



Dynabook Inc.

**Guidelines for Green Procurement
Ver.13.00**

Contents

I. Green procurement	3
1. Objective.....	3
2. Requirements to suppliers	3
2.1 Suppliers' activities for environmental conservation	3
2.2 Control of environment-related substances for articles to be supplied	3
II. Environment-related substances control criteria	4
1. Scope	4
2. Definitions.....	4
3. Requirements for environment-related substances control for articles to be supplied	5
3.1 Substances whose inclusion in articles to be supplied is prohibited.....	5
3.2 Substances whose inclusion in articles to be supplied is subject to reduction and substitution	10
4. Requirements for packaging materials.....	11
5. Requirements for batteries.....	12
6. Requirements for US-EPEAT.....	12
Attached Table:	13
Details of substances (typical examples) referred in these Guidelines	13

I. Green procurement

1. Objective

Dynabook Inc. Group (hereafter, we) promote procurement from suppliers that aggressively promote activities for environmental conservation. The objective of these Guidelines are to procure articles with a lower environmental impact, in respect of procurement of parts, materials, units, products and sub-materials (hereafter, articles to be supplied) for products.

2. Requirements to suppliers

2.1 Suppliers' activities for environmental conservation

We request every supplier to undertake proactive activities for environmental conservation.

We prioritize suppliers who perform such proactive activities in our procurement.

Suppliers are expected to perform such environmental activities as

- 1) Formulating environmental policy
- 2) Establishing and maintaining a system for environmental conservation
- 3) Training and monitoring of system performance

Suppliers are also expected to promote activities for energy saving, 3R (reduce, reuse and recycle), and preservation of biodiversity such as tree planting.

In order to understand suppliers' activities for environmental conservation, we want to investigate the points below, and ask for your understanding and support.

- 1) Document-based inquiry into supplier's environmental activities
- 2) On-site investigation of supplier's environmental activities

2.2 Control of environment-related substances for articles to be supplied

Suppliers are required to comply with Chapter II. "Environment-related substances control criteria" of these Guidelines and supply articles with a lower environmental impact.

In order to ensure this, suppliers should carry out the following items.

- 1) Make every supporting organization and your suppliers understand the requirements stated in these Guidelines.
- 2) Realize the requirements described in our purchase specifications and drawings.
- 3) Reply to our inquiries about control of environment-related substances.

Although inquiries depend on types of articles to be supplied and necessity, the major ones are:

- i. Confirmation of no inclusion of prohibited substances, using "Use/Non-use Declaration of Environment-related Substances"
 - ii. Inquiries about content values of EU REACH SVHC
 - iii. Requests to provide sample test result
 - iv. Investigation of recycled material content in plastics by "Declaration of plastics weight and recycled plastics weight".
 - v. Investigation of chemical substance content information (substance inventory information) on supply articlesdelivered products
 - vi. Other necessary inquiries to confirm supplier's performance
- 4) Obtain necessary information from your suppliers as base data for your reply.
 - 5) Perform sample tests or obtain sample test result from your suppliers if these are an effective means to realize our requirements.
 - 6) Investigate your suppliers' control systems (including supplier audit).

II. Environment-related substances control criteria

1. Scope

The scope is environment-related substances in the articles to be supplied to us for production of our products. “Our products” include original brand products, ODM products, OEM deliveries, maintenance parts and repaired products. “Our products” also include products made by or sold by Group Companies of Dynabook Inc. that have a capital relationship with us and to which you directly supply articles.

2. Definitions

(1) Environment-related substances

Substances considered to have an environmental impact and specified in these Guidelines.

(2) Substances whose use is prohibited

Environment-related substances whose use in articles to be supplied is prohibited by law, regulation or these Guidelines.

(3) Substances whose use is to be reduced or substituted

Environment-related substances specified in these Guidelines whose use in the articles to be supplied should be reduced or substituted.

(4) Intentional inclusion

Inclusion that cannot appropriately be regarded as impurities, as defined in (5). For example, use of a substance as a necessary ingredient in order to obtain functionality or performance.

(5) Not intended inclusion (impurities)

Inclusion which can be regarded as resulting from the natural environment or that is the result of a chemical reaction and that cannot be removed by a refining process with existing technology.

(6) Homogeneous material

The term "homogeneous material" means a material that cannot be mechanically disjointed into different materials.

The term "homogeneous" means "of uniform composition throughout", so examples of "homogeneous materials" are plastics, ceramics, glass, metals, alloys, paper, board, resins and coatings.

The term "mechanically disjointed" means that the materials can be, in principle, separated by mechanical actions such as unscrewing, cutting, crushing, grinding and abrasive processes.

Example:

- A plastic cover is homogeneous material if it consisted exclusively of one type of plastic that was not coated with or had attached to it (or inside it) any other kinds of materials.
- An electric cable that consisted of material wires surrounded by non-metallic insulation materials is not homogeneous material because mechanical processes could separate the different materials.
- A semi-conductor package contains many homogeneous materials, which include the plastic molding material, the tin-electroplating coatings on the lead frame, the lead frame alloy and the gold-bonding wires.

Note: In case of chromate treatment, homogeneous material of the coating is defined as only chromate conversion coating, not including any base metal.

3. Requirements for environment-related substances control for articles to be supplied

3.1 Substances whose inclusion in articles to be supplied is prohibited

For substances listed in Table 1 following inclusion is prohibited.

- 1) Intentional inclusion
- 2) Inclusion exceeding the maximum tolerance concentration

The maximum tolerance concentration for each substance is defined on Table 3.

Regarding substances for which maximum tolerance concentrations are not defined, impurities must be well controlled. At least concentration of each substance in components of the article must not exceed 0.1wt% (1000ppm).

However, for uses listed in Table 2, neither inclusion 1) nor inclusion 2) is prohibited (exempted uses).

Moreover, in some cases such as use for spare parts, we might procure parts, unit or materials which include the prohibited substances. In these cases, please follow the instructions of the person in charge.

Please be aware that some uses of the substances whose use is to be reduced or substituted, as described in section 3.2, are prohibited. Please refer notes of Table 7.

Table 1 Substances whose inclusion in articles to be supplied is prohibited

Ref. No.	Substance	Timing of prohibition for articles
1	Cadmium and its compounds (Including applications exempted by the EU-RoHS Directive)	Previously prohibited
2	Hexavalent chromium compounds	Previously prohibited
3	Lead and its compounds	Previously prohibited
4	Mercury and its compounds	Previously prohibited
5	Polybrominated biphenyls (PBBs)	Previously prohibited
6	Polybrominated diphenyl ethers (PBDEs)	Previously prohibited
7	Bis(tributyltin)-oxide (TBTO)	Previously prohibited
8	Polychlorinatedbiphenyls (PCBs) / Polychlorinated terphenyls (PCTs)	Previously prohibited
9	Polychloronaphtalenes (with 3 or more chlorine atoms)	Previously prohibited
10	Short Chain Chlorinated Paraffins (with carbon length 10 through 13)	Previously prohibited
11	Asbestos	Previously prohibited
12	Azo pigments and dyes (only those able to form certain amines and are directly and continuously applied to the human body)	Previously prohibited
13	Ozone depleting substances (ODS)	Previously prohibited
14	Tri-substituted organostannic compounds (Tributyltins (TBTs) , Tripheniltins (TPTs) , etc. ,except TBTO(Ref. No.7))	Previously prohibited
15	Radioactive Substances	Previously prohibited
16	Aldrin	Previously prohibited
17	Endrin	Previously prohibited
18	Yellow Phosphorus	Previously prohibited
19	Chlordanes	Previously prohibited
20	N,N'-ditolyl-p-phenylenediamin, N-tolyl-N'-xylyl-p-phenylenediamine or N,N'-dixylyl-p-phenylene diamine	Previously prohibited
21	Dioxins	Previously prohibited
22	DDT	Previously prohibited
23	Dieldrin	Previously prohibited
24	Toxaphene	Previously prohibited
25	2,4,6-Tri-t-Butylphenol	Previously prohibited
26	4-Nitrobiphenyl and its salt	Previously prohibited
27	Bis(chloromethyl)ether	Previously prohibited
28	Hexachlorobenzene	Previously prohibited
29	Benzene	Previously prohibited
30	Mirex	Previously prohibited
31	2,2,2-trichloro-1,1-bis(4-chlorophenyl)ethanol (synonyms: Kelthane, Dicofol)	Previously prohibited
32	Hexachlorobutadiene (synonyms: Hexachloro-1,3-butadiene, Hexachlorobuta-1,3-diene)	Previously prohibited
33	2-benzotriazol-2-yl-4,6-ditert-butyl-phenol	Previously prohibited
34	Perfluorooctane Sulfonate(PFOS) and its Salts (chemical formula: C ₈ F ₁₇ SO ₂ X, X is OH group, metal salts, halide, amide and other derivatives including polymers)	Previously prohibited

35	Dimethylfumarate(DMF)	Previously prohibited
36	Dibutyltin (DBT) compounds	Previously prohibited
37	Perfluorooctane sulfonyl fluoride (PFOSF)	Previously prohibited
38	Pentachlorobenzene (PeCB)	Previously prohibited
39	Alpha-Hexachlorocyclohexane	Previously prohibited
40	Beta-Hexachlorocyclohexane	Previously prohibited
41	Gamma-Hexachlorocyclohexane	Previously prohibited
42	Clordecone	Previously prohibited
43	Carcinogenic substances (Group1 and Group2A: evaluated by IARC) for personal computers and tablet Inclusion in the plastic parts not less than 25g of case and housing	Previously prohibited
44	Beryllium and its compounds	Previously prohibited
45	Certain flame retardants for personal computers and tablet Inclusion of more than 0.1wt% of following flame retardants in the plastic parts more than 25g: Flame retardants that are classified under EU 67/548/EEC and 2009/2/EC as R40, R45, R46, R48, R50, R51, R52, R53, R60, R61 and any combination of these. R40 flame retardants in the external cable (both AC and DC) are exempted from this requirement.	Previously prohibited
46	6,9-Methano-2,4,3-benzodioxathiepin,6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide (also known as Benzoepin or Endosulfan)	Previously prohibited
47	Hexabromocyclododecane (also known as HBCD)	Previously prohibited
48	Certain polycyclic aromatic hydrocarbons (PAHs) Articles shall not be placed on the market for supply to the general public, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use, contain more than 1 mg/kg (0,0001 % by weight of this component) of any of the listed PAHs. (refer to Table 6, Annex XVII, EU REACH)	Previously prohibited
49	Bis (2-ethylhexyl)phthalate (DEHP)	Previously prohibited
50	Dibutyl phthalate (DBP)	Previously prohibited
51	Butyl benzyl phthalate (BBP)	Previously prohibited
52	Diisobutyl phthalate (DIBP)	Previously prohibited
53	Red phosphorus (as flame retardant in resin) (*1)	Previously prohibited
54	Substances included in both Annex XIV of the EU-REACH Regulation and the IEC62474 Declarable Substances List (*2)	Previously prohibited
55	Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-14 PFCAs), their salts and C9-14 PFCA-related substances	To be prohibited from October 1, 2022 onward
56	Perfluorohexane-1-sulphonic acid (PFHxS), its salts and PFHxS-related substances	To be prohibited from October 1, 2022 onward
57	Aromatic hydrocarbons of mineral oil comprising from 1 to 7 aromatic rings (MOAH) and Saturated hydrocarbons of mineral oil comprising from 16 to 35 carbon atoms (MOSH) in packaging and printing materials	To be prohibited from October 1, 2022 onward

(*). Ref. No.: Reference number to the attached table “Details of substances (Typical examples)”.Please refer the attached table for details.

