

Guideline on Green Procurement

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Nippon Antenna Co., Ltd.

REVISION RECORD

Rev. Date	Description
2006/10/1	Initial Issued.
2007/6/28	Nippon Antenna Environmental Policy changed.
2011/9/30	“Prohibited/Controlled Substances List”, “Breakdown List of Prohibited/Controlled Substances” changed.
2012/9/28	Add “Lead in galvanized steel” into “Prohibited/Controlled Substances List”.
2014/1/31	①“Chemical Substances Control Check sheet ” changed. ②” Chemical Substances Survey Sheet” discontinued.
2014/5/14	Nippon Antenna Environmental Policy changed.
2014/7/31	“Prohibited/Controlled Substances List”, “Breakdown List of Prohibited/Controlled Substances” changed.
2016/9/30	①Nippon Antenna Environmental Policy changed. ②Add an exception of non-containing of prohibited substances. ③Add the accountability when prohibited material containing was revealed. ④“Prohibited/Controlled Substances List” changed. (Revised RoHS) ⑤“Chemical Substances Control Check sheet ” changed.
2018/4/1	① “Prohibited/Controlled Substances List”, “Breakdown List of Prohibited/Controlled Substances” changed. ②Nippon Antenna Environmental Policy changed.

I . Quality / Environmental Policy

Quality / Environmental Policy

— Basic philosophy —

In an information society, our company provides the good product by specific technology, and service, in broad fields such as various antenna and associated equipment, and telecommunications system construction, and contributes to construction and development of an advanced information and telecommunications society.

— Management concept —

“Cooperation” ” Efficiency” ” Challenge”

< Quality policy >

“For good products by all of us ! ”

< Environmental policy >

“Offer of environment-friendly goods”

< Guidelines for Behavior >

- 1) Establish quality and environmental objectives, and perform the continuous improvement of the management system for improvement of customer satisfaction and environmental performance.
- 2) We strive for prevention of pollution, relaxation of climate change and preservation of biodiversity in promotion of 3R (Reduce, Reuse and Recycle).
- 3) The laws and regulations of the product relation and environmental relation applied to our company, and customer requirements are observed.

April 1, 2018

President & Representative Director: Koichi Takizawa

II. Requests to Our Business Partners

In order to reduce environmental loads, we request our partners for the following four actions based on Nippon Antenna's "Environmental Policy".

1. Establishment of the environmental management system

We request our business partners to establish the environmental management systems to promote environmental protection and continuous improvement.

Such systems must be equivalent to, or based on, that described in ISO14001.

We recommend our partners to have their established environmental management systems accredited by the third parties.

We would like our partners to understand that we may visit them to check their environmental protection activity conditions as necessary.

2. Idle reduction/Proper disposal of waste

① We request the visitors to make idle reduction within Nippon Antenna's sites for prevention of air pollution and global warming, and for biological diversity.

② Nippon Antenna promotes activities for achieving "zero emission". Accordingly, we request our suppliers to remove from our premises and dispose properly of the remains of the delivered materials (wastes).

3. Nonuse of Prohibited Chemical Substances

Nippon Antenna declares our customers that we do not use prohibited substances (refer to Appendix "Prohibited/Controlled Substances List").

Accordingly, Nippon Antenna's products shall not contain the prohibited substances within them.

In order to comply with our declaration, we request our business partners to ensure:

① not to contain the prohibited substances in the components or materials supplied to Nippon Antenna, and

② not to use the prohibited substances in the production lines for Nippon Antenna.

*Though, it depends on that when giving an instruction by us with a specification and so on, separately.

When containing of a prohibited substance was revealed, report it to our purchase section immediately.

NOTE) Nippon Antenna’s “Prohibited/Controlled Substances List” consists of the chemical substances regulated under the domestic laws in Japan, and under European ELV and RoHS.

4. Submission of Documents

We request our business partners to survey whether their supplying components/materials contain the prohibited substances (refer to the Appendix “Prohibited/Controlled Substances List” and “Breakdown List of Prohibited/Controlled Substances”) and the weight if contained, and then to submit the below-mentioned documents:

No.	What to be submitted	When to be submitted
1	Analysis data <ul style="list-style-type: none"> • issued by material makers. 	1) When supplying a component made of a new material. 2) Prior to change of a material or a supplier.
2	Environmental-data report tools used by each industry (The tool to be used depends on the request by our customers)	When Nippon Antenna requests in accordance with our customer’s requirement.
3	Pledge for Disuse of Prohibited Substances <ul style="list-style-type: none"> • use either of the Appendix or an optional sheet 	<ul style="list-style-type: none"> • Ongoing partners : When Nippon Antenna requests. • New partners : Prior to start of business.
4	Chemical Substances Control Check sheet (Appendix)	

NOTE) Nippon Antenna may specify another prohibited substance additional to the “Prohibited/Controlled Substances List” in accordance with our customer’s requirements. In that case, Nippon Antenna will request an additional survey and submission of documents.

