

TEAC green procurement guideline

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TEAC Corp. (teaceco@teac.co.jp)

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Revision History

Revision	Date	Revision Description
2.1	Nov/29/2004	Table 2 : Clarification of the description(adding horizontal rule, separating *1 from Note, and others)
2.2	Sep/20/2007	Table 2 : Substances to be prohibited : The revision of List of Exempted Items Table 3 : Di chloro methane from prohibited modification to reduced
2.3	Apr/30/2008	Table 1/ Table 2/ Table 3: Substance groups name change

1. Application

This guideline shall apply to all the parts and materials purchased from our business partners as constituents for the following products :

- (1) Products which TEAC or TEAC group companies (hereinafter called TEAC) designs, produces and sells
- (2) Products which the third party designs and produces under a commission from TEAC and then TEAC sells with the TEAC brand
- (3) Products which TEAC produces under a commission from the third party and the third party sells with its brand. However, note that parts and materials specified by the third party to be used shall not be applicable.

The packing material for delivering parts and materials shall not be applicable, however, those that reach TEAC product users such as a protection seal for the acrylic plate shall be regarded as a portion of the part rather than a packing material.

This guideline shall not be applicable to substances such as cleaning agents that are not contained in or attached to the TEAC product at the shipment even though those are used in the TEAC production process.

Also the parts and materials procured for repairing the products released before this guideline goes into effect shall not be applicable.

Example of parts:

Electronic parts, resin parts, metal parts, unit parts (motor, switching power supply, etc.), finished OEM products, packing materials (packing materials purchased by TEAC to pack the TEAC products)

Example of materials:

Solder, coating, adhesive agent, lubricant, tape, resin pallet

2. Purpose

The purpose of this guideline shall be to procure environmentally friendly parts and materials by defining the rank as follows regarding the environment-related substances contained in the parts and materials that constitute the TEAC product and controlling the environment-related substances contained in the TEAC product.

- * Substances to be prohibited
- * Substances to be reduced
- * Substances to be controlled

3. Definition of terms

- (1) Environment-related substances

Substances that fit either of the following shall be called "environment-related substances"

- * Substances that may do harm to human body directly or indirectly by being contained in the product
- * Substances that may pollute the environment through diffusion in nature by being contained in the product
- * Substances of which it is desirable to control the containing in the product and collect to recycle from the viewpoint of resource saving

(2) Inclusion

Inclusion means that a substance intentionally added as a constituent in order to obtain the performance of parts or materials remains in the parts or materials.

Impurities or reaction residua resulting from chemical synthesis are not covered in this investigation. However, as for substances whose allowable concentration is specified, these shall be also covered in this investigation.

Note that additives in silicon crystal of semiconductors shall not be covered in this investigation since its quantity is very small in spite of its intentional use.

4. Rank of environment-related substances

(1) Substances to be prohibited

The substances or substance groups described in Table 1-1 shall be the substances to be prohibited and shall be prohibited to be used for parts and materials. However, If exempted application(s) in the Table 2 is(are) applicable to the Deliverables, such containment will be exempted from the restriction of the ban.

Submission of measurement data for proving that "cadmium and cadmium compound" in some of resin parts may be requested. The measurement method shall be Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES), etc. that can prove that content of cadmium is 5ppm or less.

(2) Substances to be reduced

The substances or substance groups described in Table 1-2 shall be the substances to be reduced. When those are used in the parts or materials, the grasping and control of the content shall be required.

It is desirable that the quantity used is reduced as much as possible. In principle, it shall be prohibited that the substance to be controlled with a weight ratio of 0.1% or more to the total weight of the part is contained in the parts with a weight of 25g or more. When the part is composed of multiple parts, that part is disassembled to check if the weight of each part is 25g or more.

As for the parts being purchased before this guideline goes into effect, the continuance of the delivery shall be approved even if the substances to be reduced are used in the parts with a weight of 25g or more. However, the availability of alternative substances shall be checked. When TEAC admits that its use is technically inevitable after checking the existence of alternative substances, etc., the delivery of the part with a weight of 25g or more shall be approved even after this guideline goes into effect.

(3) Substances to be controlled

The substances or substance groups described in Table 1-3 shall be the substances to be controlled. When those are used in the parts or materials, the grasping and control of the content shall be required.

5. Indication of resin part substances

In principle, as for the resin part with a weight of 25g or more that is composed of a single material, the material name of the resin shall be indicated in order to facilitate type-by-type collection for recycling. The abbreviation of the substance indication shall be in accordance with the JIS Standard K6999 (ISO11469) "Identification and indication of plastic products". It is desirable that the resin part with a weight of less than 25g shall be indicated as much as possible.

6. About unit parts and OEM products

As for the unit part such as a switching power supply unit or a motor unit that is composed of multiple parts and materials, the content and using quantity shall be reported to TEAC regarding the unit part as a single part on the responsibility of the unit part manufacture after the unit part manufacturer performs investigation same level as that of this guideline on each part that constitutes the unit part and then obtains the content and substances of the entire unit part.

When the substances to be reduced are contained in the part that constitutes the unit part, the weight threshold of 25g shall be applied to the weight of the corresponding part instead of the total weight of the unit part.

7. About packing materials

This guideline is applied to the packing materials TEAC purchases for packing the product as a part. In addition to that, the allowed total concentration of lead, cadmium, mercury, and hexavalent chromium shall be less than 100ppm in order to conform to the EU Directive (94/62/EC).

This guideline shall not be applicable to the packing materials for the parts and materials that are supplied to TEAC as we respect the spontaneous commitment of each part supplier.

8. About request of contained substance investigation

Impurities or reaction residua resulting from chemical synthesis are not subject to restriction, however, if its residence is known in advance, it shall be included in the content investigation.

The content investigation of the environment related substances and materials shall be implemented on the business partner for the applicable parts. If the business partner is a trading company and it procures an applicable part from other companies to supply to TEAC, either of the following methods can be taken.