(*1) Restriction of red phosphorus is not based on environmental viewpoint.

(*2) Object substances for No.54 cluding those restricted in this guideline are listed in the “Attached Table: Details of substances (typical examples) referred in these Guidelines.

In addition, regarding the substances included in Annex XIV of EU-REACH regulation and declarable Substances List of IEC62474, Please refer following URL.

Annex XIV of EU-REACH regulation : <https://echa.europa.eu/authorisation-list>

Declarable Substances List of IEC62474 : <http://std.iec.ch/iec62474/iec62474.nsf/Index?open&q=012648>

Table 2 Exempted uses (Allowable uses)

Substance	Exempted uses (Allowable uses)	Expiration date	RoHS exemption No.
Lead and its compounds	Lead in glass of cathode ray tubes		5(a)
	Lead in glass of fluorescent tubes not exceeding 0.2 % by weight		5(b)
	Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35 % lead by weight		6(a)
	Lead as an alloying element in aluminum containing up to 0.4 % lead by weight		6(b)
	Copper alloy containing up to 4 % lead by weight		6(c)

	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)		7(a)
	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications		7(b)
	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)-I
	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher		7(c)-II
	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors		7(c)-IV,
	Lead in white glasses used for optical applications		13(a)
	Lead in filter glasses and glasses used for reflectance standards		13(b)
	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages		15
	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications		17
	Lead in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses		21
	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors		24
	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC		29
	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)		31
	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner): a) For general lighting purposes < 30 W: 2.5 mg b) For general lighting purposes ≥ 30 W and < 50 W: 3.5mg c) For general lighting purposes ≥ 50 W and < 150 W: 5 mg d) For general lighting purposes ≥ 150 W: 15 mg e) For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm: 7mg f) For special purposes: 5 mg		1(a)-(f)
	Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp): a) Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2): 4mg b) Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5): 3mg c) Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8): 3.5mg d) Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12): 3.5mg e) Tri-band phosphor with long lifetime (≥ 25 000 h): 5mg		2(a)(1)-(5)
	Mercury in fluorescent lamps other than listed in (H1), (H2) or (H4) not exceeding 15mg (per lamp) excluding linear halophosphate lamps with tube > 28 mm (e.g. T10 and T12).		2(b)(2)-(4)
	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp): a) Short length (≤ 500 mm) 3.5mg b) Medium length (> 500 mm and ≤ 1 500 mm) 5mg c) Long length (> 1 500 mm) 13mg		3(a)-(c)
	In other low pressure discharge lamps not exceeding 15 mg (per lamp)		4(a)
	Mercury in other discharge lamps for special purposes not specifically mentioned in the Annex of COMMISSION DECISION 2010/571/EU		4(f)
PFOS and its salts	• Mist suppressants for non-decorative hard chromium (VI) plating and wetting agents for use in controlled electroplating systems where the amount of PFOS released into the environment is minimized, by fully applying relevant best available techniques.		-

Table 3 Maximum tolerance concentration as impurities

Substance	Uses and regal requirements	Maximum tolerance concentration (*1)(*2)(*4)
Cadmium and its compounds (*4)	All uses. Under the EU RoHS Directive and EU-REACH regulation	0.01wt% (100ppm)
Hexavalent chromium compounds (*4)	All uses. Under the EU RoHS Directive.	0.1wt% (1000ppm)
Lead and its compounds (*4)	All uses. Under the EU RoHS Directive.	0.1wt% (1000ppm)
Mercury and its compounds (*4)	All uses. Under the EU RoHS Directive.	0.1wt% (1000ppm)
PBB	All uses. Under the EU RoHS Directive.	0.1wt% (1000ppm)
PBDE	All uses. Under the EU RoHS Directive.	0.1wt% (1000ppm) (*3)
PFOS and its salts	Content in substance/mixture, Under the EU-POPs regulation	0.001wt% (10ppm)
	Content of sub-product/article etc. except substance/mixture, Under the EU-POPs regulation	0.1wt% (1000ppm)
	Content of coating agent, Under the EU-POPs regulation	1 ug/m ²
Certain polycyclic aromatic hydrocarbons (PAHs) (*5)	Rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity	0.0001wt% (1ppm)
Bis (2-ethylhexyl)phthalate (DEHP)	All uses. Under the EU RoHS Directive.	0.1wt% (1000ppm)
Dibutyl phthalate (DBP)	All uses. Under the EU RoHS Directive.	0.1wt% (1000ppm)
Butyl benzyl phthalate (BBP)	All uses. Under the EU RoHS Directive.	0.1wt% (1000ppm)
Diisobutyl phthalate (DIBP)	All uses. Under the EU RoHS Directive.	0.1wt% (1000ppm)
Red Phosphorus	Inclusion to all the supplies except metal	0.1wt% (1000ppm) (*6)
Beryllium and its compounds	All uses. Under the US-EPEAT	0.1wt% (1000ppm)
Substances included in both Annex XIV of the EU-REACH Regulation and the IEC62474 Declarable Substances List	All uses. Under the EU-REACH regulation, IEC624734, and US-EPEAT	0.1wt% (1000ppm)
Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-14 PFCAs), their salts and C9-14 PFCA-related substances	All uses. Under the EU-REACH regulation	(1) The sum of C9-C14 PFCAs and their salts: Content is less than 25ppb (0.025ppm). (2) The sum of C9-C14 PFCA-related substances: Content is less than 260 ppb (0.26ppm).
Perfluorohexane-1-sulphonic acid (PFHxS), its salts and PFHxS-related substances	All uses. Under Swiss legislation, "ORRchemRS814.81AS 2022fa 162"	(1) The sum of PFHxS and its salts: Content is less than 0.0000025% (25ppb) (2) The sum of PFHxS-related substances: Content is less than 0.0001% (1000ppb).

Aromatic hydrocarbons of mineral oil comprising from 1 to 7 aromatic rings (MOAH) and Saturated hydrocarbons of mineral oil comprising from 16 to 35 carbon atoms (MOSH) in packaging and printing materials	Packaging and Printing materials. Under the order of April 13, 2022 specifying the substances contained in mineral oils whose use is prohibited on packaging and for printing intended for the public	(1) January 1, 2023: MOAH(1 to 7 aromatic rings) in packaging materials and unsolicited advertising print:1% (2) January 1, 2025: For packaging, general print and unsolicited advertising print, as follows. MOAH(1 to 7 aromatic rings): 0.1% MOAH(3 to 7 aromatic rings): 1ppm MOSH(16 to 35 carbon atoms): 0.1%
--	---	--

- (*1) Maximum tolerance concentration as impurities of each substance is defined as the weight percentage in homogeneous materials.
- (*2) Maximum tolerance concentration of heavy metal compounds is defined as the weight percentage of metal element in homogeneous materials.
e.g.) In the case of cadmium and its compound the concentration relates to the cadmium element.
- (*3) Maximum tolerance concentration of PBDE is defined as the accumulated concentration of all PBDEs, including Deca-BDE, in the homogenous materials.
- (*4) Refer to Table 8, regarding maximum tolerance concentration in packaging materials.
- (*5) Substances described in the Annex XVII of the EU REACH (refer to Table 6)
- (*6) Maximum tolerance concentration of red phosphorous included intentionally is defined as a concentration of total phosphorous element.

Table 4 List of specific amines (generated by the decomposition of one or more azo group)

Substance	Chemical formula	CAS No.
4-amino azobenzene	$C_{12}H_{11}N_3$	60-09-3
o-anisidine	C_7H_9NO	90-04-0
2-naphthylamine (β -Naphthylamine)	$C_{10}H_9N$	91-59-8
3, 3'-dichlorobenzidine	$C_{12}H_{10}Cl_2N_2$	91-94-1
Biphenyl-4-ylamine	$C_{12}H_{11}N$	92-67-1
Benzidine	$C_{12}H_{12}N_2$	92-87-5
o-toluidine	C_7H_9N	95-53-4
4-chloro- o-toluidine	C_7H_8ClN	95-69-2
2, 4-toluenediamine	$C_7H_{10}N_2$	95-80-7
o-aminoazotoluene	$C_{14}H_{15}N_3$	97-56-3
5- nitro-o-toluidine	$C_7H_8N_2O_2$	99-55-8
3, 3'-dichloro-4, 4'-diaminodiphenylmethane	$C_{13}H_{12}Cl_2N_2$	101-14-4
4, 4'-methylenedianiline	$C_{13}H_{14}N_2$	101-77-9
4, 4'-diaminodiphenylether	$C_{12}H_{12}N_2O$	101-80-4
p-chloroaniline	C_6H_6ClN	106-47-8
3, 3'-dimethoxybenzidine	$C_{14}H_{16}N_2O_2$	119-90-4
3, 3'-dimethylbenzidine	$C_{14}H_{16}N_2$	119-93-7
2-methoxy-5-methylaniline	$C_8H_{11}NO$	120-71-8
2, 4, 5-trimethylaniline	$C_9H_{13}N$	137-17-7
4, 4'-Thiodianiline	$C_{12}H_{12}N_2S$	139-65-1
2, 4'-methoxy-m-Phenylenediamine	$C_7H_{10}N_2O$	615-05-4
4, 4'-methylenedi- o -toluidine	$C_{15}H_{18}N_2$	838-88-0

Table 5 Ozone depleting substances (ODS)

CFC	(Defined in Appendix A group I of Montreal Protocol)
Halon	(Defined in Appendix A group II of Montreal Protocol)
CFC other than above	(Defined in Appendix B group I of Montreal Protocol)
Carbon tetrachloride	(Defined in Appendix B group II of Montreal Protocol)
1, 1, 1-Trichloroethane	(Defined in Appendix B group III of Montreal Protocol)
HCFC	(Defined in Appendix C group I of Montreal Protocol)
HBFC	(Defined in Appendix C group II of Montreal Protocol)
Bromochloromethane	(Defined in Appendix C group III of Montreal Protocol)
Methylbromide	(Defined in Appendix E of Montreal Protocol)

Table 6 Certain polycyclic aromatic hydrocarbons (PAHs)

Uses and groups of substances in the Annex XVII of the EU REACH are in scope.

