■ 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 must not exceed 100 ppm. (*1)	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 must not exceed 100 ppm. (*1)	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 must not exceed 100 ppm. (*1) <Other> <u>- In case of Children put in their mouth (*2)</u> 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 (*2), 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. <u>- In case of using PVC material</u> 1 and The lead content in the mass of the PVC material must be less than 1000ppm.	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 must not exceed 100 ppm. (*1)	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	Perfluorooctane sulfonic acid and its derivatives (PFOS) (*7)	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process. 3. The concentration or amount shall be - lower than 0.1% by weight in materials, - equal to or below 0.001% by weight in substance or mixture such as inks and toners, and - lower than 1g/m2 in the coated materials.	
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. Ban of attachment, mix, or production of the substances in the manufacturing process. 3. 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. Concentration in the article, or part thereof, must not exceed 1000 ppm.	
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	Dioctyltin 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).

No.	Substance Name	Banned Standards	Remarks
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
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.(*3)
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.(*) This does not apply to textiles used under the conditions specified in A036.
A025	Hexabromocyclododecane (HBCDD) Details: Table 1g.	< Articles> 1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process 3. Concentration in Material must not exceed 0.0075% even contained. < Chemicals > Concentration in chemicals must not exceed 0.0075% 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. <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.	
A027	Butyl benzyl phthalate (BBP)		
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-dimethlethyl)-;2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	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
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(*6) or a combination of PFOA-related compounds equal to or below 1000 ppb by weight.	Exempted Application: Table 1a
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. Concentration must equal to or below 5 ppm even contained in articles or mixtures. .	
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.(*8)
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.	This does not apply if for use in lubricants and greases (until 21st November 2039), derived from recycled plastic, or wire harness and circuit board.
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%.	
A043	Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances (*8)	1. Ban of Intentional Addition 2.Concentration in the article or the mixture is below 25 ppb for the sum of C9-C14 PFCAs and their salts or 260 ppb for the sum of C9-C14 PFCA-related substances.	This shall apply from 31 December 2030 to: semiconductors used in spare or replacement parts for finished electronic equipment shipped before 31 December 2023. Exempted Application :Table 1a
A044	Perfluorohexane sulfonic acid (PFHxS) including its salts and related substances	1. Ban of Intentional Addition 2.Concentration in the article or the mixture is below 25 ppb for the sum of PFHxS and its salts or 1000 ppb for the sum of PFHxS related substances.	~~In force from 1 October 2022.~~
A045	Mineral oil aromatic hydrocarbons (MOAH) comprising from 1 to 7 aromatic rings Hydrocarbons saturated with mineral oil (MOSH) containing 16 to 35 carbon atoms	<In the ink on packaging and printing> - For mineral oil aromatic hydrocarbons (MOAH) comprising from 1 to 2 aromatic rings and hydrocarbons saturated with mineral oil (MOSH) containing 16 to 35 carbon atoms, the mass concentration of these substances is less than or equal to 0.1%; - For mineral oil aromatic hydrocarbons (MOAH) comprising from 3 to 7 aromatic rings, the mass concentration of these substances less than or equal to 1 ppm.	
A046	4,4'-sulphonyldiphenol (Bisphenol S) CAS No. 80-09-1	＜Thermal paper＞ Concentration in the thermal paper must be less than 0.02 wt%	

No.	Substance Name	Banned Standards	Remarks
A047	Halogenated Flame Retardants	<Enclosure and stand of electronic displays> 1. Ban of Intentional Addition 2.Concentration in Material must not exceed 1000 ppm even contained as impurities.	This does not apply to the following (*9): (a) any electronic display with a screen area smaller than or equal to 100 square centimetres; (b) projectors; (c) all-in-one video conference systems; (d) medical displays; (e) virtual reality headsets; (f) displays integrated or to be integrated into products; (g) electronic displays that are components or sub-assemblies; (h) industrial displays . Ref. ZN231-006
A048	Methoxychlor	1. Ban of Intentional Addition 2. Concentration must equal to or below 10 ppb even contained in articles or mixtures	
A049	Dechlorane Plus (includes its syn-isomer and anti-isomer) CAS No 13560-89-9、135821-03-3、135821-74-8	1. Ban of Intentional Addition 2.Ban of attachment, mix, or production of the substances in the manufacturing process.	
A050	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol（UV-328）	1. Ban of Intentional Addition 2.Ban of attachment, mix, or production of the substances in the manufacturing process.	Exempted Application :Table 1a
A051	Undecafluorohexanoic acid (PFHxA), its salts and PFHxA-related substances (*10)	1. Ban of Intentional Addition In the mass of the material - must be less than 25 ppb for the sum of PFHxA and their salts. - must be less than 1000 ppb of total PFHxA-related substances.	In force from 10 October 2027, only Fiber and leather.
A052	Chlorpyrifos CAS No 2921-88-2	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	In force from 1 April 2026. (*12)
A053	Chlorinated paraffins with carbon chain lengths in the range C14–17 and chlorination levels at or exceeding 45 per cent chlorine by weight	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	In force from 1 April 2026. (*12)
A054	Long-chain perfluorocarboxylic acids, their salts and related compounds(*11)	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	In force from 1 April 2026. (*12) This applies other than Banned Standards of Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances (A043)