- a) The investigation same level as that of this guideline shall be implemented on the part manufacturer under the name of the business partner and the reply shall be provided to TEAC under the name of the business partner.
- b) The business partner shall inform the manufacturer of the applicable part of the investigation request from TEAC and obtain the response made by the part manufacturer under the name of part manufacturer to provide to TEAC.

However, since TEAC obtains assurance from the business partner directly when TEAC asks for the assurance of not containing substances to be prohibited, assurance shall be asked under the name of the business partner even if the business partner is a trading company.

In this case, the trading company shall ask for a part manufacturer the assurance of the same contents as the evidence and foundation of assurance for TEAC.

9. Amendment and abolishment

In this guideline, applicable substances shall be added or removed, the specified rank, threshold values of contained substance, etc. shall be changed according to the regulation trend based on the approval from management representative.

When this guideline is amended, additional investigation may be implemented also on the parts and substances for which investigation replies have been already obtained regarding the differences from the conventional guideline.

Table 1-1 List of Environment-related substance groups (Substances to be prohibited)

Rank	No.	JGPSSI No.	substance groups
Substances to be prohibited	1	C01	Asbestos
	2	A05	Cadmium / Cadmium Compounds *1
	3	A07	Hexavalent Chromium Compounds
	4	A09	Lead / Lead Compounds *1
	5	A10	Mercury / Mercury Compounds *1
	6	A17	Tributyl Tin Oxide (TBTO)
	7	A18	Tributyl Tin (TBT) and Triphenyl Tin (TPT)
	8	B02	Polybrominated Biphenyls (PBBs)
	9	B03	Polybrominated Diphenylethers (PBDEs)
	10	B05	Polychlorinated Biphenyls (PCBs) and Polychlorinated Terphenyl (PCTs)
	11	B06	Polychlorinated Naphthalenes (more than 3 chlorine atoms)
	12	B07	Vinyl Chloride Polymer (PVC)
	13	C02	Certain Azocolourants and Azodyes
	14	-	Specific amine
	15	-	Aromatic amines excluding the above specific amine
	16	-	Chlordanes
	17	-	Hexa chloro benzene
	18	-	DDT(Chloro phenothane)
	19	-	Organic chlorine chemicals
	20	-	Dioxins
	21	C04	Ozone Depleting Substances *2
	22	-	N-p-phenylenediamine
	23	B09	Short Chain Chlorinated Paraffins
	24	-	Other substances to be prohibited <9 substances>
	-	1) Do deca chloro octa hydro-1,3,4-metheno -2H-cyclo buta pentalene (Brand name:MIREX)	
	-	2) Form aldehyde (formalin)	
	-	3) Toxaphene	
	-	4) Halogenated Aromatic Substances (Prohibited from use in capacitors and transformers only)	
	-	5) Bis (chloro methyl) ether	
	-	6) Tetra methyl thiuram di sulfide (Thiuram)	
	-	7) 2,4,6- tri -t- butyl phenol	
	-	8) Yellow phosphorus	
	-	9) Di -u- oxo - di -n- butyl stannio hydroxy borane (DBB)	

*1 : Refer to Table 2 "List of Exempted Items" for details.

*2 : Refer to Table 4 "Table of ozone depleting substances" for details of ozone depleting substances.

Note : Typical substances are listed in Table 3 "List of example substances".

Table 1-2 List of Environment-related substance groups (Substances to be reduced)

Rank	No.	JGPSSI No.	substance groups
Substances to be reduced	25	A02	Arsenic / Arsenic Compounds
	26	A03	Beryllium / Beryllium Compounds
	27	A11	Nickel / Nickel Compounds (except for alloyed metal)
	28	A13	Selenium / Selenium Compounds
	29	-	Inorganic cyanides
	30	-	Organo cyanides
	31	-	Hydro fluoro carbon (HFCs)
	32	-	Per fluoro carbon (PFCs)
	33	B08	Brominated Flame Retardants (except for PBBs and PBDEs)
	34	C06	Radioactive Substances
	35	-	Other substances to be reduced <2 substances>
		-	1) Di chloro methane
	-	2) Creosote	

Note : Typical substances are listed in Table 3 “List of example substances”.

Table 1-3 List of Environment-related substance groups (Substances to be controlled)

Rank	No.	JGPSSI No.	substance groups
Substances to be controlled	36	A01	Antimony / Antimony Compounds
	37	-	Barium / Barium compounds
	38	A04	Bismuth / Bismuth Compounds
	39	-	Boron / Boron compounds
	40	-	Metallic chromium / Trivalent chromium compounds
	41	-	Cobalt / Cobalt compounds
	42	D01	Copper / Copper Compounds
	43	-	Fluorine / Fluorine compounds
	44	-	Indium / Indium compounds
	45	-	Manganese / Manganese compounds
	46	-	Molybdenium / Molybdenium compounds
	47	-	Inorganic phosphorus compounds
	48	-	Organic phosphorus compounds
	49	D04	Silver / Silver Compounds
	50	-	Tellurium / Tellurium compounds
	51	-	Thallium / Thallium compounds
	52	-	Vanadium / Vanadium compounds
	53	-	Zinc compounds excluding metallic zinc
	54	-	Metallic carbonyls
	55	C15	Phthalates
	56	-	Xylenes
	57	-	Azo compounds excluding the item No.13 of " Substances to be prohibited "
	58	-	Aromatic hydrocarbons
	59	-	Organic esters
	60	-	Chloro phenols
	61	-	N- nitrosamines
	62	A16	Magnesium
	63	D03	Palladium / Palladium Compounds
	64	D02	Gold / Gold Compounds
	65	-	All flame retardants exclude halogenated substances
	66	-	Polycyclic aromatic hydrocarbons
	67	-	Other substances to be controlled <3 substances>
		-	1) Trixylylphosphate
	-	2) Tris (2- chloro ethyl) phosphate	
	-	3) Tris (2- ethyl hexyl) phosphate	

Note : Typical substances are listed in Table 3 "List of example substances".