Substance	Chemical formula	CAS No.
Benzo[a]pyrene (BaP)	C ₂₀ H ₁₂	50-32-8
Benzo[e]pyrene (BeP)	C ₂₀ H ₁₂	192-97-2
Benzo[a]anthracene (BaA)	C ₁₈ H ₁₂	56-55-3
Chrysen (CHR)	C ₁₈ H ₁₂	218-01-9
Benzo[b]fluoranthene (BbFA)	C ₂₀ H ₁₂	205-99-2
Benzo[j]fluoranthene (BjFA)	C ₂₀ H ₁₂	205-82-3
Benzo[k]fluoranthene (BkFA)	C ₂₀ H ₁₂	207-08-9
Dibenzo[a,h]anthracene (DBAhA)	C ₂₂ H ₁₄	53-70-3

3.2 Substances whose inclusion in articles to be supplied is subject to reduction and substitution

The volume of substances listed in Table 7 should be reduced in articles to be supplied, or should be replaced with other substances. We give priority to articles that do not include these substances, if commercially available.

Please be aware that some of these substances used for specified application are prohibited. Refer to the notes of Table 7.

Table 7 Substances whose inclusion in articles to be supplied is subject to reduction and substitution

Ref. No.	Substance
58	Polyvinyl chloride (PVC)
59	Tetrabromo-bisphenol A (TBBPA)
60	Brominated flame retardant (except PBBs(Ref. No.5), PBDEs(Ref. No.6) and TBBPA(Ref. No.59))
61	Antimony and its compounds
62	Arsenic and its compounds
63	Bismuth and its compounds
64	Nickel and its compounds (*1)
65	Some Phthalic Esters (Except DEHP(Ref. No.49), DBP(Ref. No.50), BBP(Ref. No.51), DIBP(Ref. No.52))
66	Selenium and its compounds
67	Zinc and its compounds
68	Chlorinated paraffin (except some short chain chlorinated paraffins (Ref. No.10))
69	Chromium compounds (III)
70	Cyanogen compounds
71	Perfluorocarbon (PFC)
72	Hydrogenerated fluorocarbon (HFC)
73	Hydrogenerated organic compounds (except those listed in Table1 (Ref. No.5, No.6, etc.)
74	Manganese and its compounds
75	Organic Tin Compounds (except TBTO (Ref. No.7), Tri-substituted organostatic compounds (Ref. No.14) and DBT (Ref. No.36))
76	Sulfur hexafluoride (SF ₆)
77	Anthracene
78	4,4'- Diaminodiphenylmethane

79	Cobalt dichloride
80	Cobalt(II) sulphate
81	Cobalt(II) dinitrate
82	Cobalt(II) carbonate
83	Cobalt(II) diacetate
84	5-tert-butyl-2,4,6-trinitro-m-xylene(synonym: musk xylene)
85	2,4-Dinitrotoluene
86	Coal tar pitch, high temperature
87	Aluminosilicate, Refractory Ceramic Fibres
88	Zirconia Aluminosilicate, Refractory Ceramic Fibres
89	Acrylamide
90	Tris(2-chloroethyl)phosphate
91	Trichloroethylene
92	Boric acid
93	Disodium tetraborate, anhydrous
94	Tetraboron disodium heptaoxide, hydrate
95	2-Methoxyethanol
96	2-Ethoxyethanol
97	Substances included in IEC62474 Declarable substances list

(*1) The use of nickel and its compounds for the area expected for direct and prolonged skin contact is prohibited.

(*2) Ref. No.: Reference number to the attached table “Details of substances (typical examples) referred in these Guidelines”. Please refer the attached table for details.

4. Requirements for packaging materials

All packaging materials to be supplied, not limited to individual packaging, must fulfill the requirements of section 3. “Requirements for environment-related substances control for articles to be supplied”, and also must not include substances listed in Table 8. For substance where a maximum tolerance concentration is defined, any inclusion exceeding that concentration is prohibited. For substances that do not define a maximum tolerance concentration, intentional inclusion is prohibited.

Table 8 Substances whose inclusion in the packaging to be supplied is prohibited

Ref. No.	Substance	Restriction	Maximum tolerance concentration (*1)(*2)
1-4	Lead, cadmium, mercury, hexavalent chromium and their compounds	Inclusion of cadmium, hexavalent chromium, lead, mercury and their compounds in the packaging including ink in printing when the accumulated concentration of these substances at any portion of the packaging exceeds the maximum tolerance concentration.	0.01wt% (100ppm)
58	Polyvinyl chloride (PVC)	Intentional inclusion of PVC in the packaging	- (Intentional inclusion)
-	Halogen compounds	Halogen compounds use in the plastic of packaging for personal computers : fluorine (F), chlorine (Cl), bromine (Br), iodine (I) and astatine (At)	- (Intentional inclusion)
-	Chlorine	Chlorine used as a bleaching agent for product packaging material. (*3)	- (Intentional inclusion)

(*1) Maximum tolerance concentration is defined as the weight percentage in homogeneous materials.

(*2) Maximum tolerance concentration of metal compounds is defined as the weight percentage of metal element in homogeneous materials.

(*3) The use of recovered fibers that were previously bleached is acceptable.

5. Requirements for batteries

Any type of batteries or accumulators, whether stand-alone or installed in units or products, must comply with the EU Battery Directives (2006/66/EC and 2013/56/EU). The requirements include prohibition of inclusion exceeding the maximum tolerance concentration described on Table 9.

The area other than cells of the battery device, such as battery pack, must fulfill not only requirements described in this section but also those described in section 3. “Requirements for environment-related substances control for articles to be supplied”.

Table 9 Substances whose inclusion in the battery is prohibited

Ref. No.	Substance	Restriction	Maximum tolerance concentration (*1)	Timing of application
1	Cadmium and its compounds	Portable batteries or accumulators that contain cadmium and its compounds exceeding the maximum tolerance concentration.	0.002wt% (20ppm)	Previously applied
4	Mercury and its compounds	All batteries or accumulators, except button batteries, that contain mercury and its compounds exceeding the maximum tolerance concentration.	0.0005wt% (5ppm)	Previously applied
		Button batteries that contain mercury and its compounds exceeding the maximum tolerance concentration.	Prohibition of intentional addition	Previously applied

(*1) Maximum tolerance concentration is defined as the weight percentage of metal element in the battery.

6. Requirements for US-EPEAT

Addition to the requirements that are described before, requirements for US-EPEAT that is described on Table10 must be fulfilled..

Table10 Requirements for US-EPEAT

Substance	Contents of requirement
Chlorine, Bromine	Chlorine and Bromine are not included in plastic parts that weight 25g or more.

Attached Table:
**Details of substances (typical examples) referred in
these Guidelines**

Attached Table: Details of substances (typical examples) referred in these guidelines

No.	CAS	Chemical substance name	Chemical formula
		Cadmium and its compounds	
1	7440-43-9	Cadmium	Cd
	1306-19-0	Cadmium oxide	CdO
	1306-23-6	Cadmium sulfide	CdS
	10108-64-2	Cadmium chloride	CdCl ₂
	10124-36-4	Cadmium sulfate	CdSO ₄
	-	Other cadmium compounds	-
		Hexavalent chromium compounds	
2	7789-12-0 10588-01-9	Sodium dichromate	Na ₂ Cr ₂ O ₇
	1333-82-0	Chromium(VI) oxide	CrO ₃
	13765-19-0	Calcium chromate	CaCrO ₄
	7758-97-6	Lead (II) chromate	PbCrO ₄
	7778-50-9	Potassium dichromate	K ₂ Cr ₂ O ₇
	7789-00-6	Potassium chromate	K ₂ CrO ₄
	-	Other hexavalent chromium compounds	
			Lead and its compounds
3	7439-92-1	Lead	Pb
	598-63-0	Lead(II) carbonate	PbCO ₃
	1309-60-0	Lead(IV) oxide	PbO ₂
	1314-41-6	Lead(II,IV) oxide	Pb ₃ O ₄
	1314-87-0	Lead(II) sulfide	PbS
	1317-36-8	Lead(II) oxide	PbO
	1319-46-6	Lead(II) carbonate basic	2PbCO ₃ .Pb(OH) ₂
	1344-36-1	Lead Hydroxidcarbonate	2PbCO ₃ .Pb(OH) ₂
	7446-14-2	Lead(II) sulfate	PbSO ₄
	7446-27-7	Lead(II) phosphate	Pb ₃ (PO ₄) ₂
	7758-97-6	Lead(II) chromate	PbCrO ₄
	12060-00-3	Lead(II) titanate	PbTiO ₃
	15739-80-7	Lead sulfate, sulphuric acid, lead salt	PbSO ₄
	12202-17-4	Lead sulfate, tribasic	PbSO ₄ .H ₂ O
	1072-35-1	Lead stearate	Pb(C ₁₇ H ₃₅ COO) ₂
	56189-09-4	Lead stearate, dibasic	2PbO.Pb(C ₁₇ H ₃₅ COO) ₂
	12656-85-8	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	PbCrO ₄ , PbMoO ₄ , PbSO ₄
	1344-37-2	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	Pb(Cr,S)O ₄
-	Other lead compounds	-	
		Mercury and its compounds.	
4	7439-97-6	Mercury	Hg
	7487-94-7	Mercury(II) chloride	HgCl ₂
	21908-53-2	Mercury(II) oxide	HgO
	-	Other mercury compounds	-
		Polybrominated biphenyls (PBBs)	
5	59536-65-1	Polybrominated biphenyls	C ₁₂ H _x Br _(10-x)
	-	Other polybrominated biphenyls	-
		Polybrominated diphenyl ethers (PBDEs)	
6	1163-19-5	Polybrominated diphenyl ethers	C ₁₂ H _x Br _(10-x) O
	-	Other Polybrominated diphenyl ethers	-
		Bis(tributyltin)oxide	
7	56-35-9	Bis(Tri-n-butyltin)oxide	O(Sn(C ₄ H ₉) ₃) ₂
		Polychlorinated biphenyls (PCBs)/ Polychlorinated terphenyls (PCTs)	
8	1336-36-3	PCB(Polychlorinated biphenyls)	C ₁₂ H _n Cl _(10-n) (n: 0-9)
	61788-33-8	PCT(Polychlorinated terphenyls)	C ₁₈ H _n Cl _(14-n) (n: 0-13)-
	-	Other PCBs	-
9		Polychlorinated naphthalene (Cl≥3)	