(*1) It means total content of cadmium, hexavalent chromium, lead, and mercury attributable to the substances contained.

(*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 outsides 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 CF3[CF2]n-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

(*7) 'Perfluorooctane sulfonic acid and its derivatives (PFOS)' means C8F17SO2X (X = OH, Metal salt (O-M+), halide, amide, and other derivatives including polymers)

(*8) C9-C14 PFCAs, their salts and C9-C14 PFCA-related substances means the following:
Linear and branched perfluorocarboxylic acids of the formula CnF2n+1-C(= O)OH where n = 8, 9, 10, 11, or 13 (C9-C14 PFCAs), including their salts, and any combinations thereof;
Any C9-C14 PFCA-related substance having a perfluoro group with the formula CnF2n +1- directly attached to another carbon atom, where n = 8, 9, 10, 11, 12, or 13, including their salts and any combinations thereof;
Any C9-C14 PFCA-related substance having a perfluoro group with the formula CnF2n +1- that it is not directly attached to another carbon atom, where n = 9, 10, 11, 12, 13 or 14 as one of the structural elements, including their salts and any combinations thereof.
The following substances are excluded from this designation

- CnF2n +1-X, where X = F, Cl, or Br,
- where n = 9, 10, 11, 12, 13 or 14, including any combinations thereof,
- CnF2n +1-C(= O)OX' where n> 13 and X'=any group, including salts.

(*9) Products not covered under (EU) 2019/2021 (laying down ecodesign requirements for electronic displays pursuant to Directive 2009/125/EC) and its amendments. Definitions are as follows:

- 'projector' means an optical device for processing analogue or digital video image information, in any format, to modulate a light source and project the resulting image onto an external surface;
- 'all-in-one video conference system' means a dedicated system designed for video conferencing and collaboration, integrated within a single enclosure, whose specification shall include all of the following features: (a) support for specific videoconference protocol ITU-T H.323 or IETF SIP as delivered by the manufacturer; (b) camera(s), display and processing capabilities for two-way real-time video including packet loss resilience; (c) loudspeaker and audio processing capabilities for two-way real-time hands-free audio including echo cancellation; (d) an encryption function; (e) HiNA;
- 'medical display' means an electronic display covered by the scope of:
(a) Council Directive 93/42/EEC concerning medical devices; or
(b)Regulation (EU) 2017/745 of the European Parliament and of the Council on medical devices; or
(c) Council Directive 90/385/EEC on the approximation of the laws of the Member States relating to active implantable medical devices; or
(d)Directive 98/79/EC of the European Parliament and of the Council (4) on in vitro diagnostic medical devices; or
(e)Regulation (EU) 2017/746 of the European Parliament and of the Council on in vitro diagnostic medical devices;
- 'Virtual reality headset' means a head-weareable device that provides immersive virtual reality for the wearer by displaying stereoscopic images for each eye with head motion tracking functions;
- 'integrated', referring to a display which is part of another product as a functional component, means an electronic display that is not able to be operated independently from the product and that depends on it for providing its functions, including power;
- 'industrial display' means an electronic display exclusively designed, tested and marketed for use in industrial environments for measuring, testing, monitoring or control. Its design must provide at least all the following: (a) operating temperatures between 0 °C and +50 °C; (b) operating humidity conditions between 20 % and 90 % non-condensing; (c) minimum level of ingress protection (IP 65) ensuring no ingress of dust and complete protection against contact (dust-tight) with no effect for water projected by a nozzle (6,3 mm) against the enclosure; (d) EMC immunity suitable for industrial environments.

(*10) Undecafluorohexanoic acid (PFHxA), its salts and PFHxA-related substances are any of the following:

- One of the structural elements has a linear or branched perfluoropentyl group of the molecular formula C5F11- directly attached to another carbon atom.
- having a linear or branched perfluorohexyl group of molecular formula C6F13-.