Appendix. Prohibited/Controlled Substances List

Appendix. Breakdown List of Prohibited/Controlled Substances

Nippon Antenna Prohibited/Controlled Substances List

Prohibited Substances

	Substance Group	Threshold	Law/Regulations	
Metal	1 Cadmium/Cadmium compounds	Intentionally use prohibited and 100ppm.	2011/65/EU	
	2 Chromium VI compounds	Intentionally use prohibited and 1000ppm.	2011/65/EU	
	3 Lead/lead compounds	Intentionally use prohibited and 1000ppm except as noted below:		2011/65/EU
		Lead as an alloying element in steel for machining purposes and in galvanized steel	up to 0.35wt%	
		Aluminium alloy	up to 0.4wt%	
		Copper alloy lead	up to 4wt%	
		Lead in high-melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)	Exempted application	
	Lead in glass/ceramic electronic parts			
	Application for Nippon Antenna specified products.			
4 Mercury/mercury compounds	Intentionally use prohibited and 1000ppm.	2011/65/EU		
5 Nickel	Intentionally use prohibited when touching the skin for a long time.	REACH		
Compound	6 Bis(tri-butyltin)oxide(TBTO)	Intentionally use prohibited and 1000ppm.	Japan Chemicals Law	
	7 Tributyl Tin and Triphenyl Tin	Intentionally use prohibited and 1000ppm (Tin element).	Japan Chemicals Law	
	8 Dibutyltin Compounds(DBT)	Intentionally use prohibited and 1000ppm (Tin element).	REACH	
	9 Dioctyltin Compounds(DOT)	Intentionally use prohibited and 1000ppm (Tin element).	REACH	
	Halogen	10 Polybrominated Biphenyls(PBBs)	Intentionally use prohibited and 1000ppm.	2011/65/EU
		11 Polybrominated Diphenylethers(PBDEs)	Intentionally use prohibited and 1000ppm.	2011/65/EU
		12 Hexabromocyclododecane(HBCDD)	Intentionally use prohibited and 1000ppm.	Japan Chemicals Law
		13 Polychlorinated Biphenyls(PCBs)	Intentionally use prohibited.	Japan Chemicals Law
		14 Polychlorinated Terphenyls(PCTs)	Intentionally use prohibited.	REACH
15 Polychlorinated Naphthalenes (more than 3 chlorine atoms)		Intentionally use prohibited.	Japan Chemicals Law	
16 Shortchain Chlorinated Paraffins		Intentionally use prohibited and 1000ppm.	REACH	
17 PFOS Compounds		Intentionally use prohibited and 1000ppm.	Japan Chemicals Law	
18 Fluorinated Greenhouse Gases		Intentionally use prohibited.		
Other	19 Asbestos	Intentionally use prohibited.	REACH	
	20 Azocolourants and azodyes	Intentionally use prohibited.	REACH	
	21 Ozone Depleting Substances	Intentionally use prohibited.	Montreal Protocol	
	22 Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	Intentionally use prohibited.	Japan Chemicals Law	
	23 Dimethyl fumarate	Intentionally use prohibited.	REACH	
	24 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters. C7-rich (DIHP)	0.1% by weight (1000 ppm) of the product.	REACH	
	25 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	0.1% by weight (1000 ppm) of the product.	REACH	

Controlled Substances

	Substance Group	Threshold	Law/Regulations
Metal	1 Beryllium oxide (BeO)	Intentionally added.	
	2 Diarsenic pentoxide	Intentionally added.	REACH
	3 Diarsenic trioxide	Intentionally added.	REACH
	4 Cobalt dichloride (CoCl2)	Intentionally added.	REACH
Halogen	5 Brominated flame retardants (other than PBBs,PBDEs, or HBCDD)	Intentionally added.	
	6 Chlorinated flame retardants	Intentionally added.	
	7 Tris (2-chloroethyl) phosphate (TCEP)	Intentionally added.	REACH
	8 Perchlorates	Intentionally added.	
Other	9 Polyvinyl chloride (PVC) & PVC Copolymers	Intentionally added.	
	10 Radioactive substances	Intentionally added.	Japan Radiation Law
	11 Selected Phthalates Group 1 (BBP, DBP,	Intentionally added.	RoHS
	12 Selected Phthalates Group 2 (DIDP, DINP,	Intentionally added.	REACH
	13 Diisobutyl phthalate (DIBP)	Intentionally added.	RoHS
	14 Refractory Ceramic Fibres, Aluminosilicate	Intentionally added.	REACH
	15 Refractory Ceramic Fibres, Zirconia	Intentionally added.	REACH
VOC	16 Formaldehyde	Intentionally added.	REACH
	17 Dibutyl phthalate (DBP)	Intentionally added.	REACH
	18 Bis (2-ethylhexyl) phthalate (DEHP)	Intentionally added.	REACH
	19 Acetaldehyde	Intentionally added.	
	20 Fenobucarb	Intentionally added.	
	21 Toluene	Intentionally added.	
	22 Xylene	Intentionally added.	
	23 Paradichlorobenzene	Intentionally added.	
	24 Ethylbenzene	Intentionally added.	
	25 Styrene	Intentionally added.	
	26 Chlorpyrifos	Intentionally added.	
	27 Tetradecane	Intentionally added.	
	28 Diazinon	Intentionally added.	
29 REACH SVHC	Intentionally added (The substances in this list are excluded).	REACH	

- note 1. Notwithstanding foregoing, particular requirements shall prevail.
- note 2. This list is subject to change in future according to legislation, or else.
- note 3. The controlled substances, if contained, shall be reported prior to delivery.