	70776-03-3	Polychlorinated naphthalene(CI≥3)	-
	-	Other Polychlorinated naphthalene(CI≥3)	-
10		Short chain chlorinated paraffins	
	85535-84-8	Short chain chlorinated paraffins(C10-13)	C _n H _{2n+2-x} Cl _x (n:10-13)
		Asbestos	
11	77536-66-4	Actinolite	Ca ₂ (Mg,Fe) ₅ (Si ₈ O ₂₂)(OH) ₂
	12172-73-5	Amosite	Fe ₃ Mg ₂ (Si ₈ O ₂₂)(OH) ₂
	77536-67-5	Anthophyllite	(Mg, Fe) ₇ Si ₈ O ₂₂ (OH) ₂
	12001-29-5	Chrysotile	Mg ₃ (Si ₂ O ₅)(OH) ₄
	12001-28-4	Crocidolite	Na ₂ Fe ²⁺ ₃ Fe ³⁺ ₂ Si ₈ O ₂₂ (OH) ₂
	77536-68-6	Tremolite	Ca ₂ Mg ₅ Si ₈ O ₂₂ (OH) ₂
	-	Other asbestos	-
		Azo pigments and dyes. (those able to form certain amines)	
	60-09-3	4-Aminoazobenzene	C ₁₂ H ₁₁ N ₃
	90-04-0	o-Anisidine	C ₇ H ₉ NO
	91-59-8	2-Naphthylamine (β-Naphthylamine)	C ₁₀ H ₉ N
	91-94-1	3,3'-Dichlorobenzidine	C ₁₂ H ₁₀ Cl ₂ N ₂
	92-67-1	4-Biphenylamine	C ₁₂ H ₁₁ N
	92-87-5	Benzidine	C ₁₂ H ₁₂ N ₂
	95-53-4	o-Toluidine	C ₇ H ₉ N
	95-69-2	4-Chloro-o-toluidine	C ₇ H ₈ ClN
	95-80-7	2,4-Toluendiamine	C ₇ H ₁₀ N ₂
	97-56-3	o-Aminoazotoluene	C ₁₄ H ₁₅ N ₃
	99-55-8	5-Nitro-o-toluidine	C ₇ H ₈ N ₂ O ₂
12	101-14-4	3,3'-Dichloro-4,4'-diaminodiphenylmethane	C ₁₃ H ₁₂ Cl ₂ N ₂
	101-77-9	4,4'-Methylenedianiline	C ₁₃ H ₁₄ N ₂
	101-80-4	4,4'-Diaminodiphenylether	C ₁₂ H ₁₂ N ₂ O
	106-47-8	p-Chloroaniline	C ₆ H ₆ ClN
	119-90-4	3,3'-Dimethoxybenzidine	C ₁₄ H ₁₆ N ₂ O ₂
	119-93-7	3,3'-Dimethylbenzidine	C ₁₄ H ₁₆ N ₂
	120-71-8	2-Methoxy-5-methylaniline	C ₈ H ₁₁ NO
	137-17-7	2,4,5-Trimethylaniline	C ₉ H ₁₃ N
	139-65-1	4,4'-Thiodianiline	C ₁₂ H ₁₂ N ₂ S
	615-05-4	4-Methoxy-m-phenylenediamine	C ₇ H ₁₀ N ₂ O
	838-88-0	4,4'-Diamino-3,3'-dimethyldiphenylmethane	C ₁₃ H ₁₈ N ₂
		Ozone Depleting Substances	
	75-69-4	CFC-11	CFCl ₃
	75-71-8	CFC-12	CF ₂ Cl ₂
	76-13-1	CFC-113	C ₂ F ₃ Cl ₃
	76-14-2	CFC-114	C ₂ F ₄ Cl ₂
	76-15-3	CFC-115	C ₂ F ₅ Cl
	353-59-3	Halon 1211	CF ₂ BrCl
	75-63-8	Halon 1301	CF ₃ Br
	124-73-2	Halon 2402	C ₂ F ₄ Br ₂
	75-72-9	CFC-13	CF ₃ Cl
	354-56-3	CFC-111	C ₂ FCl ₃
	28605-74-5	CFC-112	C ₂ F ₂ Cl ₄
13	422-78-6	CFC-211	C ₃ FCl ₇
	3182-26-1	CFC-212	C ₃ F ₂ Cl ₆
	2354-06-5	CFC-213	C ₃ F ₃ Cl ₅
	2268-46-4	CFC-214	C ₃ F ₄ Cl ₄
	76-17-5	CFC-215	C ₃ F ₅ Cl ₃
	661-97-2	CFC-216	C ₃ F ₆ Cl ₂
	422-86-6	CFC-217	C ₃ F ₇ Cl
	56-23-5	Carbon tetrachloride	CCl ₄
	71-55-6	1,1,1-Trichloroethane	C ₂ H ₃ Cl ₃
	1868-53-7	Dibromofluoromethane	CHFBr ₂
	1511-62-2	Bromodifluoromethane	CHF ₂ Br
	373-52-4	Bromofluoromethane	CH ₂ FBr
	306-80-9	Tetrabromofluoroethane	C ₂ HFBBr ₄

-	Tribromodifluoroethane	C ₂ HF ₂ Br ₃
354-04-1	Dibromotrifluoroethane	C ₂ HF ₃ Br ₂
124-72-1	Bromotetrafluoroethane	C ₂ HF ₄ Br
-	Tribromofluoroethane	C ₂ H ₂ FBr ₃
75-62-1	Dibromodifluoroethane	C ₂ H ₂ F ₂ Br ₂
421-06-7	Bromotrifluoroethane	C ₂ H ₂ F ₃ Br ₃
358-97-4	Dibromofluoroethane	C ₂ H ₃ FBr ₂
359-07-9	Bromodifluoroethane	C ₂ H ₃ F ₂ Br
762-49-2	Bromofluoroethane	C ₂ H ₄ FBr
-	Hexabromofluoropropane	C ₃ HFBBr ₆
-	Pentabromodifluoropropane	C ₃ HFB ₂ Br ₅
-	Tetrabromotrifluoropropane	C ₃ HFB ₃ Br ₄
-	Tribromotetrafluoropropane	C ₃ HFB ₄ Br ₃
431-78-7	Dibromopentafluoropropane	C ₃ HFB ₅ Br ₂
2252-79-1	Bromoheptafluoropropane	C ₃ HFB ₇ Br
-	Pentabromofluoropropane	C ₃ H ₂ FBr ₅
-	Tetrabromodifluoropropane	C ₃ H ₂ F ₂ Br ₄
-	Tribromotrifluoropropane	C ₃ H ₂ F ₃ Br ₃
-	Dibromotetrafluoropropane	C ₃ H ₂ F ₄ Br ₂
480-88-8	Bromopentafluoropropane	C ₃ H ₂ F ₅ Br
-	Tetrabromofluoropropane	C ₃ H ₃ FBr ₄
70192-80-2	Tribromodifluoropropane	C ₃ H ₃ F ₂ Br ₃
70192-83-5	Dibromotrifluoropropane	C ₃ H ₃ F ₃ Br ₂
679-84-5	Bromotetrafluoropropane	C ₃ H ₃ F ₄ Br
75372-14-4	Tribromofluoropropane	C ₃ H ₄ FBr ₃
460-25-3	Dibromodifluoropropane	C ₃ H ₄ F ₂ Br ₂
421-46-5	Bromotrifluoropropane	C ₃ H ₄ F ₃ Br
51584-26-0	Dibromofluoropropane	C ₃ H ₅ FBr ₂
-	Bromodifluoropropane	C ₃ H ₅ F ₂ Br
352-91-0	Bromofluoropropane	C ₃ H ₆ FBr
74-97-5	Chlorobromomethane	CH ₂ BrCl
74-83-9	Methylbromide	CH ₃ Br
75-43-4	HCFC-21	CHFCl ₂
75-45-6	HCFC-22	CHF ₂ Cl
593-70-4	HCFC-31	CH ₂ FCI
134237-32-4	HCFC121	C ₂ HFCl ₄
41834-16-6	HCFC-122	C ₂ HF ₂ Cl ₃
34077-87-7	HCFC-123	C ₂ HF ₃ Cl ₂
306-83-2	HCFC-123	CHCl ₂ CF ₃
63938-10-3	HCFC-124	C ₂ HF ₄ Cl
2837-89-0	HCFC-124	CHFClCF ₃
134237-34-6	HCFC-131	C ₂ H ₂ FCl ₃
25915-78-0	HCFC-132	C ₂ H ₂ F ₂ Cl ₂
75-88-7	HCFC-133	C ₂ H ₂ F ₃ Cl
25167-88-8	HCFC-141	C ₂ H ₃ FCl ₂
1717-00-6	HCFC-141(b)	C ₂ H ₃ FCl ₂
25497-29-4	HCFC-142	C ₂ H ₃ F ₂ Cl
75-68-3	HCFC-142(b)	CH ₃ CF ₂ Cl
1615-75-4	HCFC-151	C ₂ H ₄ FCl
134237-35-7	HCFC-221	C ₃ HFCI ₆
134237-36-8	HCFC-222	C ₃ HFB ₂ Cl ₅
134237-37-9	HCFC-223	C ₃ HFB ₃ Cl ₄
134237-38-0	HCFC-224	C ₃ HFB ₄ Cl ₃
127564-92-5	HCFC-225	C ₃ HFB ₅ Cl ₂
422-56-0	HCFC-225 ca	CF ₃ CF ₂ CHCl ₂
507-55-1	HCFC-225 cb	CF ₂ ClCF ₂ CHClF
134308-72-8	HCFC-226	C ₃ HFB ₆ Cl
134190-48-0	HCFC-231	C ₃ H ₂ FCl ₅
134237-39-1	HCFC-232	C ₃ H ₂ F ₂ Cl ₄
134237-40-4	HCFC-233	C ₃ H ₂ F ₃ Cl ₃
127564-83-4	HCFC-234	C ₃ H ₂ F ₄ Cl ₂