Table 2 List of Exempted Items

Substances to be prohibited shall be disused as a rule except for usages described below.

Substance group	Exempted Items
Cadmium/ Cadmium Compounds	1) Cadmium and its compounds in electrical contacts and cadmium plating except for applications banned under Directive 91/338/EEC amending Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations. 2) Cadmium in optical and filter glass. 3) Cadmium in printing inks for the application of enamels on borosilicate glass.
Lead / Lead compounds	1) Lead in glass of cathode ray tubes, electronic components and fluorescent tubes. 2) Lead as an alloying element in steel containing up to 0,35 % lead by weight, aluminium containing up to 0,4 % lead by weight and as a copper alloy containing up to 4 % lead by weight. 3) Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead). 4) Lead in electronic ceramic parts (e.g. piezoelectronic devices). 5) Lead in lead-bronze bearing shells and bushes. 6) Lead used in compliant pin connector systems. 7) Lead as a coating material for the thermal conduction module c-ring. 8) Lead and cadmium in optical and filter glass. 9) Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80 % and less than 85 % by weight. 10) Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip. 11) Lead in linear incandescent lamps with silicate coated tubes. 12) Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications. 13) Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5:Pb) as well as when used as speciality lamps for diazo-printing reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba)2MgSi2O7:Pb). 14) Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact Energy Saving Lamps (ESL). 15) Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCD). 16) Lead in printing inks for the application of enamels on borosilicate glass. 17) Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used for fibre optic communications systems. 18) Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with NiFe lead frames and lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with copper lead frames. 19) Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors. 20) Lead oxide in plasma display panels (PDP) and surface conduction electron emitter displays (SED) used in structural elements: notably in the front and rear glass dielectric layer, the bus electrode, the black stripe, the address electrode, the barrier ribs, the seal frit and frit ring as well as in print pastes. 21) Lead oxide in the glass envelope of Black Light Blue (BLB) lamps. 22) Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers. 23) Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC.
Mercury / Mercury compounds	(1) Mercury in compact fluorescent lamps not exceeding 5 mg per lamp.

A mass ratio in a homogeneous substance” shall be used when the allowable concentration is specified. “A mass ratio in a homogeneous substance” means that, for example, when cadmium is contained in printing ink on a corrugated cardboard box, the ratio of cadmium to ink will be calculated instead of calculating the ratio of cadmium to the gross mass of the corrugated cardboard box.

Table 3 List of example substances (1/10)

No	Rank	substance groups	substance	CAS No.	JGPSSI No. (-A/B:level)
1	Prohibited	Asbestos		1332-21-4	C01-A
			Actinolite	77536-66-4	C01001
			Amosite	12172-73-5	C01002
			Anthophyllite	77536-67-5	C01003
			Crocidolite	12001-28-4	C01005
			Tremolite	77536-68-6	C01006
			Chrysotile	12001-29-5	C01004
			Other asbesto		C01997-9
2	Prohibited	Cadmium / Cadmium compounds			A05-A
			Cadmium	7440-43-9	A05001
			Cadmium oxide	1306-19-0	A05002
			Cadmium sulfide	1306-23-6	A05003
			Cadmium chloride	10108-64-2	A05004
			Cadmium sulfate	10124-36-4	A05005
			Cadmium stearate	2223-93-0	
			Cadmium carbonate	513-78-0	
			Cadmium hydroxide	21041-95-2	
			Cadmium telluride	1306-25-8	
			Cadmium selenide	1306-24-7	
			Cadmium selenide sulfide	12214-12-9	
Other cadmium compounds		A05990-9			
3	Prohibited	Hexavalent Chromium Compounds			A07-A
			Sodium dichromate	10588-01-9	A07001
			Chromium(VI) oxide	1333-82-0	A07002
			Calcium chromate	13765-19-0	A07003
			Lead(II) chromate	7758-97-6	A07004
			Potassium dichromate	7778-50-9	A07005
			Potassium chromate	7789-00-6	A07006
			Sodium chromate	7775-11-3	
			Strontium chromate (1:1)	7789-06-2	
			Barium chromate	10294-40-3	
			Zinc chromate	13530-65-9	
			Copper chromite	12053-18-8	
			Basic lead chromate	1344-38-3	
			Other hexavalent chromium compounds		A07990-9
4	Prohibited	Lead / Lead compounds			A09-A
			Lead	7439-92-1	A09001
			Lead(II) carbonate	598-63-0	A09002
			Lead(IV) oxide	1309-60-0	A09003
			Lead(II,IV) oxide	1314-41-6	A09004
			Lead(II) sulfide	1314-87-0	A09005
			Lead(II) oxide	1317-36-8	A09006
			Lead(II) carbonate basic	1319-46-6	A09007
			Lead hydroxidcarbonate	1344-36-1	A09008
			Lead(II) sulfate	7446-14-2	A09009
			Lead(II) phosphate	7446-27-7	A09010
			Lead(II) chromate	7758-97-6	A09011
			Lead(II) titanate	12060-00-3	A09012
			Lead sulfate,sulphuric acid, lead salt	15739-80-7	A09013
			Lead stearate,dibasic	56189-09-4	A09016
			Lead stearate	1072-35-1	A09015
			Lead hydroxide	1311-11-1	
			Lead(II) zirconate	1206-01-4	
			Lead (II) nitrate	10099-74-8	
			Lead sulphate,tribasic	12202-17-4	A09014
			Lead (II) acetate tri hydrate	6080-56-4	
Lead acetate	301-04-2				
Other lead compounds		A09990-9			

Table 3 List of example substances (2/10)