1. Cadmium/Cadmium Compounds	CAS Numbers
Cadmium	7440-43-9
Cadmium oxide	1306-19-0
Cadmium sulfide	1306-23-6
Cadmium chloride	10108-64-2
Cadmium sulfate	10124-36-4
Other cadmium compounds	-

2. Chromium Compounds	CAS Numbers
Chromium()oxide	1333-82-0
Barium chromate	10294-40-3
Calcium chromate	13765-19-0
Lead ()chromate	7758-97-6
Lead chromate molybdate sulphate red	12656-85-8
Lead sulfochromate yellow	1344-37-2
Sodium chromate	7775-11-3
Sodium dichromate	10588-01-9
Strontium chromate	7789-06-2
Potassium dichromate	7778-50-9
Potassium chromate	7789-00-6
Zinc chromate	13530-65-9
Pentazinc chromate octahydroxide	49663-84-5
Potassium hydroxyoctaoxidizincatedichromate	11103-86-9
Other chromium compounds	-

3. Lead/lead Compounds	CAS Numbers
Lead	7439-92-1
Lead ()sulfate	7446-14-2
Lead ()carbonate	598-63-0
Lead ()chromate	7758-97-6
Lead chromate molybdate sulphate red	12656-85-8
Lead hydrocarbonate	1319-46-6
Lead acetate	301-04-2
Lead ()acetate, trihydrate	6080-56-4
Lead phosphate	7446-27-7
Lead selenide	12069-00-0
Lead ()oxide	1309-60-0
Lead (,)oxide	1314-41-6
Lead ()sulfide	1314-87-0
Lead ()oxide	1317-36-8
Lead ()carbonate basic	1319-46-6
Lead hydroxidcarbonate	1344-36-1
Lead ()phosphate	7446-27-7
Lead sulfochromate yellow	1344-37-2
Lead ()titanate	12060-00-3
Lead sulfate, sulphuric acid, lead salt	15739-80-7
Lead sulphate, tribasic	12202-17-4
Lead stearate	1072-35-1
Other lead compounds	-

4. Mercury/Mercury Compounds	CAS Numbers
Mercury	7439-97-6
Mercuric chloride	33631-63-9
Mercury()chloride	7487-94-7
Mercuric sulfate	7783-35-9
Mercuric nitrate	10045-94-0
Mercuric()oxide	21908-53-2
Mercuric sulfide	1344-48-5
Other mercury compounds	-

7. Tri-substituted Organostannic Compounds	CAS Numbers
Triphenyltin - N,N - dimethyldithiocarbamate	1803-12-9
Triphenyltin fluoride	379-52-2
Triphenyltin acetate	900-95-8
Triphenyltin chloride	639-58-7
Triphenyltin hydroxide	76-87-9
Triphenyltin fatty acid((9 ~ 11)salt)	18380-71-7 18380-72-8 47672-31-1 94850-90-5
Triphenyltin chloroacetate	7094-94-2
Tributyltin methacrylate	2155-70-6
Bis(tributyltin) fumarate	6454-35-9
Tributyltin fluoride	1983-10-4
Bis(tributyltin) 2,3 - dibromosuccinate	31732-71-5
Tributyltin acetate	56-36-0
Tributyltin laurate	3090-36-6
Bis(tributyltin) phthalate	4782-29-0
Copolymer of alkyl(c=8)acrylate, methyl methacrylate and tributyltin methacrylate	67772-01-4
Tributyltin sulfamate	6517-25-5
Bis(tributyltin) maleate	14275-57-1
Tributyltin chloride	1461-22-9 7342-38-3
Tributyltin cyclopentane carbonate=mixture	85409-17-2
Tributyltin=1,2,3,4,4a,4b,5,6,10,10a - decahydro - 7 - isopropyl - 1,4a - dimethyl - 1 - phenanthrenecarboxylate mix	26239-64-5
Other tri-substituted organostannic compounds	-

8. Dibutyltin Compounds (DBT)	CAS Numbers
Dibutyltin oxide	818-08-6
Dibutyltin diacetate	1067-33-0
Dibutyltin dilaurate	77-58-7
Dibutyltin maleate	78-04-6
Other dibutyltin compounds	-

9. Dioctyltin Compounds (DOT)	CAS Numbers
Dioctyltin oxide	870-08-6
Dioctyltin dilaurate	3648-18-8
Other dioctyltin compounds	-

10. Polybrominated Biphenyls (PBBs)	CAS Numbers
Polybrominated Biphenyls	59536-65-1
Dibromobiphenyl	92-86-4
2-Bromobiphenyl	2052-07-5
3-Bromobiphenyl	2113-57-7
4-Bromobiphenyl	92-66-0
Tribromobiphenyl	59080-34-1
Tetrabromobiphenyl	40088-45-7
Pentabromobiphenyl	56307-79-0
Hexabromobiphenyl	59080-40-9
Hexabromo-1,1-biphenyl	36355-01-8
Firemaster FF-1	67774-32-7
Heptabromobiphenyl	35194-78-6
Octabromobiphenyl	61288-13-9
Nonabromobiphenyl	27753-52-2
Decabromobiphenyl	13654-09-6

11. Polybrominated Diphenyl Ethers (PBDEs)	CAS Numbers
Bromodiphenyl ether	101-55-3
Dibromodiphenyl ether	2050-47-7
Tribromodiphenyl ether	49690-94-0
Tetrabromodiphenyl ether	40088-47-9
Pentabromodiphenyl ether (note: Commercially available PeBDPO is a complex reaction mixture containing a variety of brominated diphenyloxides.)	32534-81-9 (CAS number used for commercial grades of PeBDPO)
Hexabromodiphenyl ether	36483-60-0
Heptabromodiphenyl ether	68928-80-3
Octabromodiphenyl ether	32536-52-0
Nonabromodiphenyl ether	63936-56-1
Decabromodiphenyl ether	1163-19-5

