert-butylphenol	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C010	Toxaphene	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C011	Mirex	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C015	Pentachlorobenzene	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C016	$\alpha$ -Hexachlorocyclohexane	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C017	$\beta$ -Hexachlorocyclohexane	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C018	$\gamma$ -Hexachlorocyclohexane	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C019	Chlordecone	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C021	Endosulfan	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	