No	Rank	substance groups	substance	CAS No.	JGPSSI No. (-A/B:level)			
5	Prohibited	Mercury / Mercury compounds			A10-A			
			Mercury	7439-97-6	A10001			
			Mercury(II) chloride	7487-94-7	A10002			
			Mercury (I) oxide black	15829-53-5				
			Mercury(II) oxide	21908-53-2	A10003			
			Mercury chloride	10112-91-1				
			Mercuric nitrate	10045-94-0				
			Mercury sulfate	7783-35-9				
			Di methyl mercury	593-74-8				
		Other mercury compounds			A10990-9			
6	Prohibited	Tributyl Tin Oxide (TBTO)			A17-A			
			Bis(tri-n-butyltin) oxide	56-35-9	A17001			
7	Prohibited	Tributyl Tins (TBT) and Triphenyl Tins (TPT)			A18-A			
			Tributyltin acetate	56-36-0	A18012			
			Tributyltin methacrylate	2155-70-6	A18008			
			Bis(tributyltin) fumarate	6454-35-9	A18009			
			Bis(tributyltin) 2,3-dibromosuccinate	31732-71-5	A18011			
			Tributyltin laurate	3090-36-6	A18013			
			Bis(tributyltin) phthalate	4782-29-0	A18014			
			Tributyltin chloride	1461-22-9	A18018			
			Tributyltin fluoride	1983-10-4	A18010			
			Tributyltin sulfamate	6517-25-5	A18016			
			Bis(tributyltin) maleate	14275-57-1	A18017			
			Triphenyltin hydroxide	76-87-9	A18005			
			Triphenyltin acetate	900-95-8	A18003			
			Triphenyltin chloride	639-58-7	A18004			
			Triphenyltin N,N'-dimethyldithiocarbamate	1803-12-9	A18001			
			Triphenyltin fluoride	379-52-2	A18002			
			Triphenyltin chloroacetate	7094-94-2	A18007			
			Triphenyltin fatty acid salts (C=9-11)	47672-31-1	A18006			
					Mixture of tributyltin cyclopentanecarboxylate and its analogs (Tributyltin naphthenate)			A18019
					Mixture of tributyltin 1,2,3,4,4a,4b,5,6,10,10a-decahydro-7-isopropyl-1,4a-dimethyl-1-phenanthrenecarboxylate and its analogs (Tributyltin rosin salt)			A18020
		Copolymer of alkyl acrylate, methyl methacrylate and tributyltin methacrylate(alkyl; C=8)			A18015			
		Other Tributyl Tin & Triphenyl Tin			A18997-9			
8	Prohibited	Polybrominated Biphenyls (PBBs)			B02-A			
			polybrominated biphenyl		B02001			
			Other polybrominated biphenyl		B02990-9			

Table 3 List of example substances (3/10)

No	Rank	substance groups	substance	CAS No.	JGPSSI No. (-A/B-level)
9	Prohibited	Polybrominated Diphenyl ethers (PBDEs)	4- bromo phenyl phenyl ether	101-55-3	
			Tri bromo di phenyl ether	49690-94-0	
			Tetra bromo di phenyl ether	40088-47-9	
			Penta bromo di phenyl ether	32534-81-9	
			Hexa bromo di phenyl ether	36483-60-0	
			Octa bromo di phenyl ether	32536-52-0	
			Nona bromo di phenyl ether	63936-56-1	
			Deca bromo di phenyl ether	1163-19-5	
			Hepta bromo di phenyl ether	68928-80-3	
			Other polybrominated diphenyl ether		B03990-9
10	Prohibited	Polychlorinated Biphenyls (PCBs) and Polychlorinated Terphenyl (PCTs)	Polychlorinated biphenyls	1336-36-3	B05001
			Polychlorinated terphenyls	61788-33-8	B05002
			Terphenyls	26140-60-3	
			Other PCB/PCT		B05997-9
11	Prohibited	Polychlorinated Naphthalenes (more than 3 chlorine atoms)	Polychlorinated Naphthalenes(C1>=3)	70776-03-3	B06001
			Other polychlorinated Naphthalene(C1>=3)		B06997-9
					B06-A
12	Prohibited	Vinyl Chloride Polymer (PVC)	Poly vinyl chloride (PVC)	9002-86-2	B07001
					B07-B
13	Prohibited	Certain Azocolourants and Azodyes *3	Azo colorants forming certain amines		C02001
					C02-A
14	Prohibited	Specific amine	o -Anisidine	90-04-0	
			2- Naphthyl amine	91-59-8	
			3,3'- Di chloro benzidine	91-94-1	
			4- Amino biphenyl	92-67-1	
			Benzidine	92-87-5	
			o- Tolidine	95-53-4	
			4- Chloro -2- methyl aniline	95-69-2	
			2,4- Toluene di amine	95-80-7	
			o- Amino azo toluene	97-56-3	
			5-nitro- o-tolidine	99-55-8	
			3,3'- Di chloro -4,4'- di amino - di phenyl methane	101-14-4	
			4,4'- Methylene di aniline	101-77-9	
			4,4'- Di amino di phenyl ether	101-80-4	
			p- Chloro aniline	106-47-8	
			Dianisidine	119-90-4	
			3,3'- Di methyl benzidine	119-93-7	
			2- Methoxy -5- methyl aniline	120-71-8	
			2,4,5- Tri methyl aniline	137-17-7	
			4,4'- Di amino di phenyl sulfide	139-65-1	
			2,4- Di amino anisole	615-05-4	
4,4'- Di amino -3,3'- Di methyle di phenyl methane	838-88-0				
4- Amino azo benzene	60-09-3				
15	Prohibited	Aromatic amines excluding the above specific amine	4- Nitro diphenyl	92-93-3	
			Salt of 2- naphthyl amine		
			Salt of 4- amino biphenyl		
			Salt of benzidine		

Table 3 List of example substances (4/10)