12. Hexabromocyclododecane (HBCDD)	CAS Numbers
Hexabromocyclododecane(HBCDD)	25637-99-4 and 3194-55-6
- hexabromocyclododecane	134237-50-6
- hexabromocyclododecane	134237-51-7
- hexabromocyclododecane	134237-52-8

13. Polychlorinated Biphenyls(PCBs)and specific substitutes	CAS Numbers
Polychlorinated Biphenyls(all isomers and congeners)	1336-36-3
Monomethyl-tetrachloro-diphenyl methane(Ugilec 141)	76253-60-6
Monomethyl-dichloro-diphenyl methane(Ugilec 121,Ugilec 21)	81161-70-8
Monomethyl-dibromo-diphenyl methane(DBBT)	99688-47-8

14. Polychlorinated Terphenyls (PCTs)	CAS Numbers
Polychlorinated Terphenyls (all isomers and congeners)	61788-33-8

15. Polychlorinated Naphthalenes	CAS Numbers
Polychlorinated Naphthalenes	70776-03-3
Other polychlorinated Naphthalenes	-

16. Short Chain Chlorinated Paraffins (SCCPs)	CAS Numbers
Alkanes,C10 - 13,chloro	85535 - 84 - 8
Alkanes,C10 - 12,chloro	108171 - 26 - 2
Alkanes,C12 - 13,chloro	71011 - 12 - 6
Alkanes,chloro	61788 - 76 - 9
Other Short Chain Chlorinated Paraffins	-

17. PFOS Compounds	CAS Numbers
Perfluorooctane Sulfonates(PFOS) C ₈ F ₁₇ SO ₂ X, where X = OR,NR or other derivative	-

18.Fluorinated Greenhouse Gases	CAS Numbers
Tetrafluoromethane(Carbon tetrafluoride,PFC - 14)	75 - 73 - 0
Hexafluoroethane(PFC - 116)	76 - 16 - 4
Octafluoropropane(PFC - 218)	76 - 19 - 7
Decafluorobutane(PFC - 31 - 10)	355 - 25 - 9
Dodecafluoropentane(PFC - 41 - 12)	678 - 26 - 2
Tetradecafluorohexane(PFC - 51 - 14)	355 - 42 - 0
Octafluorocyclobutane(PFC - c318)	115 - 25 - 3
Sulfur Hexafluoride(SF ₆)	2551 - 62 - 4
Trifluoromethane(HFC - 23)	75 - 46 - 7
Difluoromethane(HFC - 32)	75 - 10 - 5
Methyl fluoride(HFC - 41)	593 - 53 - 3
2H,3H - Decafluoropentane(HFC - 43 - 10mee)	138495 - 42 - 8
Pentafluoroethane(HFC - 125)	354 - 33 - 6
1,1,2,2 - Tetrafluoroethane(HFC - 134)	359 - 35 - 3
1,1,1,2 - Tetrafluoroethane(HFC - 134a)	811 - 97 - 2
1,1 - Difluoroethane(HFC - 152a)	75 - 37 - 6
1,1,2 - Trifluoroethane(HFC - 143)	430 - 66 - 0
1,1,1 - Trifluoroethane(HFC - 143a)	420 - 46 - 2
2H - Heptafluoropropane(HFC - 227ea)	431 - 89 - 0
1,1,1,2,2,3 - Hexafluoropropane(HFC - 236cb)	677 - 56 - 5
1,1,1,2,3,3 - Hexafluoropropane(HFC - 236ea)	431 - 63 - 0
1,1,1,3,3,3 - Hexafluoropropane(HFC - 236fa)	690 - 39 - 1
1,1,2,2,3 - Pentafluoropropane(HFC - 245ca)	679 - 86 - 7
1,1,1,3,3 - Pentafluoropropane(HFC - 245fa)	460 - 73 - 1
1,1,1,3,3 - Pentafluorobutane(HFC - 365mfc)	406 - 58 - 6

19. Asbestos	CAS Numbers
Asbestos	1332 - 21 - 4
Actinolite	77536 - 66 - 4
Amosite (Grunerite)	12172 - 73 - 5
Anthophyllite	77536 - 67 - 5
Chrysotile	12001 - 29 - 5
Crocidolite	12001 - 28 - 4
Tremolite	77536 - 68 - 6

20. Azocolourants and azodyes which form certain aromatic amines	CAS Numbers
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