	134237-41-5	HCFC-235	C ₃ H ₂ F ₅ Cl
	134190-49-1	HCFC-241	C ₃ H ₃ FCl ₄
	134237-42-6	HCFC-242	C ₃ H ₃ F ₂ Cl ₃
	134237-43-7	HCFC-243	C ₃ H ₃ F ₃ Cl ₂
	134190-50-4	HCFC-244	C ₃ H ₃ F ₄ Cl
	134190-51-5	HCFC-251	C ₃ H ₄ FCl ₃
	134190-52-6	HCFC-252	C ₃ H ₄ F ₂ Cl ₂
	134237-44-8	HCFC-253	C ₃ H ₄ F ₃ Cl
	134237-45-9	HCFC-261	C ₃ H ₅ FCl ₂
	134190-53-7	HCFC-262	C ₃ H ₅ F ₂ Cl
	134190-54-8	HCFC-271	C ₃ H ₆ FCl
		Tri-substituted organostannic compounds (Tributyltin, Triphenyltin, etc. except TBTO(No.7))	
	1803-12-9	Triphenyltin N,N'-dimethyldithiocarbamate	(C ₆ H ₅) ₃ Sn(CH ₃) ₂ NCS ₂
	379-52-2	Triphenyltin fuloride	(C ₆ H ₅) ₃ SnF
	900-95-8	Triphenyltin acetate	(C ₆ H ₅) ₃ SnOCOCH ₃
	639-58-7	Triphenyltin chloride	(C ₆ H ₅) ₃ SnCl
	76-87-9	Triphenyltin hydroxide	(C ₆ H ₅) ₃ SnOH
	47672-31-1	Triphenyltin fatty acid salts(C=9-11)	-
	7094-94-2	Triphenyltin chloroacetate	(C ₆ H ₅) ₃ SnOCOCH ₂ Cl
	2155-70-6	Triphenyltin methacrylate	(C ₆ H ₅) ₃ SnC ₄ H ₅ O ₂
	6454-35-9	Bis(tributyltin)2,3-dibromosuccinate	C ₂ H ₂ (COO) ₂ ((C ₄ H ₉) ₃ Sn) ₂
	1983-10-4	Tributyltin fluoride	(C ₄ H ₉) ₃ SnF
	31732-71-5	Bis(tributyltin) 2,3-dibromosuccinate	((C ₄ H ₉) ₃ Sn) ₂ C ₂ H ₂ (Br) ₂ (COO) ₂
14	56-36-0	Tributyltin acetate	(C ₄ H ₉) ₃ SnOCOCH ₃
	3090-36-6	Tributyltin laurate	(C ₄ H ₉) ₃ SnC ₁₂ H ₂₃ O ₂
	4782-29-0	Bis(tributyltin)phthalate	(C ₆ H ₄)(COO) ₂ ((C ₄ H ₉) ₃ Sn) ₂
	-	Copolymer of alkyl acrylate,methyl methacrylate and tributyltin methacrylate (alkyl;C=8)	-
	6517-25-5	Tributyltin sulfamate	(C ₄ H ₉) ₃ SnSO ₃ NH ₂
	14275-57-1	Bis(tributyltin)maleate	C ₂ H ₂ (COO) ₂ ((C ₄ H ₉) ₃ Sn) ₂
	1461-22-9	tributyltin chloride	(C ₄ H ₉) ₃ SnCl
	-	Mixture of tributyltin cyclopentane carboxylate and its analogs	-
	-	Mixture of tributyltin-1,2,3,4,4,a,5,6,10,10a-decahydro-7-isopropyl-1,4a-dimethyl-1-phenanthren carboxylateand its analogs	-
	-	Other tri-substitute d organostannic compounds	-
		Radioactive substances	
	7440-61-1	Uranium	U
	7440-07-5	Plutonium	Pu
	10043-92-2	Radon	Rn
15	7440-35-9	Americium	Am
	7440-29-1	Thorium	Th
	7440-46-2	Cesium	Cs
	7440-24-6	Strontium	Sr
	-	Other radioactive substances	-
16		Aldrin	
	309-00-2	Aldrin	C ₁₂ H ₈ Cl ₆
17		Endrin	
	72-20-8	Endrin	C ₁₂ H ₈ Cl ₆ O
18		Yellow Phosphorus	
	12185-10-3	Yellow Phosphorus	P ₄
		Chlordanes	
	5566-34-7	Gamma-chlordane	C ₁₀ H ₆ Cl ₈
	5103-74-2	Trans- chlordane	C ₁₀ H ₆ Cl ₈
19	5103-71-9	Cis- chlordane	C ₁₀ H ₆ Cl ₈
	76-44-8	Heptachlor	C ₁₀ H ₅ Cl ₇
	27304-13-8	Oxychlordane	C ₁₀ H ₄ C ₁₈ O
	39765-80-5	Trans-nonachlor	C ₁₀ H ₅ Cl ₉

	5103-73-1	Cis-nonachlor	C ₁₀ H ₅ Cl ₉
20		N,N'-ditolyl-p-phenylenediamin, N-tolyl-N'-xylyl-p-phenylenediamine and N,N'-dixylyl-p-phenylenediamine	
	27417-40-9	N,N'-ditolyl-p-phenylenediamin	-
	28726-30-9	N-Tolyl-N'-Xylyl-p-phenylenediamine	-
	70290-05-0	N,N'-dixylyl-p-phenylenediamine	-
21		Dioxins	
	-	Polychlorinated dibenzo- <i>p</i> -dioxin	-
	-	Polychlorinated dibenzofuran	-
	-	Co- PCBs	-
22	50-29-3	DDT	C ₁₄ H ₉ Cl ₅
23	60-57-1	Dieldrin	C ₁₂ H ₈ Cl ₆ O
24	8001-35-2	Toxaphene	C ₁₀ H ₁₀ Cl ₈
25	732-26-3	2,4,6-Tri-<i>t</i>-butylphenol	C ₁₈ H ₃₀ O
		4-Nitrodiphenyl and its salt	
26	92-93-3	4-Nitrodiphenyl	C ₁₂ H ₉ NO ₂
27	542-88-1	Bis(chloromethyl)ether	C ₂ H ₄ Cl ₂ O
28	118-74-1	Hexachlorobenzene	C ₆ Cl ₆
29	71-43-2	Benzene	C ₆ H ₆
30	2385-85-5	Mirex	C ₁₀ Cl ₁₂
31	115-32-2	2,2,2-trichloro-1,1-bis(4-chlorophenyl)ethanol	C ₁₄ H ₉ Cl ₅ O
32	87-68-3	Hexachlorobutadiene (Hexachloro-1,3-butadiene, Hexachlorobuta-1,3-diene)	C ₄ Cl ₆
33	3846-71-7	2-benzotriazol-2-yl-4,6-di-<i>tert</i>-butyl-phenol	C ₂₀ H ₂₅ N ₃ O
34		Perfluorooctane Sulfonate(PFOS) and its salts	C ₈ F ₁₇ SO ₂ X
	1763-23-1	Perfluorooctanesulfonic acid	C ₈ HF ₁₇ O ₃ S
	29081-56-9	Perfluorooctanesulfonate amine	C ₈ F ₁₇ S O ₃ NH ₄
	70225-14-8	Bis(2-hydroxyethyl) ammonium perfluorooctanesulfonate	C ₁₂ H ₁₂ F ₁₇ NO ₅ S
	2795-39-3	Potassium perfluorooctanesulfonate	C ₈ F ₁₇ KO ₃ S
	29457-72-5	Lithium perfluorooctanesulfonate	C ₈ F ₁₇ LiO ₃ S
	-	Other perfluorooctane Sulfonate and its Salts	
35	624-49-7	Dimethylfumarate(DMF)	C ₆ H ₈ O ₄
36		Dibutyltin (DBT) compounds	
	818-08-6	Dibutyltin oxide	C ₈ H ₁₈ OSn
	1067-33-0	Dibutyltin diacetate	C ₁₂ H ₂₄ O ₄ Sn
	77-58-7	Dibutyltin dilaurate	C ₃₂ H ₆₄ O ₄ Sn
	78-04-6	Dibutyltin maleate	C ₁₂ H ₂₀ O ₄ Sn
	-	Other dibutyltin compounds	
37	307-35-7	Perfluorooctane sulfonyl fluoride (PFOSF)	C ₈ F ₁₇ SO ₂ F
38	608-93-5	Pentachlorobenzene (PeCB)	C ₆ HCl ₅
39	319-84-6	Alpha-Hexachlorocyclohexane	C ₆ H ₆ Cl ₆
40	319-85-7	Beta-Hexachlorocyclohexane	C ₆ H ₆ Cl ₆
41	58-89-9	Gamma-Hexachlorocyclohexane	C ₆ H ₆ Cl ₆
42	143-50-0	Clordecene	C ₁₀ Cl ₁₀ O
43	-	Carcinogenic substances (Group1 and Group2A:evaluated by IARC)	-
44		Beryllium and its compounds	
	7440-41-7	Beryllium	Be
	1304-56-9	Beryllium oxide	BeO
	-	Other Beryllium compounds	
46	115-29-7	6,9-Hethano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,8,9a-hexahydro-,3-oxide (also known as Benzoepin or Endosulfan)	C ₉ H ₆ Cl ₆ O ₃ S
47	25637-99-4	Hexabromocyclododecane (also known as HBCD)	C ₁₂ H ₁₈ Br ₆
48		Certain Polycyclic aromatic hydrocarbon (PAHs)	
	50-32-8	Benzo[a]pyrene (BaP)	C ₂₀ H ₁₂
	192-97-2	Benzo[e]pyrene (BeP)	C ₂₀ H ₁₂
	56-55-3	Benzo[a]anthracene (BaA)	C ₁₈ H ₁₂
	218-01-9	Chrysen (CHR)	C ₁₈ H ₁₂