No	Rank	substance groups	substance	CAS No.	JGPSSI No. (A/B-level)
16	Prohibited	Chlordanes	Chlordane	57-74-9	
			Other Chlordane		
17	Prohibited	Hexa chloro benzene	Hexa chloro benzene	118-74-1	
18	Prohibited	DDT (Chloro phenothane)	DDT (Chloro phenothane)	50-29-3	
19	Prohibited	Organic chlorine chemicals	Simazine	122-34-9	
			Benthiocarb	28249-77-6	
			Aldrin	309-00-2	
			Bis(2- chloro ethyl) sulfide	505-60-2	
			Dieldrin	60-57-1	
			Endrin	72-20-8	
			o,p'-DDT	789-02-6	
			Benzene	71-43-2	
20	Prohibited	Dioxins	Polychlorinated dibenzo furans		
			Polychlorinated dibenzo paradioxins		
			Coplanar polychlorinated biphenyls		
21	Prohibited	Ozone Depleting Substances *1			C04-A
			CFCs (Annex A Group I substances in the Montreal Protocol)		C04097
			CFCs (Annex B Group I substances in the Montreal Protocol)		C04099
			1,1,1-trichloroethane (Annex B Group III substance in the Montreal Protocol)	71-55-6	C04101
			Carbon tetrachloride(Annex B Group II substance in the Montreal Protocol)	56-23-5	C04100
			Halons (Annex A Group II substances in the Montreal Protocol)		C04098
			HBFCs (Annex C Group II substances in the Montreal Protocol)		C04104
			HCFCs (Annex C Group I substances in the Montreal Protocol)		C04105
			Methyl bromide (Annex E substance in the Montreal Protocol)	74-83-9	C04103
			Bromochloromethane (Annex C Group III substance in the Montreal Protocol)		C04102
22	Prohibited	N-p-phenylenediamine	N,N'-ditolyl-p-phenylenediamine	27417-40-9	
			N-tolyl-N'-xylyl-p-phenylenediamine	28726-30-9	
			N,N'-dixylyl-p-phenylenediamine	70290-05-0	
23	Prohibited	Short Chain Chlorinated Paraffins			B09-A
			Chlorinated paraffine (C10-13)	85535-84-8	B09001
			Chlorinated paraffines	63449-39-8	
			Chlorinated paraffines (C12,60% chlorine)	108171-26-2	
			Chlorinated paraffines (C23,60% chlorine)	108171-27-3	
			Chloro alkanes	61788-76-9	
			Chlorinated paraffines	8029-39-8	
			Other Short Chain Chlorinated Paraffin		B09997-9

Table 3 List of example substances (5/10)

No	Rank	substance groups	substance	CAS No.	JGPSSI No. (-A/B-level)
24	Prohibited	Other substances to be prohibited			
			Do deca chloro octa hydro-1,3,4-metheno-2H-cyclo buta pentalene (Brand name:MIREX)	2385-85-5	
			Form aldehyde (formalin)	50-00-0	
			Toxaphene	8001-35-2	
			Bis (chloro methyl) ether	542-88-1	
			Halogenated Aromatic Substances (Prohibited from use in capacitors and transformers only)		
			Tetra methyl thiuram di sulfide(Thiuram)	137-26-8	
			2,4,6- tri -t- butyl phenol	732-26-3	
			Yellow phosphorus	7723-14-0	
Di -u- oxo - di -n- butyl stannio hydroxy borane (DBB)	75113-37-0				
25	Reduced	Arsenic / Arsenic compounds			A02-B
			Arsenic	7440-38-2	A02001
			Gallium arsenide	1303-00-0	A02002
			Arsenic pentoxide	1303-28-2	A02003
			Arsenic trioxide	1327-53-3	A02004
			Other arsenic compounds		A02997-9
26	Reduced	Beryllium / Beryllium compounds			A03-B
			Beryllium	7440-41-7	A03001
			Beryllium oxide	1304-56-9	A03002
			Other beryllium compounds		A03997-9
27	Reduced	Nickel / Nickel compounds *2			A11-B
			Nickel	7440-02-0	A11004
			Nickel(II) oxide	1313-99-1	A11001
			Nickel(II) carbonate	3333-67-3	A11002
			Nickel(II) Sulfate	7786-81-4	A11003
			Nickel chloride	7718-54-9	
			Other nickel compounds		A11997-9
28	Reduced	Selenium / Selenium compounds			A13-B
			Selenium	7782-49-2	A13001
			Selenous acid	7783-00-8	A13002
			Selenium di oxide	7446-08-4	
			Other selenium compounds		A13997-9
29	Reduced	Inorganic cyanides			
			Sodium cyanide	143-33-9	
			Hydrogen cyanide	74-90-8	
			Other inorganic cyanide		
30	Reduced	Organo cyanides			
			Acrylo nitrile	107-13-1	
			Ethylene cyanohydrin	109-78-4	
			Cyanazine	21725-46-2	
			Benzyl cyanide	140-29-4	
			Phenyl cyanide	100-47-0	
			2,6- Di chloro benzo nitrile	1194-65-6	
			Other organo cyanide		

Table 3 List of example substances (6/10)