21. Ozone Depleting Substances	CAS Numbers
Trichlorofluoromethane(CFC - 11)	75-69-4
Dichlorodifluoromethane (CFC - 12)	75-71-8
Chlorotrifluoromethane (CFC - 13)	75-72-9
Pentachlorofluoroethane (CFC - 111)	354-56-3
Tetrachlorodifluoroethane (CFC - 112)	76-12-0
1,1,2,2-Tetrachloro-1,2-difluoroethane (CFC - 112)	76-12-0
1,1,1,2-Tetrachloro-2,2-difluoroethane (CFC - 112a)	76-11-9
Trichlorotrifluoroethane (CFC - 113)	76-13-1,
1,1,2-Trichloro-1,2,2trifluoroethane (CFC - 113)	76-13-1
1,1,1-Trichloro-2,2,2trifluoroethane (CFC - 113a)	354-58-5
Dichlorotetrafluoroethane(CFC - 114)	76-14-2
Monochloropentafluoroethane (CFC - 115)	76-15-3
Heptachlorofluoropropane (CFC - 211)	422-78-6
	135401-87-5
1,1,1,2,2,3,3-Heptachloro-3-fluoropropane (CFC - 211aa)	422-78-6
1,1,1,2,3,3,3-Heptachloro-2-fluoropropane (CFC - 211ba)	422-81-1
Hexachlorodifluoropropane(CFC - 212)	3182-26-1
Pentachlorotrifluoropropane (CFC - 213)	2354-06-5
	134237-31-3
Tetrachlorotetrafluoropropane (CFC - 214)	29255-31-0
1,2,2,3-Tetrachloro-1,1,3,3-tetrafluoropropane (CFC - 214aa)	2268-46-4
1,1,1,3-Tetrachloro-2,2,3,3-tetrafluoropropane (CFC - 214cb)	-
Trichloropentafluoropropane(CFC - 215)	1599-41-3
1,2,2-Trichloropentafluoropropane(CFC - 215aa)	1599-41-3
1,2,3-Trichloropentafluoropropane(CFC - 215ba)	76-17-5
1,1,2-Trichloropentafluoropropane(CFC - 215bb)	-
1,1,3-Trichloropentafluoropropane(CFC - 215ca)	-
1,1,1-Trichloropentafluoropropane(CFC - 215cb)	4259-43-2
Dichlorohexafluoropropane(CFC - 216)	661-97-2
Chloroheptafluoropropane(CFC - 217)	422-86-6
Bromochloromethane (Halon - 1011)	74-97-5
Dibromodifluoromethane (Halon - 1202)	75-61-6
Bromochlorodifluoromethane (Halon - 1211)	353-59-3
Bromotrifluoromethane (Halon - 1301)	75-63-8
Dibromotetrafluoroethane (Halon - 2402)	124-73-2
Tetrachloromethane (carbon tetrachloride)	56-23-5

21. Ozone Depleting Substances (cont.)	CAS Numbers
1,1,1 - Trichloroethane(methylchloroform)	71-55-6
Bromomethane (methyl bromide)	74-83-9
Bromoethane (ethyl bromide)	74-96-4
1 -Bromopropane (n -propyl bromide)	106-94-5
Trifluoroiodomethane (trifluoromethyl iodide)	2314-97-8
Chloromethane(methyl chloride)	74-87-3
Dibromofluoromethane(HBFC-21 B2)	1868-53-7
Bromodifluoromethane(HBFC-22 B1)	1511-62-2
Bromofluoromethane(HBFC-31 B1)	373-52-4
Tetrabromofluoroethane(HBFC-121 B4)	306-80-9
Tribromodifluoroethane(HBFC-122 B3)	-
Dibromotrifluoroethane(HBFC-123 B2)	354-04-1
Bromotetrafluoroethane(HBFC-124 B1)	124-72-1
Tribromofluoroethane(HBFC-131 B3)	-
Dibromodifluoroethane(HBFC-132 B2)	75-82-1
Bromotrifluoroethane(HBFC-133 B1)	421-06-7
Dibromofluoroethane(HBFC-141 B2)	358-97-4
Bromodifluoroethane(HBFC-142 B1)	420-47-3
Bromofluoroethane(HBFC-151 B1)	762-49-2
Hexabromofluoropropane(HBFC-221 B6)	-
Pentabromodifluoropropane(HBFC-222 B5)	-
Tetrabromotrifluoropropane(HBFC-223 B4)	-
Tribromotetrafluoropropane(HBFC-224 B3)	-
Dibromopentafluoropropane(HBFC-225 B2)	431-78-7
Bromohexafluoropropane(HBFC-226 B1)	2252-78-0
Pentabromofluoropropane(HBFC-231 B5)	-
Tetrabromodifluoropropane(HBFC-232 B4)	-
Tribromotrifluoropropane(HBFC-233 B3)	-
Dibromotetrafluoropropane(HBFC-234 B2)	-
Bromopentafluoropropane(HBFC-235 B1)	460-88-8
Tetrabromofluoropropane(HBFC-241 B4)	-
Tribromodifluoropropane(HBFC-242 B3)	70192-80-2
Dibromotrifluoropropane(HBFC-243 B2)	431-21-0
Bromotetrafluoropropane(HBFC-244 B1)	679-84-5
Tribromofluoropropane(HBFC-251 B3)	75372-14-4
Dibromodifluoropropane(HBFC-252 B2)	460-25-3
Bromotrifluoropropane(HBFC-253 B1)	421-46-5
Dibromofluoropropane(HBFC-261 B2)	51584-26-0
Bromodifluoropropane(HBFC-262 B1)	-
Bromofluoropropane(HBFC-271 B1)	1871-72-3
Dichlorofluoromethane(HCFC-21)	75-43-4
Chlorodifluoromethane(HCFC-22)	75-45-6
Chlorofluoromethane(HCFC-31)	593-70-4
Tetrachlorofluoroethane(HCFC-121)	134237-32-4
1,1,2,2 - Tetrachloro - 1 - fluoroethane(HCFC-121)	354-14-3
1,1,1,2 - Tetrachloro - 2 - fluoroethane(HCFC-121a)	354-11-0
Trichlorodifluoroethane(HCFC-122)	41834-16-6
1,2,2 - Trichloro - 1,1 - difluoroethane(HCFC-122)	354-21-2
1,1,2 - Trichloro - 1,2 - difluoroethane(HCFC-122a)	354-15-4
1,1,1 - Trichloro - 2,2 - difluoroethane(HCFC-122b)	354-12-1
Dichlorotrifluoroethane(HCFC-123)	34077-87-7
1,1 - Dichloro - 2,2,2 - trifluoroethane(HCFC-123)	306-83-2
1,2 - Dichloro - 1,1,2 - trifluoroethane(HCFC-123a)	354-23-4
	90454-18-5
1,1 - Dichloro - 1,2,2 - trifluoroethane(HCFC-123b)	812-04-4
Chlorotetrafluoroethane(HCFC-124)	63938-10-3
2 - Chloro - 1,1,1,2 - tetrafluoroethane(HCFC-124)	2837-89-0
1 - Chloro - 1,1,2,2 - tetrafluoroethane(HCFC-124a)	354-25-6
Trichlorofluoroethane(HCFC-131)	27154-33-2; (134237-34-6)
1,1,2 - Trichloro - 2 - fluoroethane(HCFC-131)	359-28-4