The following substances are not covered

- C6F14

- C6F13-C (=O) OH, C6F13-C (=O) O-X " or C6F13-CF2-X " (X '= any group containing salt)

(*11) Long-chain perfluorocarboxylic acids, their salts, refers to the cognate series of 9~21 carbon atoms of CnF2n+1CO2H (8 < n < 20).

Long-chain perfluorocarboxylic acids, related compounds refers to any substance having the molecular formula CnF2n+1 (8 < n < 20), which binds directly to any chemical moiety other than fluorine, chlorine or bromine atoms and is likely to be degraded or converted to LC-PFCA.

(*12) As the substances (groups) in this section are under review under the Stockholm Convention, the date of application is shown as expected. In the future, the date of application will be reviewed when the regulations in each country/region are clarified.

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: - circuit breakers, - thermal sensing controls, - thermal motor protectors (excluding hermetic thermal motor protectors), - AC switches rated at: - 6 A and more at 250 V AC and more, or - 12 A and more at 125 V AC and more, - DC switches rated at 20 A and more at 18 V DC and more, and - switches for use at voltage supply frequency ≥ 200 Hz.
		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). **L**ead 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: − a semiconductor technology node of 90 nm or larger; − a single die of 300 mm2 or larger in any semiconductor technology node; − stacked die packages with die of 300 mm2 or larger, or silicon interposers of 300 mm2 or larger.
A032	Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds	- Photographic coatings applied to films, until 4 July 2025 - Photolithography or etch processes in semiconductor manufacturing, until 4 July 2025

No	Substance Name	Exempted Application (The number in this column is the exemption number described in RoHS directive.)
A043	Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances	・ Photolithography or etch processes in semiconductor manufacturing (expires on 4 July 2025) Photographic coatings applied to films (expires on 4 July 2025)
A050	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol（UV-328）	・ Triacetyl cellulose film in polarisers, (expires on 26 February 2030) Spare parts for liquid crystal displays in instruments for analysis, measurements, control, monitoring, testing, production and inspection, manufactured before 26 February 2025. (expire on the end of their service life or 2044, whichever comes earlier)

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	CFCl3
CFC-12	Dichlorodifluoromethane	CF2Cl2
CFC-113	Trichlorotrifluoroethane	C2F3Cl3
CFC-114	Dichlorotetrafluoroethane	C2F4Cl2
CFC-115	Chloropentafluoroethane	C2F5Cl
CFC-13	Chlorotrifluoromethane	CF3Cl
CFC-111	Pentachlorofluoroethane	C2FCl5
CFC-112	Tetrachlorodifluoroethane	C2F2Cl4
CFC-211	Heptachlorofluoropropane	C3FCl7
CFC-212	Hexachlorodifluoropropane	C3F2Cl6
CFC-213	Pentachlorotrifluoropropane	C3F3Cl5
CFC-214	Tetrachlorotetrafluoropropane	C3F4Cl4
CFC-215	Trichloropentafluoropropane	C3F5Cl3
CFC-216	Dichlorohexafluoropropane	C3F6Cl2

CFC-217	Chloroheptafluoropropane	C3F7Cl
halon-1211	Bromochlorodifluoromethane	CF2BrCl
halon-1301	Bromotrifluoromethane	CF3Br
halon-2402	Dibromotetrafluoroethane	C2F4Br2
CTC	Tetrachloromethane (carbon tetrachloride)	CCl4
1,1,1-TCA	1,1,1-Trichloroethane (methylchloroform)	C2H3Cl3 (*1)
methyl bromide	Bromomethane	CH3Br
HBFC-21 B2	Dibromofluoromethane	CHFBr2
HBFC-22 B1	Bromodifluoromethane	CHF2Br
HBFC-31 B1	Bromofluoromethane	CH2FBr
HBFC-121 B4	Tetrabromofluoroethane	C2HFBr4
HBFC-122 B3	Tribromodifluoroethane	C2HF2Br3
HBFC-123 B2	Dibromotrifluoroethane	C2HF3Br2
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	C3H4FCl3
HCFC-252	Dichlorodifluoropropane	C3H4F2Cl2
HCFC-253	Chlorotrifluoropropane	C3H4F3Cl
HCFC-261	Dichlorofluoropropane	C3H5FCl2
HCFC-262	Chlorodifluoropropane	C3H5F2Cl
HCFC-271	Chlorofluoropropane	C3H6FCl
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	CF4

		tetrafluoride)	
	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 compounds		sulphur hexafluoride	SF6