	205-99-2	Benzo[b]fluoranthene (BbFA)	C ₂₀ H ₁₂
	205-82-3	Benzo[j]fluoranthene (BjFA)	C ₂₀ H ₁₂
	207-08-9	Benzo[k]fluoranthene (BkFA)	C ₂₀ H ₁₂
	53-70-3	Dibenzo[a,h]anthracene (DBAhA)	C ₂₂ H ₁₄
49	117-81-7	Bis(2-ethylhexyl)phthalate (DEHP)	C ₂₄ H ₃₈ O ₄
50	84-74-2	Dibutyl Phthalate (DBP)	C ₁₆ H ₂₂ O ₄
51	85-68-7	Butyl benzyl phthalate (BBP)	C ₁₉ H ₂₀ O ₄
52	84-69-5	Diisobutyl phthalate (DIBP)	C ₁₆ H ₂₂ O ₄
53	7723-14-0	Red phosphorus (flame retardant application in the resin)	P
54	-	Substances included in both Annex XIV of the EU-REACH Regulation and the IEC62474 Declarable Substances List	-
	1327-53-3	Diarsenic trioxide	
	1303-28-2	Diarsenic pentaoxide	
	115-96-8	Tris(2-chloroethyl) phosphate	
	111-96-6	Bis(2-methoxyethyl) ether	
	7789-06-2	Strontium chromate	
	11103-86-9	Potassium hydroxyoctaoxodizincatedichromate	
	49663-84-5	Pentazinc chromate octahydroxide	
	605-50-5	Diisopentyl phthalate	
	71888-89-6	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	
	68515-42-4	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	
	84777-06-0	1,2-Benzenedicarboxylic acid, dipentyl ester, branched and linear	
	117-82-8	Bis(2-methoxyethyl) phthalate	
	131-18-0	Dipentyl phthalate	
	776297-69-9	n-pentyl-isopentylphthalate	
	20427-84-3	2-[2-(4-nonylphenoxy)ethoxy]ethanol	
	14409-72-4	26-(4-Nonylphenoxy)-3,6,9,12,15,18,21,24-octaoxahexacosan-1-ol	
	26027-38-3	4-Nonylphenol, ethoxylated	
	7311-27-5	2-[2-[2-(4-nonylphenoxy)ethoxy]ethoxy]ethoxy]ethanol	
	27942-27-4	20-(4-nonylphenoxy)-3,6,9,12,15,18-hexaoxacosan-1-ol	
	127087-87-0	4-Nonylphenol, branched, ethoxylated	
	37205-87-1	Isononylphenol, ethoxylated	
	68515-50-4	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	
	84-75-3	Dihexyl phthalate	
	68648-93-1	1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters	
	68515-51-5	1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters	
	25155-23-1	Trixylyl phosphate	
	25973-55-1	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	
	3864-99-1	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	
	36437-37-3	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	
	-	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	
	-	4-Nonylphenol, branched and linear, ethoxylated	
	15571-58-1	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate	
	-	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	

55	-	Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-14 PFCAs), their salts and C9-14 PFCA-related substances	
56	-	Perfluorohexane-1-sulphonic acid (PFHxS), its salts and PFHxS-related substances	
57	-	Aromatic hydrocarbons of mineral oil comprising from 1 to 7 aromatic rings (MOAH) and Saturated hydrocarbons of mineral oil comprising from 16 to 35 carbon atoms (MOSH) in packaging and printing materials	
58	9002-86-2	Polyvinylchloride(PVC)	$(CH_2CHCl)_n$
59		Tetrabromo-bisphenol A(TBBPA,TBBA)	
	79-94-7	Tetrabromo-bisphenol A	$C_{15}H_{12}Br_4O_2$
	30496-13-0	TBBA, unspecified	-
	40039-93-8	TBBA-epichlorhydrin oligomer	$(C_{15}H_{12}Br_4O_2.C_3H_5ClO)_x$
	70682-74-5	TBBA-diglycidyl-ether oligomer	-
	28906-13-0	TBBA carbonate oligomer	$(C_{15}H_{12}Br_4O_2.CCl_2O)_x$
	94334-64-2	TBBA carbonate oligomer,phenoxy end capped	$(C_7H_5O_2)(C_{16}H_{10}Br_4O_3)_x(C_6H_5O)$
	71342-77-3	TBBA carbonate oligomer,2,4,6-tribromo-phenolterminated	$(C_7H_2Br_3O_3)(C_{16}H_{10}Br_4O_3)_n(C_6H_2Br_3)$
	32844-27-2	TBBA-bisphenol A-phosgene polymer	$(C_{15}H_{16}O_2.C_{15}H_{12}Br_4O_2.CCl_2O)_x$
	21850-44-2	TBBA-(2,3-dibromo-propyl-ether)	$C_{21}H_{20}Br_8O_2$
	4162-45-2	TBBA bis-(2-hydroxy-ethyl-ether)	$C_{19}H_{20}Br_4O_4$
	25327-89-3	TBBA-bis-(allyl-ether)	$C_{21}H_{20}Br_4O_2$
37853-61-5	TBBA-dimethyl-ether	$C_{17}H_{16}Br_4O_2$	
60		Brominated flame retardant (except: PBB,PBDE,TBBPA)	
		Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(14) [Aliphatic/alicyclic brominated compounds]	ISO code 1043-4
		Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(15) [Aliphatic/alicyclic brominated compounds in combination with antimony compounds]	ISO code 1043-4
		Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(16) [Aromatic brominated compounds(excluding brominated diphenyl ether and biphenyls)]	ISO code 1043-4
		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]	ISO code 1043-4
		Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(22) [Aliphatic/alicyclic chlorinated and brominated compounds]	ISO code 1043-4
		Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(42) [Brominated organic phosphorus compounds]	ISO code 1043-4
	69882-11-7	Poly(2,6-dibromo-phenylene oxide)	$(C_6H_2Br_2O)_x$
	58965-66-5	Tetra-decaboro-diphenoxy-benzene	$C_{18}Br_{14}O_2$
	37853-59-1	1,2-Bis(2,4,6-tribromo-phenoxy)ethane	$C_{14}H_8Br_6O_2$
	139638-58-7	Brominated epoxy resin end-capped with tribromophenol	-
	135229-48-0	Brominated epoxy resin end-capped with tribromophenol	-
	39635-79-5	Tetrabromo-bisphenol S	$C_{12}H_6Br_4O_4S$
	42757-55-1	TBBS-bis-(2,3-dibromo-propyl-ether)	$C_{18}H_{14}Br_8O_4S$
	615-58-7	2,4-Dibromo-phenol	$C_6H_4Br_2O$
118-79-6	2,4,6-tribromo-phenol	$C_6H_3Br_3O$	

	608-71-9	Pentabromo-phenol	C ₆ HBr ₅ O
	3278-89-5	2,4,6-Tribromo-phenyl-allyl-ether	C ₉ H ₇ Br ₃ O
	26762-91-4	Tribromo-phenyl-allyl-ether, unspecified	C ₉ H ₇ Br ₃ O
	31454-48-5	Tetrabromo-chyclo-octane	C ₈ H ₁₂ Br ₄
	3322-93-8	1,2-Dibromo-4-(1,2dibromo-methyl)-cyclo-hexane	C ₈ H ₁₂ Br ₄
	25357-79-3	TBPA Na salt	C ₈ Br ₄ O ₄ Na ₂
	632-79-1	Tetrabromo phthalic anhydride	C ₈ Br ₄ O ₃
	55481-60-2	Bis(methyl)tetrabromo-phthalate	C ₁₀ H ₆ Br ₄ O ₄
	-	Phthalic acid, 3,4,5,6-tetrabromo-, dialkyl ester (C=6~23)	-
	20566-35-2	2-Hydroxy-propyl-2-(2-hydroxy-ethoxy)-ethyl-TBP	C ₁₅ H ₁₆ Br ₄ O ₇
	75790-69-1	TBPA, glycol-and propylene-oxide esters	-
	32588-76-4	N,N'-Ethylene-bis (tetrabromo-phthalimide)	C ₁₈ H ₄ Br ₈ N ₂ O ₄
	52907-07-0	Ethylene-bis(5,6-dibromo-norbornane-2,3-dicarboximide)	C ₂₀ H ₂₀ Br ₄ N ₂ O ₄
	3234-02-4	2,3-Dibromo-2-butene-1,4-diol	C ₄ H ₆ Br ₂ O ₂
	3296-90-0	Dibromo-neopentyl-glycol	C ₅ H ₁₀ Br ₂ O ₂
	96-13-9	2,3-Dibromo-propanol	C ₃ H ₆ Br ₂ O
	36483-57-5	Tribromo-neopentyl-alcohol	C ₅ H ₉ Br ₃ O
	57137-10-7	Poly tribromo-styrene	-
	61368-34-1	Tribromo-styrene	C ₈ H ₅ Br ₃
	171091-06-8	Dibromo-styrene grafted PP	-
	31780-26-4	Poly-dibromo-styrene	C ₈ H ₆ Br ₂
	68955-41-9	Bromo-/Chloro-paraffins	-
	82600-56-4	Bromo-/Chloro-alpha-olefin	-
	593-60-2	Vinylbromide	C ₂ H ₃ Br
	52434-90-9	Tris-(2,3-dibromo-propyl)-isocyanurate	C ₁₂ H ₁₅ Br ₆ N ₃ O ₃
	49690-63-3	Tris(2,4-Dibromo-phenyl) phosphate	C ₁₈ H ₉ Br ₆ O ₄ P
	19186-97-1	Tris(tribromo-neopentyl) phosphate	C ₁₅ H ₂₄ Br ₉ O ₄ P
	125997-20-8	Chlorinated and brominated phosphate ester	-
	87-83-2	Pentabromo-toluene	C ₇ H ₃ Br ₅
	38521-51-6	Pentabromo-benzyl bromide	C ₇ H ₂ Br ₆
	68441-46-3	1,3-Butadiene homopolymer,brominated	-
	59447-55-1	Pentabromo-benzyl-acrylate, monomer	C ₁₀ H ₅ Br ₅ O ₂
	59447-57-3	Pentabromo-benzyl-acrylate, polymer	(C ₁₀ H ₅ Br ₅ O ₂) _x
	61262-53-1	Decabromo-diphenyl-ethane	C ₁₄ H ₄ Br ₁₀ O ₂
	59789-51-4	Tribromo-bisphenyl-maleinimide	C ₁₀ H ₄ Br ₃ NO ₂
	59789-51-4	Brominated trimethylphenyl-lindane	C ₁₈ H ₁₃ Br _n (n=7,8)
	-	Other Brominated flame retardants	-
		Antimony and its compounds	
	7440-36-0	Antimony	Sb
	10025-91-9	Antimony trichloride	SbCl ₃
61	1309-64-4	Antimony trioxide	Sb ₂ O ₃
	1314-60-9	Antimony pentoxide	Sb ₂ O ₅
	15432-85-6	Sodium antimony	Na ₃ O ₄ Sb
	-	Other antimony compounds	
		Arsenic and its compounds	
	7440-38-2	Arsenic	As
	1303-00-0	Gallium arsenide	GaAs
	1303-28-2	Diaresenic pentoxide	As ₂ O ₅
	1327-53-3	Diaresenic trioxide	As ₂ O ₃
	7784-40-9	Lead hydrogen arsenate	AsHO ₄ Pb
	15606-95-8	Triethyl aresenate	C ₆ H ₁₅ AsO ₄
	-	Other arsenic compounds	-
		Bismuth and its compounds.	
63	7440-69-9	Bismuth	Bi
		Nickel and its compounds.	
	1313-99-1	Nickel(II) oxide	NiO
64	3333-67-3	Nickel(II) carbonate	NiCO ₃
	7786-81-4	Nickel(II) sulfate	NiSO ₄
	7440-02-0	Nickel	Ni