21. Ozone Depleting Substances (cont.)	CAS Numbers
1,1,2 - Trichloro - 1 - fluoroethane(HCFC131a)	811 - 95 - 0
1,1,1 - Trichloro - 2 - fluoroethane(HCFC - 131b)	2366 - 36 - 1
Dichlorodifluoroethane(HCFC - 132)	25915 - 78 - 0
1,2 - Dichloro - 1,2 - difluoroethane(HCFC - 132)	431 - 06 - 1
1,1 - Dichloro - 2,2 - difluoroethane(HCFC - 132a)	471 - 43 - 2
1,2 - Dichloro - 1,1 - difluoroethane(HCFC - 132b)	1649 - 08 - 7
1,1 - Dichloro - 1,2 - difluoroethane(HCFC - 132c)	1842 - 05 - 3
Chlorotrifluoroethane(HCFC - 133)	1330 - 45 - 6
1 - Chloro - 1,2,2 - trifluoroethane(HCFC - 133)	431 - 07 - 2
2 - Chloro - 1,1,1 - trifluoroethane(HCFC - 133a)	1330 - 45 - 6
1 - Chloro - 1,1,2 - trifluoroethane(HCFC - 133b)	75 - 88 - 7
Dichlorofluoroethane(HCFC - 141)	421 - 04 - 5
1,2 - Dichloro - 1 - fluoroethane(HCFC - 141)	1717 - 00 - 6;
1,1 - Dichloro - 2 - fluoroethane(HCFC - 141a)	(25167 - 88 - 8)
1,1 - Dichloro - 1 - fluoroethane(HCFC - 141b)	430 - 57 - 9
Chlorodifluoroethane(HCFC - 142)	430 - 53 - 5
2 - Chloro - 1,1 - difluoroethane(HCFC - 142)	1717 - 00 - 6
1 - Chloro - 1,1 - difluoroethane(HCFC - 142b)	25497 - 29 - 4
1 - Chloro - 1,2 - difluoroethane(HCFC142a)	338 - 65 - 8
Chlorofluoroethane(HCFC - 151)	75 - 68 - 3
1 - Chloro - 2 - fluoroethane(HCFC - 151)	338 - 64 - 7
1 - Chloro - 1 - fluoroethane(HCFC - 151a)	110587 - 14 - 9
Hexachlorofluoropropane(HCFC - 221)	762 - 50 - 5
1,1,1,2,2,3 - Hexachloro - 3 - fluoropropane(HCFC - 221ab)	1615 - 75 - 4
Pentachlorodifluoropropane (HCFC - 222)	134237 - 35 - 7
1,1,1,3,3 - Pentachloro - 2,2 - difluoropropane(HCFC - 222ca)	29470 - 94 - 8
1,2,2,3,3 - Pentachloro - 1,1 - difluoropropane(HCFC - 222aa)	422 - 26 - 4
Tetrachlorotrifluoropropane(HCFC - 223)	134237 - 36 - 8
1,1,3,3 - Tetrachloro - 1,2,2 - trifluoropropane(HCFC - 223ca)	422 - 49 - 1
1,1,1,3 - Tetrachloro - 2,2,3 - trifluoropropane(HCFC - 223cb)	422 - 30 - 0
Trichlorotetrafluoropropane(HCFC - 224)	134237 - 37 - 9
1,3,3 - Trichloro - 1,1,2,2 - tetrafluoropropane(HCFC - 224ca)	422 - 52 - 6
1,1,3 - Trichloro - 1,2,2,3 - tetrafluoropropane(HCFC - 224cb)	422 - 50 - 4
1,1,1 - Trichloro - 2,2,3,3 - tetrafluoropropane(HCFC - 224cc)	134237 - 38 - 0
Dichloropentafluoropropane(HCFC - 225)	422 - 54 - 8
2,2 - Dichloro - 1,1,1,3,3 - pentafluoropropane(HCFC - 225aa)	422 - 53 - 7
2,3 - Dichloro - 1,1,1,2,3 - pentafluoropropane(HCFC - 225ba)	422 - 51 - 7
1,2 - Dichloro - 1,1,2,3,3 - pentafluoropropane(HCFC - 225bb)	127564 - 92 - 5
3,3 - Dichloro - 1,1,1,2,2 - pentafluoropropane(HCFC - 225ca)	128903 - 21 - 9
1,3 - Dichloro - 1,1,2,2,3 - pentafluoropropane(HCFC - 225cb)	422 - 48 - 0
1,1 - Dichloro - 1,2,2,3,3 - pentafluoropropane(HCFC - 225cc)	422 - 44 - 6
1,2 - Dichloro - 1,1,3,3,3 - pentafluoropropane(HCFC - 225da)	422 - 56 - 0
1,3 - Dichloro - 1,1,2,3,3 - pentafluoropropane(HCFC - 225ea)	507 - 55 - 1
1,1 - Dichloro - 1,2,3,3,3 - pentafluoropropane(HCFC - 225eb)	507 - 55 - 1
Chlorohexafluoropropane(HCFC - 226)	13474 - 88 - 9
2 - Chloro - 1,1,1,3,3,3 - hexafluoropropane(HCFC - 226da)	431 - 86 - 7
Pentachlorofluoropropane(HCFC - 231)	136013 - 79 - 1
1,1,1,2,3 - Pentachloro - 2 - fluoropropane(HCFC - 231bb)	111512 - 56 - 2
Tetrachlorodifluoropropane(HCFC - 232)	134308 - 72 - 8
1,1,1,3 - Tetrachloro - 3,3 - difluoropropane(HCFC232fc)	431 - 87 - 8
Trichlorotrifluoropropane(HCFC - 233)	134190 - 48 - 0
1,1,1 - Trichloro - 3,3,3 - trifluoropropane(HCFC - 233fb)	421 - 94 - 3
Dichlorotetrafluoropropane (HCFC - 234)	134237 - 39 - 1
1,2 - Dichloro - 1,2,3,3 - tetrafluoropropane(HCFC - 234db)	460 - 89 - 9
Chloropentafluoropropane(HCFC - 235)	134237 - 40 - 4
1 - Chloro - 1,1,3,3,3 - pentafluoropropane(HCFC - 235fa)	7125 - 83 - 9
	127564 - 83 - 4
	425 - 94 - 5
	134237 - 41 - 5
	460 - 92 - 4