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
rel-(1R, 2S, 5R, 6S, 9R, 10S) -1,2,5,6,9,10-Hexabromocyclododecane	4736-49-6
rel-(1R, 2S, 5R, 6S, 9S, 10R) -1,2,5,6,9,10-Hexabromocyclododecane	65701-47-5
(1R, 2R, 5R, 6S, 9S, 10S)-1,2,5,6,9,10-Hexabromocyclododecane	138257-17-7
(1R, 2R, 5R, 6S, 9R, 10S)-1,2,5,6,9,10-Hexabromocyclododecane	138257-18-8
(1R, 2S, 5S, 6R, 9S, 10S)-1,2,5,6,9,10-Hexabromocyclododecane	138257-19-9
(1R, 2R, 5S, 6R, 9R, 10S)-1,2,5,6,9,10-Hexabromocyclododecane	678970-15-5
(1R, 2S, 5R, 6S, 9S, 10S)-1,2,5,6,9,10-Hexabromocyclododecane	678970-16-6
(1R, 2R, 5R, 6S, 9S, 10R)-1,2,5,6,9,10-Hexabromocyclododecane	678970-17-7
1,2,4,5,8,9-Hexabromocyclododecane	673456-49-0
1,2,4,6,9,10-Hexabromocyclododecane	74398-41-7
(1R,2R,5R,6R,9R,10R)-1,2,5,6,9,10-Hexabromocyclododecane	878049-04-8
(1R,2R,5R,6R,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	878049-05-9
(1R,2R,5S,6R,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	878049-06-0
(1R,2R,5R,6S,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	878049-07-1
(1R,2R,5R,6R,9R,10S)-1,2,5,6,9,10-Hexabromocyclododecane	878049-08-2
1,2,3,4,5,6-Hexabromocyclododecane	1027045-74-4
1,3,5,7,9,11-Hexabromocyclododecane	1093632-34-8
1,1,2,2,3,3-Hexabromocyclododecane	1235106-66-7
(1S,2S,5S,6S,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	1380399-84-7
(1R,2R,5S,6S,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	1380399-85-8
(1R,2R,5S,6R,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	1380399-86-9

Substance Name	CAS No.
(1R,2S,5S,6S,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	1380399-87-0
rel-(1R,2R,5R,6R,9R,10S)-1,2,5,6,9,10-Hexabromocyclododecane	1392102-29-2
rel-(1R,2R,5R,6R,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	1392102-30-5
rel-(1R,2R,5R,6R,9R,10R)-1,2,5,6,9,10-Hexabromocyclododecane	1392102-31-6
(1R, 2S, 5S, 6S, 9S, 10R)-1,2,5,6,9,10-Hexabromocyclododecane	169102-57-2
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	
12	Chrysene	
13	Dibenz[a,h]anthracene	
14	α, α,α,4-tetrachlorotoluene; p-chlorobenzotrichloride	
15	α,α,α-trichlorotoluene; benzotrichloride	
16	α-chlorotoluene; benzyl chloride	
17	Formaldehyde	75ppm
18	1,2-benzenedicarboxylic acid; di-C 6-8-branched alkylesters, C 7-rich	1000ppm (individually or in combination with other phthalates of No. 18 - 22 in this table or in other phthalates (*1))
19	Bis(2-methoxyethyl) phthalate	
20	Diisopentylphthalate	
21	Di-n-pentyl phthalate (DPP)	
22	Di-n-hexyl phthalate (DnHP)	

No.	Substance Name	Banned Standards
23	N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone (NMP)	3000ppm
24	N,N-dimethylacetamide (DMAC)	
25	N,N-dimethylformamide; dimethyl formamide (DMF)	
26	1,4,5,8-tetraaminoanthraquinone; C.I. Disperse Blue 1	50ppm
27	Benzenamine, 4,4′-(4-iminocyclohexa-2,5-dienylidenemethylene)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 ≥ 0,1 % of Michler's ketone (EC no. 202-027-5)	
29	4-chloro-o-toluidinium chloride	30ppm
30	2-Naphthylammoniumacetate	
31	4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	
32	2,4,5-trimethylaniline hydrochloride	
33	Quinoline	50ppm

(*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.	
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.	

No	Substance Name	Banned Standards	Remarks
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	α−Hexachlorocyclohexane	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C017	β−Hexachlorocyclohexane	1. Ban of Intentional Addition 2. Ban of attachment, mix, or production of the substances in the manufacturing process.	
C018	γ−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.	