	-	Other nickel compounds	
		Some Phthalic Esters	
65	117-81-7	Bis(2-ethyl(hexyl)phthalate) (DEHP)	$C_6H_4(CO_2C_8H_{17})_2$
	84-74-2	Dibutyl phthalate (DBP)	$C_6H_4(COO(CH_2)_3CH_3)_2$
	85-68-7	Benzyl butyl phthalate(BBP)	$C_{19}H_{20}O_4$
	26761-40-0	Diisodecyl phthalate(DIDP)	$C_6H_4(COOC_{10}H_{21})_2$
	28553-12-0	Diisononyl phthalate(DINP)	$C_6H_4(COOC_9H_{19})_2$
	117-84-0	Di-n-octyl phthalate(DnOP)	$(C_6H_4)(COO(CH_2)_7CH_3)_2$
	84-69-5	Diisobutyl phthalate(DIBP)	$C_6H_4(COOCH_2CH(CH_3)_2)_2$
		Selenium and its compounds	
66	7782-49-2	Selenium	Se
	7783-00-8	Selenous acid	H_2SeO_3
	-	Other selenium compounds	
		Zinc and its compounds	
67	10025-64-6	Zinc perchlorate hexahydrate	$Zn(ClO_4)_2 \cdot 6H_2O$
	10139-47-6	Zinc Iodide	ZnI_2
	10196-18-6	Zinc nitrate hexahydrate	$Zn(NO_3)_2 \cdot 6H_2O$
	10361-95-2	Zinc chlorate	$Zn(ClO_3)_2$
	1313-49-1	Zinc nitride	Zn_3N_2
	1314-13-2	Zinc oxide	ZnO
	1314-84-7	Zinc phosphide	Zn_3P_2
	1314-98-3	Zinc sulfide	ZnS
	1315-11-3	Zinc telluride	ZnTe
	13530-65-9	Zinc chromate	CrO_4Zn
	13637-61-1	Zinc perchlorate	$Zn(ClO_4)_2$
	13814-87-4	Ammonium zinc sulfate	$(NH_4)_2Zn(SO_4)_2$
	13932-17-7	Potassium zinc sulfate	$K_2Zn(SO_4)_2$
	14485-28-0	Zinc phosphate,monobasic	$Zn(H_2PO_4)_2$
	14639-97-5	Zinc ammonium chloride	$(NH_4)_2[ZnCl_4]$
	15060-64-7	Zinc hypophosphite	$Zn(PH_2O_2)_2$
	16871-71-9	Zinc fluorosilicate	$Zn[SiF_6]$
	544-97-8	Dimethyl zinc	$Zn(CH_3)_2$
	557-20-0	Diethyl zinc	$Zn(C_2H_5)_2$
	557-21-1	Zinc cyanide	$Zn(CN)_2$
	557-34-6	Zinc acetate	$Zn(CH_3COO)_2$
	557-42-6	Zinc thiocyanate	$Zn(SCN)_2$
	5970-45-6	Zinc acetate dihydrate	$Zn(CH_3COO)_2 \cdot 2H_2O$
	73640-07-0	Zinc fluoride tetrahydrate	$ZnF_2 \cdot 4H_2O$
	7446-20-0	Sulfuric acid, zinc salt(1:1), Heptahydrate	$ZnSO_4 \cdot 7H_2O$
	7646-85-7	Zinc chloride	$ZnCl_2$
	7699-45-8	Zinc bromide	$ZnBr_2$
	7733-02-0	Zinc sulfate	$ZnSO_4$
	7779-86-4	Zinc hydrosulfite	ZnS_2O_4
	7779-88-6	Zinc nitrate	$Zn(NO_3)_2$
7783-49-5	Zinc fluoride	ZnF_2	
77998-33-5	Ammonium zinc sulfate hydrateE	$(NH_4)_2Zn(SO_4)_2 \cdot 6H_2O$	
68		Chlorinated paraffine (except short chain chlorinated paraffins (No.10))	
		Medium chain chlorinated paraffins (C14-17)	$C_nH_{2n+2-x}Cl_x$ (n : 14-17)
		Long chain chlorinated paraffins (C18-30)	$C_nH_{2n+2-x}Cl_x$ (n : 18-30)
		Chromium(III) compounds	
69	10022-47-6	Ammonium chromium(III) sulfate dodecahydrate	$Cr(NH_4)(SO_4)_2 \cdot 2H_2O$
	10025-73-7	Chromic chloride	$CrCl_3$
	10031-25-1	Chromium(III) bromide	$CrBr_3$
	10060-12-5	Chromium Trichloride Hexahydrate	$CrCl_3 \cdot 6H_2O$
	10101-53-8	Chromic Sulfate	$Cr_2(SO_4)_3$
	10141-00-1	Chromium Potassium Sulfate	$CrK(SO_4)_2$
	1066-30-4	Chromic Acetate	$Cr(CH_3COO)_3$
	12018-22-3	Chromium(III) sulfide	Cr_2S_3
	1308-38-9	Chromium oxide	Cr_2O_3
	13475-98-4	Chromium(III) phosphate hexahydrate	$CrPO_4 \cdot 6H_2O$

13478-06-3	Chromium(III) bromide hexahydrate	CrBr ₃ ·6H ₂ O
13537-21-8	Chromic perchlorate	Cr(ClO ₄) ₃
13548-38-4	Chromium nitrate	Cr(NO ₃) ₃
13548-43-1	Ammonium chromic sulfate	Cr(NH ₄)(SO ₄) ₂
13569-75-0	Chromium(III) iodide	CrI ₃
13573-16-5	Chromate(1-), Diamine tetrakis(Thiocyanate-N)-, Ammonium, (OC-6-11)	trans-NH ₄ [Cr(NCS) ₄ (NH ₃) ₂]
13573-17-6	Reinecke salt monohydrate; Ammonium Tetra thiocyanate diammine chromate	trans-NH ₄ [Cr(NCS) ₄ (NH ₃) ₂] · H ₂ O
13601-11-1	Potassium hexacyano chromate(III)	K ₃ [Cr(CN) ₆]
15244-38-9	Chromium(III) sulfate N-hydrate	Cr ₂ (SO ₄) ₃ ·18H ₂ O
16165-32-5	Tris(ethylene diamine)chromium(III) Chloride hydrate	[Cr(C ₂ H ₈ N ₂) ₃]Cl ₃ ·3H ₂ O
21679-31-2	Chromium(III) acetyl acetonate	Cr(C ₅ H ₇ O ₂) ₃
24094-93-7	Chromium(III) nitride	CrN
25013-82-5	Chromium(III) acetate monohydrate	Cr(CH ₃ COO) ₃ ·H ₂ O
26342-61-0	Chromium phosphide	CrP
30737-19-0	Chromium(III) oxalate	Cr ₂ (C ₂ O ₄) ₃
55147-94-9	Chromium(III) perchlorate hexahydrate	Cr(ClO ₄) ₃ ·6H ₂ O
64093-79-4	Neochromium	Cr(OH)SO ₄ ·Na ₂ SO ₄ ·H ₂ O
7440-47-3	Chromium	Cr
7788-97-8	Chromium(III) fluoride	CrF ₃
7788-99-0	Chromium potassium sulfate dodeca hydrate	CrK(SO ₄) ₂ ·12H ₂ O
7789-02-8	Chromium nitrate, Nona hydrate	Cr(NO ₃) ₃ ·9H ₂ O
7789-04-0	Chromium(III) phosphate	CrPO ₄
	Cyanogen compounds.	
100-47-0	Benzonitrile	C ₇ H ₅ N
107-13-1	Acrylonitrile	C ₃ H ₃ N
109-78-4	Ethylene cyanohydrin	C ₃ H ₅ NO
1194-65-6	2,6-Dichloro benzonitrile	C ₇ H ₃ Cl ₂ N
13453-34-4	Thallium(I) cyanide	TlCN
140-29-4	Phenyl acetonitrile	C ₈ H ₇ N
143-33-9	Sodium cyanide	NaCN
14763-77-0	Copper cyanide	Cu(CN) ₂
151-50-8	Potassium cyanide	KCN
156-62-7	Calcium cyanamide	CCa ₂ N ₂
2035-66-7	Palladium(II) cyanide	Pd(CN) ₂
21159-32-0	Cesium cyanide	CsCN
21725-46-2	Cyanazine	C ₃ H ₃ N ₃
420-04-2	Cyanamide	NCNH ₂
460-19-5	Cyanogen	(CN) ₂
506-64-9	Silver cyanide	AgCN
506-65-0	Gold(I) cyanide	AuCN
506-68-3	Cyanogen bromide	CNBr
506-77-4	Cyanogen chloride	CNCl
506-78-5	Cyanogen iodide	CNI
535-37-5	Gold(I) cyanide trihydrate	Au(CN) ₃ ·3H ₂ O
535-37-5	Gold(I) cyanide	Au(CN) ₃
542-62-1	Barium cyanide	Ba(CN) ₂
542-83-6	Cadmium cyanide	Cd(CN) ₂
542-84-7	Cobalt(II) cyanide	Co(CN) ₂
544-92-3	Cuprous cyanide	CuCN
557-19-7	Nickel cyanide	Ni(CN) ₂
557-21-1	Zinc cyanide	Zn(CN) ₂
592-01-8	Calcium cyanide	Ca(CN) ₂
592-04-1	Mercuric cyanide	Hg(CN) ₂
592-05-2	Lead cyanide	Pb(CN) ₂
592-06-3	Platinum(II) cyanide	Pt(CN) ₂
74-90-8	Hydrogen cyanide	HCN
7677-24-9	Trimethylsilyl cyanide	Si(CN)(CH ₃) ₃
917-61-3	Sodium cyanide	CNNaO