No	Rank	substance groups	substance	CAS No.	JGPSSI No. (-A/B:level)
31	Reduced	Hydro fluoro carbon (HFCs)			
			HFC-32 Di fluoro methane	75-10-5	
			HFC-23 Tri fluoro methane	75-46-7	
			HFC-143a 1,1,1- Tri fluoro ethane	420-46-2	
			HFC-152a 1,1- Di fluoro ethane	75-37-6	
			HFC-143 1,1,2- Tri fluoro ethane	430-66-0	
			HFC-134a 1,1,1,2- Tetra fluoro ethane	811-97-2	
			HFC-125 1,1,1,2,2- Penta fluoro ethane	354-33-6	
			HFC-245ca 1,1,2,2,3- Penta fluoro propane	679-86-7	
			HFC-245fa 1,1,1,3,3- Penta fluoro propane	460-73-1	
			HFC-227ea 1,1,1,2,3,3,3- Hepta fluoro propane	431-89-0	
			HFC-236fa 1,1,1,3,3,3- Hexa fluoro propane	690-39-1	
			HFC-356 1,1,1,4,4,4- Hexa fluoro butane	407-59-0	
			1,1,1,2,2,3,4,5,5,5-Deca fluoro pentane	138495-42-8	
			Methyl fluoride	593-53-3	
Other HFCs					
32	Reduced	Per fluoro carbon (PFCs)			
			PFC-14 Tetra fluoro methane	75-73-0	
			PFC-116 Hexa fluoro ethane	76-16-4	
			PFC-218 Octa fluoro propane	76-19-7	
			PFC-31-10 Deca fluoro butane	355-25-9	
			PFC-41-12 Dodeca fluoro pentane	678-26-2	
			PFC-51-14 Tetra deca fluoro hexane	355-42-0	
			PFC-61-16 Hexa deca fluoro heptane	335-57-9	
			PFC-71-18 Octa deca fluoro octane	307-34-6	
			PFC-C318 Octa fluoro cycro butane	115-25-3	
			Tetra fluoro ethylene	116-14-3	
			Per fluoro iso butylene	382-21-8	
Other PFCs					
33	Reduced	Brominated Flame Retardants (except for PBBs and PBDEs)			B08-B
			Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(14) [Aliphatic/alicyclic brominated compounds]		B08001
			Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(15) [Aliphatic/alicyclic brominated compounds in combination with antimony compounds]		B08002
			Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(16) [Aromatic brominated compounds (excluding brominated diphenyl ether and biphenyls)]		B08003
			Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(17) [Aromatic brominated compounds (excluding brominated diphenyl ether and biphenyls) in combination with antimony compounds]		B08004
			Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(22) [Aliphatic/alicyclic chlorinated and brominated compounds]		B08005
			Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(42) [Brominated organic phosphorus compounds]		B08006
			Poly(2,6-dibromo-phenylene oxide)	69882-11-7	B08007
			Tetra-decabromo-diphenoxy-benzene	58965-66-5	B08008
			1,2-Bis(2,4,6-tribromo-phenoxy) ethane	37853-59-1	B08009

Table 3 List of example substances (7/10)

No	Rank	substance groups	substance	CAS No.	JGPSSI No. (-A/B:level)
			TBBA, unspecified	30496-13-0	B08011
			TBBA-epichlorhydrin oligomer	40039-93-8	B08012
			TBBA-TBBA-diglycidyl-ether oligomer	70682-74-5	B08013
			TBBA carbonate oligomer	28906-13-0	B08014
			TBBA carbonate oligomer, phenoxy end capped	94334-64-2	B08015
			TBBA carbonate oligomer, 2,4,6-tribromo-phenol terminated	71342-77-3	B08016
			TBBA-bisphenol A-phosgene polymer	32844-27-2	B08017
			Brominated epoxy resin end-capped with tribromophenol	139638-58-7	B08018
			Brominated epoxy resin end-capped with tribromophenol	135229-48-0	B08019
			TBBA bis-(2-hydroxy-ethyl-ether)	4162-45-2	B08021
			TBBA-bis-(allyl-ether)	25327-89-3	B08022
			TBBA-dimethyl-ether	37853-61-5	B08023
			Tetrabromo-bisphenol S	39635-79-5	B08024
			TBBS-bis-(2,3-dibromo-propyl-ether)	42757-55-1	B08025
			2,4-Dibromo-phenol	615-58-7	B08026
			2,4,6-tribromo-phenol	118-79-6	B08027
			Pentabromo-phenol	608-71-9	B08028
			2,4,6-Tribromo-phenyl-alltl-ether	3278-89-5	B08029
			Tribromo-phenyl-allyl-ether, unspecified	26762-91-4	B08030
			Hexabromo-cyclo-dodecane (HBCD), unspecified	3194-55-6	B08031
			Tetrabromo-chyclo-octane	31454-48-5	B08032
			1,2-Dibromo-4-(1,2 dibromo-methyl)-cyclo-hexane	3322-93-8	B08033
			TBPA Na salt	25357-79-3	B08034
			Tetrabromo phthalic anhydride	632-79-1	B08035
			Bis(methyl)tetrabromo-phtalate	55481-60-2	B08036
			Bis(2-ethylhexyl)tetrabromo-phtalate	26040-51-7	B08037
			2-Hydroxy-propyl-2-(2-hydroxy-ethoxy)-ethyl-T BP	20566-35-2	B08038
			TBPA, glycol and propylene-oxide esters	75790-69-1	B08039
			N,N'-Ethylene -bis-(tetrabromo-phthalimide)	32588-76-4	B08040
			Ethylene-bis85,6-dibromo-norbornane-2,3-dica rboximide)	52907-07-0	B08041
			2,3-Dibromo-2-butene-1,4-diol	3234-02-4	B08042
			Dibromo-neopentyl-glycol	3296-90-0	B08043
			Dibromo-propanol	96-13-9	B08044
			Tribromo-neopentyl-alcohol	36483-57-5	B08045
			Poly tribromo-styrene	57137-10-7	B08046
			Tribromo-styrene	61368-34-1	B08047
			Dibromo-styrene grafted PP	171091-06-8	B08048
			Poly-dibromo-styrene	31780-26-4	B08049
			Bromo-/Chloro-paraffins	68955-41-9	B08050
			Bromo-/Chloro-alpha-olefin	82600-56-4	B08051
			Vinylbromide	593-60-2	B08052
			Tris-(2,3-dibromo-propyl)-isocyanurate	52434-90-9	B08053
			Tris(2,4-Dibromo-phenyl) phosphate	49690-63-3	B08054
			Tris(tribromo-neopentyl) phosphate	19186-97-1	B08055
			Chlorinated and brominated phosphate ester	125997-20-8	B08056
			Pentabromo-toluene	87-83-2	B08057
			Pentabromo-benzyl bromide	38521-51-6	B08058

Table 3 List of example substances (8/10)