21. Ozone Depleting Substances (cont.)	CAS Numbers
Tetrachlorofluoropropane(HCFC - 241) 1,1,2,3-Tetrachloro - 1 - fluoropropane(HCFC - 241db)	134190 - 49 - 1 666 - 27 - 3
Trichlorodifluoropropane(HCFC - 242) 1,3,3-Trichloro - 1,1 - difluoropropane(HCFC - 242fa)	134237 - 42 - 6 460 - 63 - 9
Dichlorotrifluoropropane(HCFC - 243) 1,1 - Dichloro - 1,2,2 - trifluoropropane(HCFC - 243cc) 2,3 - Dichloro - 1,1,1 - trifluoropropane(HCFC - 243db) 3,3 - Dichloro - 1,1,1 - trifluoropropane(HCFC - 243fa)	134237 - 43 - 7 7125 - 99 - 7 338 - 75 - 0 460 - 69 - 5
Chlorotetrafluoropropane(HCFC - 244) 3 - Chloro - 1,1,2,2 - tetrafluoropropane(HCFC - 244ca) 1 - Chloro - 1,1,2,2 - tetrafluoropropane(HCFC - 244cc)	134190 - 50 - 4 679 - 85 - 6 421 - 75 - 0
Trichlorofluoropropane(HCFC - 251) 1,1,3 - Trichloro - 1 - fluoropropane(HCFC - 251fb) 1,1,2 - Trichloro - 1 - fluoropropane(HCFC - 251dc)	134190 - 51 - 5 818 - 99 - 5 421 - 41 - 0
Dichlorodifluoropropane(HCFC - 252) 1,3 - Dichloro - 1,1 - difluoropropane(HCFC - 252fb)	134190 - 52 - 6 819 - 00 - 1
Chlorotrifluoropropane(HCFC - 253) 3 - Chloro - 1,1,1 - trifluoropropane(HCFC - 253fb)	134237 - 44 - 8 460 - 35 - 5
Dichlorofluoropropane(HCFC - 261) 1,1 - Dichloro - 1 - fluoropropane(HCFC - 261fc) 1,2 - Dichloro - 2 - fluoropropane(HCFC - 261ba)	134237 - 45 - 9 7799 - 56 - 6 420 - 97 - 3
Chlorodifluoropropane(HCFC - 262) 1 - Chloro - 2,2 - difluoropropane(HCFC - 262ca) 2 - Chloro - 1,3 - difluoropropane(HCFC - 262da) 1 - Chloro - 1,1 - difluoropropane(HCFC - 262fc)	134190 - 53 - 7 420 - 99 - 5 102738 - 79 - 4 421 - 02 - 3
Chlorofluoropropane(HCFC - 271) 2 - Chloro - 2 - fluoropropane(HCFC - 271ba) 1 - Chloro - 1 - fluoropropane(HCFC - 271fb)	134190 - 54 - 8 420 - 44 - 0 430 - 55 - 7