70

		Perfluorocarbon (PFC)	
71	115-25-3	Octafluorocyclobutane	C ₄ F ₈
	307-34-6	Octadecafluorooctane, Perfluorooctane	C ₈ F ₁₈
	335-57-9	PFC72,PFC-51-14	C ₇ F ₁₆
	355-25-9	PFC218	C ₄ F ₁₀
	355-42-0	Tetradecafluorohexane, Perfluorohexane	C ₆ F ₁₄
	678-26-2	PFC410	C ₅ F ₁₂
	75-73-0	Tetrafluoromethane	CF ₄
	76-16-4	PFC14	C ₂ F ₆
	76-19-7	PFC116	C ₃ F ₈
		Hydrogenerated fluorocarbon (HFC)	
72	811-97-2	HFC-134a	CH ₂ FCF ₃
	138495-42-8	HFC-43-10mee	C ₅ H ₂ F ₁₀
	354-33-6	HFC-125	CHF ₂ CF ₃ , C ₂ HF ₅
	407-59-0	HFC-356mff,HFC-356ffa	C ₄ H ₄ F ₆
	420-46-2	HFC-143a	CH ₃ CF ₃
	430-66-0	HFC-143	CHF ₂ CH ₂ F
	431-89-0	HFC-227ea	CF ₃ CHFCF ₃ , C ₃ HF ₇
	679-86-7	HFC-245ca	C ₃ H ₃ F ₅
	690-39-1	HFC-236fa	C ₃ H ₂ F ₆
	75-10-5	HFC-32	CH ₂ F ₂
	75-37-6	HFC-152a	CH ₃ CHF ₂
	75-46-7	HFC-23	CHF ₃
	593-53-3	HFC-41	CH ₃ F
	359-35-3	HFC-134	CHF ₂ CHF ₂
	-	HFC-245fa	-
	-	HFC-125/143a/134a=44/52/4	-
	-	HFC-32/125/134a=20/40/40	-
	-	HFC-32/125/134a=23/25/52	-
	-	HFC-32/125=50/50	-
	-	HFC-32/125=45/55	-
-	HFC-32/143a=50/50	-	
-	HFC-23/FC-116=39/61	-	
-	HFC-23/FC-116=46/54	-	
		Halogenated additives	
73	115-96-8	Tris (2-chloroethyl)phosphate	C ₆ H ₁₂ Cl ₃ PO ₄
	21850-44-2	TBBA-(2,3-dibromo-propyl-ether)	C ₂₁ H ₂₀ Br ₈ O ₂
	3194-55-6	1,2,5,6,9,10-Hexabromocyclodecane	C ₁₂ H ₁₈ Br ₆
	79-27-6	1,1,2,2-Tetrabromoethane	C ₂ H ₂ Br ₄
	79-94-7	Tetrabromo-bisphenol A(TBBA)	C ₁₅ H ₁₂ Br ₄ O ₂
	87-82-1	Hexabromobenzene	C ₆ Br ₆
	9002-84-0	Polytetrafluoroethylene	(C ₂ F ₄) _n
	75-25-2	Tribromomethane	CHBr ₃
	118-79-6	2,4,6-Tribromo-Phenol	C ₆ H ₃ Br ₃ O
	4162-45-2	TBBA-bis(2-Hydroxy-ethyl-ether)	C ₁₉ H ₂₀ Br ₄ O ₄
		Maganese and its compounds	
74	7439-96-5	Manganese	Mn
	10031-20-6	Manganese(II) bromide tetrahydrate	Mn Br ₂ ·4H ₂ O
	10034-96-5	Manganese(II) sulfate heptahydrate	Mn(C ₂ O ₄)·2H ₂ O
	10043-84-2	Manganese hypophosphite	Mn(PH ₂ O ₂) ₂
	10101-50-5	Sodium permanganate	NaMnO ₄
	10124-54-6	Manganese(III) phosphate hydrate	MnPO ₄ ·H ₂ O
	10170-69-1	Dimanganese decacarbonyl	Mn ₂ (CO) ₁₀
	10377-66-9	Manganese(II) nitrate	Mn(NO ₃) ₂
	12005-95-7	Manganese arsenide	MnAs
	12032-78-9	Manganese phosphide	MnP
	12032-86-9	Manganese silicide	MnSi
	12032-88-1	Manganese telluride	MnTe
	12427-38-2	Maneb	C ₄ H ₆ MnN ₂ S ₄
	12777-96-7	Manganese carbide	Mn ₃ C
	1313-13-9	Manganese(IV) oxide	MnO ₂

	1313-22-0	Manganese monoselenide	MnSe
	1317-34-6	Manganese(III) oxide, 98%(assay); manganese trioxide	Mn ₂ O ₃
	1317-35-7	Manganomanganic oxide; manganese tetra oxide; trimanganese tetraoxide; manganese(II,III) oxide; manganese oxide(II,III)	Mn ₃ O ₄
	13224-08-3	Manganese(II) sulfate	MnSO ₄
	1344-43-0	Manganese(II) oxide	MnO
	13446-03-2	Manganese(II) bromide	MnBr ₂
	13446-34-9	Manganese(II) chloride tetrahydrate	MnCl ₂ ·4H ₂ O
	13566-22-8	Ammonium manganese sulfate	Mn(NH ₄) ₂ (SO ₄)
	13568-71-3	Manganese(II) sulfite	MnSO ₃
	14154-9-7	Manganese(II) phosphate	Mn ₃ (PO ₄) ₂
	14284-89-0	Acetylaceton manganese(III) salt; Tris(2,4-pentanedionate)manganese;	Mn(C ₅ H ₇ O ₂) ₃
	15364-94-0	Manganese(II) perchlorate	Mn(ClO ₄) ₂
	17141-63-8	Manganese(II) nitrate hexahydrate	Mn(NO ₃) ₂ ·6H ₂ O
	18820-29-6	Manganese sulfide	MnS
	598-62-9	Manganese(II) carbonate	MnCO ₃
	6156-78-1	Manganese(II) acetate tetrahydrate	Mn(CH ₃ COO) ₂ ·4H ₂ O
	638-38-0	Manganese(II) acetate	Mn(CH ₃ COO) ₂
	640-67-5	Manganese oxalate	Mn(C ₂ O ₄)
	6556-16-7	Manganese(II) oxalate dihydrate	Mn(C ₂ O ₄)·2H ₂ O
	7722-64-7	Potassium permanganate	KMnO ₄
	7773-01-5	Manganese(II) chloride; Manganesedichloride	MnCl ₂
	7782-64-1	Manganese difluoride	MnF ₂
	7782-76-5	Manganese phosphate, dibasic	MnHPO ₄
	7783-16-6	Manganese(II) hypophosphite monohydrate	Mn(PH ₂ O ₂) ₂ ·H ₂ O
	7783-53-1	Manganese(III) fluoride	MnF ₃
	7790-33-2	Manganese(II) iodide	MnI ₂
	993-2-2	Manganese(III) acetate	Mn(CH ₃ COO) ₃
	-	Other manganese compounds	Mn(CH ₃ COO) ₃
75	-	Organic Tin Compounds (except TBTO (No.7) and TBT/TPT (No.14))	-
76	2551-62-4	Sulfur hexafluoride(SF6)	F ₆ S
		Anthracene	
	120-12-7	Anthracene	C ₁₄ H ₁₀
	90640-80-5	Anthracene oil	
	91995-17-4	Anthracene oil, anthracene paste, distn. Lights	
	91995-15-2	Anthracene oil, anthracene paste, anthracene fraction	
	90640-82-7	Anthracene oil, anthracene-low	
	90640-81-6	Anthracene oil, anthracene paste	
77			
78	101-77-9	4,4'- Diaminodiphenylmethane	C ₁₃ H ₁₄ N ₂
79	7646-79-9	Cobalt dichloride	CoCl ₂
80	10124-43-3	Cobalt(II) sulphate	CoO ₄ S
81	10141-05-6	Cobalt(II) dinitrate	Co(NO ₃) ₂
82	513-79-1	Cobalt(II) carbonate	CCoO ₃
83	71-48-7	Cobalt(II) diacetate	C ₄ H ₆ CoO ₄
84	81-15-2	5-tert-butyl-2,4,6-trinitro-m-xylene(musk xylene)	C ₁₂ H ₁₅ N ₃ O ₆
85	121-14-2	2,4-Dinitrotoluene	C ₇ H ₆ N ₂ O ₄
86	65996-93-2	Coal tar pitch, high temperature	
87	-	Aluminosilicate, Refractory Ceramic Fibres	
88	-	Zirconia Aluminosilicate, Refractory Ceramic Fibres	
89	79-06-1	Acrylamide	C ₃ H ₅ NO
90	115-96-8	Tris(2-chloroethyl)phosphate	
91	79-01-6	Trichloroethylene	C ₂ HCl ₃
92	10043-35-3, 11113-50-1	Boric acid	B(OH) ₃
93	1303-96-4	Disodium tetraborate, anhydrous	B ₄ H ₂₀ Na ₂ O ₁₇

	1330-43-4 12179-04-3		$B_4Na_2O_7$, $B_4H_{10}Na_2O_{12}$
94	12267-73-1	Tetraboron disodium heptaoxide, hydrate	$Na_2B_4O_7 \cdot nH_2O$ (n=1,5-2)
95	109-86-4	2-Methoxyethanol	$C_3H_8O_2$
96	110-80-5	2-Ethoxyethanol	$C_4H_{10}O_2$
97	-	Substances included in IEC62474 Declarable substances list	

Guidelines for Green Procurement



Dynabook Inc.

Issue Date: January 2011 (First edition)
October 2022 (13.00 edition)

Document No.: 360045308 Ver.13.00