No	Rank	substance groups	substance	CAS No.	JGPSSI No. (-A/B:level)
			1,3-Butadiene homopolymer,brominated	68441-46-3	B08059
			Pentabromo-benzyl-acrylate, monomer	59447-55-1	B08060
			Pentabromo-benzyl-acrylate, polymer	59447-57-3	B08061
			Decabromo-diphenyl-ethane	61262-53-1	B08062
			Tribromo-bisphenyl-maleinimide	59789-51-4	B08063
			Brominated trimethylphenyl-lindane	59789-51-4	B08064
			Ethane-1,2-bis(pentabromophenyl)	84852-53-9	
			Other Brominated Flame Retardant		B08997-9
			1,1,2,2,- Tetra bromo ethane	79-27-6	
			3,5,3',5'-Tetrabromo-bisphenol A (TBBA)	79-94-7	B08010
			Hexa bromo benzene	87-82-1	
			Poly tetra fluoro ethylene	9002-84-0	
			TBBA-(2,3-dibromo-propyl-ether)	21850-44-2	B08020
34	Reduced	Radioactive Substances			C06-A
			Uranium		C06001
			Plutonium		C06002
			Radon		C06003
			Americium		C06004
			Thorium		C06005
			Cesium	7440-46-2	C06006
			Strontium	7440-24-6	C06007
			Other radioactive substance		C06997-9
35	Reduced	Other substances to be reduced	Di chloro methane	75-09-2	
			Creosote	8001-58-9	
36	Controlled	Antimony / Antimony compounds			A01-B
			Antimony	7440-36-0	A01001
			Antimony trichloride	10025-91-9	A01002
			Antimony trioxide	1309-64-4	A01003
			Antimony pentoxide	1314-60-9	A01004
			Sodium antimonate	15432-85-6	A01005
			Other antimony compounds		A01997-9
37	Controlled	Barium / Barium compounds			
			Barium	7440-39-3	
			Other Barium compounds		
38	Controlled	Bismuth / Bismuth compounds			A04-B
			Bismuth	7440-69-9	A04001
			Bismuth trioxide	1304-76-3	A04002
			Bismuth nitrate	10361-44-1	A04003
			Other bismuth compounds		A04997-9
39	Controlled	Boron / Boron compounds			
			Boron	7440-42-8	
			Other Boron compounds		
40	Controlled	Metallic chromium / Trivalent chromium compounds			
			Chromium	7440-47-3	
			Chromium oxide	1308-38-9	
			Basic chromic sulfate	64093-79-4	
			Other trivalent chromium compounds		
41	Controlled	Cobalt / Cobalt compounds			
			Cobalt	7440-48-4	
			Cobalt monoxide	1307-96-6	
			Cobalt tetra oxide	1308-06-1	
			Other cobalt compounds		
42	Controlled	Copper / Copper compounds			D01-B
			Copper	7440-50-8	D01001
			Other copper compounds		D01997-9

Table 3 List of example substances (9/10)

No	Rank	substance groups	substance	CAS No.	JGPSSI No. (-A/B:level)
43	Controlled	Fluorine / Fluorine compounds	Sulfur hexa fluoride (SF6)	2551-62-4	
			Other fluorine compounds		
44	Controlled	Indium / Indium compounds	Indium	7440-74-6	
			Other indium compounds		
45	Controlled	Manganese / Manganese compounds	Manganese	7439-96-5	
			Other manganese compounds		
46	Controlled	Molybdenum / Molybdenum compounds	Molybdenum	7439-98-7	
			Other molybdenum compounds		
47	Controlled	Inorganic phosphorus compounds	Phosphorus oxychloride	10025-87-3	
			Phosphorus pentachloride	10026-13-8	
			Phosphorus Pentasulfide	1314-80-3	
			Phosphorus sesquisulfide	1314-85-8	
			phosphoric acid	7664-38-2	
			Phosphorus trichloride	7719-12-2	
			Other inorganic phosphorus compounds		
48	Controlled	Organic phosphorus compounds	Tri butyl phosphate	126-73-8	
			Other organic phosphorus compounds		
49	Controlled	Silver / Silver compounds	Silver	7440-22-4	D04-B D04001
			Other Silver compounds		D04997-9
50	Controlled	Tellurium / Tellurium compounds	Tellurium	13494-80-9	
			Other tellurium compounds		
51	Controlled	Thallium / Thallium compounds	Thallium	7440-28-0	
			Thallium (I) oxide	1314-12-1	
			Thallos sulfate	7446-18-6	
			Thallium nitrate	10102-45-1	
			Other thallium compounds		
52	Controlled	Vanadium / Vanadium compounds	Vanadium	7440-62-2	
			Other vanadium compounds		
53	Controlled	Zinc compounds excluding metallic zinc	Propineb	12071-83-9	
			Other zinc compounds		
54	Controlled	Metallic carbonyls	Iron carbonyl	13463-40-6	
			Nickel carbonyl	13463-39-3	
			Other metallic carbonyls		
55	Controlled	Phthalates	Dibutylphthalate	84-74-2	C05-B C05001
			Di(2-ethylhexyl)phthalate	117-81-7	C05002
			Butyl benzyl phthalate	85-68-7	C05005
			Diisononyl phthalate	28553-12-0	C05003
			Di octyl phthalate	117-84-0	
			1,2-Benzenedicarboxylic acid diisodecyl ester	26761-40-0	C05004
			Other phtalate		C05997-9
56	Controlled	Xylenes	Xylene	1330-20-7	
			Other xylenes		

Table 3 List of example substances (10/10)