5. Brominated Flame Retardants (other than PBBs,PBDEs or HBCDD)	CAS Numbers
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR (14)[Aliphatic/alicyclic brominated compounds]	-
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR (15)[Aliphatic/alicyclic brominated compounds in combination with antimony compounds]	-
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR (16)[Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls]	-
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR (17)[Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls in combination with antimony compounds]	-
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR (22)[Aliphatic/alicyclic chlorinated and brominated compounds]	-
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR (42)[Brominated organic phosphorus compounds]	-
Poly(2,6-dibromo-phenylene oxide)	69882-11-7
Tetra-decabromo-diphenoxy-benzene	58965-66-5
1,2-Bis(2,4,6-tribromo-phenoxy)ethane	37853-59-1
3,5,3',5'-Tetrabromo-bisphenol A(TBBA)	79-94-7
TBBA,unspecified	30496-13-0
TBBA-epichlorhydrin oligomer	40039-93-8
TBBA-TBBA-diglycidyl-ether oligomer	70682-74-5
TBBA carbonate oligomer	28906-13-0
TBBA carbonate oligomer,phenoxy end capped	94334-64-2
TBBA carbonate oligomer,2,4,6-tribromo-phenol terminated	71342-77-3
TBBA-bisphenol A-phosgene polymer	32844-27-2
Brominated epoxy resin end-capped with tribromophenol	139638-58-7
Brominated epoxy resin end-capped with tribromophenol	135229-48-0
TBBA-(2,3-dibromo-propyl-ether)	21850-44-2
TBBA-bis-(2-hydroxy-ethyl-ether)	4162-45-2
TBBA-bis-(allyl-ether)	25327-89-3
TBBA-dimethyl-ether	37853-61-5
Tetrabromo-bisphenol S	39635-79-5
TBBS-bis-(2,3-dibromo-propyl-ether)	42757-55-1
2,4-Dibromo-phenol	615-58-7
2,4,6-Tribromo-phenol	118-79-6
Pentabromo-phenol	608-71-9
2,4,6-Tribromo-phenyl-allyl-ether	3278-89-5
Tribromo-phenyl-allyl-ether,unspecified	26762-91-4
Bis(methyl)tetrabromo-phthalate	55481-60-2
Bis(2-ethylhexyl)tetrabromo-phthalate	26040-51-7
2-Hydroxy-propyl-2-(2-hydroxy-ethoxy)-ethyl-TBP	20566-35-2
TBPA,glycol-and propylene-oxide esters	75790-69-1
N,N'-Ethylene-bis-(tetrabromo-phthalimide)	32588-76-4
Ethylene-bis(5,6-dibromo-norbornane-2,3-dicarboximide)	52907-07-0
2,3-Dibromo-2-butene-1,4-diol	3234-02-4
Dibromo-neopentyl-glycol	3296-90-0
Dibromo-propanol	96-13-9
Tribromo-neopentyl-alcohol	36483-57-5
Poly tribromo-styrene	57137-10-7
Tribromo-styrene	61368-34-1
Dibromo-styrene grafted PP	171091-06-8
Poly-dibromo-styrene	31780-26-4
Bromo-/Chloro-paraffins	68955-41-9
Bromo-/Chloro-alpha-olefin	82600-56-4
Vinylbromide	593-60-2
Tris-(2,3-dibromo-propyl)-isocyanurate	52434-90-9
Tris-(2,4-dibromo-phenyl)phosphate	49690-63-3
Tris(tribromo-neopentyl)phosphate	19186-97-1

5. Brominated Flame Retardants (other than PBBs,PBDEs or HBCDD) (cont.)	CAS Numbers
Chlorinated and brominated phosphate ester	125997-20-8
Pentabromo -toluene	87-83-2
Pentabromo -benzyl bromide	38521-51-6
1,3-Butadiene homopolymer,brominated	68441-46-3
Pentabromo -benzyl -acrylate,monomer	59447-55-1
Pentabromo -benzyl -acrylate,polymer	59447-57-3
Decabromo -diphenyl -ethane	84852-53-9
Tribromo -bisphenyl -maleinimide	59789-51-4
Tetrabromo -cyclo -octane	31454-48-5
1,2-Dibromo -4 - (1,2-dibromo -methyl) -cyclo -hexane	3322-93-8
Tetrabromo phthalic acid Na salt	25357-79-3
Tetrabromo phthalic -anhydride	632-79-1
Octabromo - 1,1,3 - trimethyl - 1 - phenylindane(FR - 1808)	155613-93-7
Other Brominated Flame Retardants	-

6. Chlorinated Flame Retardants	CAS Numbers
Tetrakis(2-chloroethyl)dichloroisopentylidiphosphate	38051-10-4
Tris(1-chloro-2-propyl)phosphate	13674-84-5
Tris(2,3-dichloro-1-propyl)phosphate	66108-37-0
Other Chlorinated Flame Retardants	-

8. Perchlorate Compounds	CAS Numbers
Lithium perchlorate	7791-03-9
Other perchlorate compounds	-

9. (PVC) Polyvinyl Chloride&PVC Copolymers	CAS Numbers
Polyvinyl Chloride (PVC)	9002-86-2
Other Polyvinyl Chlorides	-
PVC Copolymers	-

10. Radioactive Substances(Radioactive Isotope)	CAS Numbers
Uranium - 238	7440-61-1
Radon	10043-92-2
Americium - 241	14596-10-2
Thorium - 232	7440-29-1
Cesium - 137	10045-97-3
Strontium - 90	10098-97-2
Other radioactive substances	-

11. Selected Phthalates Group 1 (BBP, DBP, DEHP)	CAS Numbers
Butylbenzyl phthalate(BBP)	85-68-7
Dibutyl phthalate(DBP)	84-74-2
Di(2-ethylhexyl) phthalate(DEHP)	117-81-7

12. Selected Phthalates Group 2 (DIDP, DINP, DNOP)	CAS Numbers
Diisodecyl phthalate(DIDP)	26761-40-0
	68515-49-1
Diisononyl phthalate(DINP)	28553-12-0
	68515-48-0
Di-n-octyl phthalate(DNOP)	117-84-0