No	Rank	substance groups	substance	CAS No.	JGPSSI No. (-A/B:level)
57	Controlled	Azo compounds excluding the item No.13 of "Substances to be prohibited "			
			Di methyl amino azo benzene	60-11-7	
58	Controlled	Aromatic hydrocarbons			
			Bis phenol A	80-05-7	
59	Controlled	Organic esters			
			Di(2- ethyl hexyl)adipate	103-23-1	
60	Controlled	Chloro phenols			
			Penta chloro phenol	87-86-5	
			Other chloro phenols		
61	Controlled	N- nitrosamines			
			N- nitroso di ethanol amine	1116-54-7	
			N- nitroso di methyl amine	62-75-9	
			N-nitroso di ethyl amine	55-18-5	
			N- methyl -N- nitroso urea	684-93-5	
			N- ethyl -N- nitroso urea	759-73-9	
			N- nitrosodi -n- butyl amine	924-16-3	
			N- Nitroso di isopropyl amine	601-77-4	
			Di -n- propyl nitroso amine	621-64-7	
			N- Nitroso -N- ethyl aniline	612-64-6	
			N- nitroso methyl vinyl amine	4549-40-0	
			N- nitroso morpholine	59-89-2	
		Other N- nitrosamines			
62	Controlled	Magnesium			A16-B
			Magnesium	7439-95-4	A16001
			Other Magnesiums		
63	Controlled	Palladium / Palladium compounds			D03-B
			Palladium	7440-05-3	D03001
			Other palladium compound		D03997-9
64	Controlled	Gold / Gold compounds			D02-B
			Gold	7440-57-5	D02001
			Other gold compounds		D02997-9
65	Controlled	All flame retardants exclude halogenated substances			
			All flame retardants exclude halogenated substances		
66	Controlled	Polycyclic aromatic hyd hydrocarbons			
			Polycyclic aromatic hyd hydrocarbons		
67	Controlled	Other substances to be controlled			
			Trixylylphosphate	25155-23-1	
			Tris (2- chloro ethyl) phosphate	115-96-8	
			Tris (2- ethyl hexyl) phosphate	78-42-2	

*1: Substances listed in the Montreal Protocol, refer to Table 4 for the details of classes.

*2: Nickel compounds except for alloyed metal(for example: stainless steel)

*3: Azo dyes forming certain amines(certain amines are the substances listed 76/769/EEC,the 19th Amendment)

Table 4 Ozone depleting substances(1/2)

substance groups	substance	CAS No.
CFCs(Annex A Group I substances in the Montreal Protocol)	CFC-11	75-69-4
	CFC-12	75-71-8
	CFC-13	75-72-9
	CFC-111	354-56-3
	CFC-112	28605-74-5
Halons(Annex A Group II substances in the Montreal Protocol)	halon-1211	353-59-3
	halon-1301	75-63-8
	halon-2402	124-73-2
CFCs(Annex B Group I substances in the Montreal Protocol)	CFC-113	76-13-1
	CFC-114	1320-37-2/76-14-2
	CFC-115	76-15-3
	CFC-211	135401-87-5
	CFC-212	3182-26-1
	CFC-213	2354-06-5
	CFC-214	29255-31-0/2268-46-4
	CFC-215	1599-41-3/1652-81-9
	CFC-216	661-97-2
Carbon tetrachloride(Annex B Group II substance in the Montreal Protocol)	Carbon tetrachloride	56-23-5
	1,1,1-trichloroethane(Annex B Group III substance in the Montreal Protocol)	1,1,1-Trichloroethane
HCFCs(Annex C Group I substances in the Montreal Protocol)	HCFC-21	75-43-4
	HCFC-22	75-45-6
	HCFC-31	593-70-4
	HCFC-121	134237-32-4
	HCFC-122	41834-16-6
	HCFC-123	306-83-2/34077-87-7
	HCFC-124	2837-89-0/63938-10-3
	HCFC-131	134237-34-6
	HCFC-132	25915-78-0
	HCFC-133	75-88-7
	HCFC-141	25167-88-8
	HCFC-141(b)	1717-00-6
	HCFC-142	25497-29-4
	HCFC-142(b)	75-68-3
	HCFC-151	1615-75-4
	HCFC-221	134237-35-7
	HCFC-222	134237-36-8
	HCFC-223	134237-37-9
	HCFC-224	134237-38-0
	HCFC-225	127564-92-5
	HCFC-225 ca	422-56-0
	HCFC-225 cb	507-55-1
	HCFC-226	134308-72-8
	HCFC-231	134190-48-0
	HCFC-232	134237-39-1
	HCFC-233	134237-40-4
	HCFC-234	127564-83-4
	HCFC-235	134237-41-5
	HCFC-241	134190-49-1
	HCFC-242	134237-42-6
	HCFC-243	134237-43-7
HCFC-244	134190-50-4	
HCFC-251	134190-51-5	
HCFC-252	134190-52-6	
HCFC-253	134237-44-8	
HCFC-261	134237-45-9	
HCFC-262	134190-53-7	
HCFC-271	134190-54-8	

Table 4 Ozone depleting substances(2/2)

substance groups	substance	CAS No.
HBFCs(Annex C Group II substances in the Montreal Protocol)	Dibromofluoromethane	
	Bromodifluoromethane	
	Bromofluoromethane	
	Tetrabromofluoroethane	
	Tribromodifluoroethane	
	Dibromotrifluoroethane	
	Bromotetrafluoroethane	
	Tribromofluoroethane	
	Dibromodifluoroethane	
	Bromotrifluoroethane	
	Dibromofluoroethane	
	Bromodifluoroethane	
	Bromofluoroethane	
	Hexabromofluoropropane	
	Pentabromodifluoropropane	
	Tetrabromotrifluoropropane	
	Tribromotetrafluoropropane	
	Dibromopentafluoropropane	
	Bromohexafluoropropane	
	Pentabromofluoropropane	
	Tetrabromodifluoropropane	
	Tribromotrifluoropropane	
	Dibromotetrafluoropropane	
	Bromopentafluoropropane	
	Tetrabromofluoropropane	
	Tribromodifluoropropane	
	Dibromotrifluoropropane	
	Bromotetrafluoropropane	
	Tribromofluoropropane	
	Dibromodifluoropropane	
Bromotrifluoropropane		
Dibromofluoropropane		
Bromodifluoropropane		
Bromofluoropropane		
Chlorobromomethane		
Methyl bromide(Annex E substance in the Montreal Protocol)	Methyl bromide	74-83-9