

TOSHIBA

Toshiba Corporation

Mobile Communications Company

Visual Products Company

Storage Products Company

Digital Products & Network Company

Toshiba TEC Corporation

Guidelines for Green Procurement Ver.07



Toshiba Group's Basic Policy for the Environment

Recognizing the Earth is an irreplaceable asset and it is humankind's duty to hand it on to future generations in a sound state, Toshiba Group contributes to the development of a sustainable society by pursuing creation of new values and symbiosis with the Earth, in accordance with Toshiba Group's Environmental Vision.

Promotion of environmental management

1. Toshiba considers environmental stewardship to be one of management's primary responsibilities and promotes environmental activities in harmony with economic activities.
2. Toshiba assesses the environmental aspects of its business activities, products and services, and specifies objectives and targets with respect to the reduction of environmental impacts and prevention of pollution.
3. Toshiba strives to continuously improve environmental management through internal audits and reviews of activities.
4. Toshiba complies with all laws and regulations, industry guidelines it has endorsed, and its own standards concerning the environment.
5. Toshiba strives to enhance the awareness of all its employees with respect to the environment and requires that they make a practical contribution to the environment through their work.
6. Toshiba operates globally, and accordingly, promotes environmental activities throughout Toshiba Group.

Development and provision of environmentally conscious products and services, and reduction of environmental impacts of business activities

1. Toshiba recognizes that natural resources are finite and implements vigorous environmental measures to promote their effective and practical use in terms of both products and business processes.
2. Toshiba develops and provides environmentally conscious products and services which contribute to the reduction of environmental impacts throughout their life cycles.
3. Toshiba strives to reduce the environmental impacts of all business processes, encompassing design, manufacturing, logistics, sale, and disposal, with a particular focus on the prevention of global warming, efficient utilization of resources and control of chemical substances.

Responsibility as a member of the global community

1. Toshiba contributes to society through its environmental activities, which include the development and provision of excellent, environmentally conscious technologies and products and cooperation with society at large and with local communities.
2. Toshiba is committed to maximizing disclosure and transparency in communication with stakeholders and society at large in order to facilitate mutual understanding.

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I. Green procurement

1. Objective

Toshiba Corporation's Mobile Communications Company, Visual Products Company, Storage Products Company, Digital Products & Network Company and Toshiba TEC Corporation (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 produced by us.

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), tree planting and preservation of biodiversity.

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 specified substances, using such as the JGPSSI (Japan Green Procurement Survey Standardization Initiative) form.
- iii) Requests to provide sample test result.
- iv) 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 products supplied by ODM or OEM vendors, resale products of other company’s brand, spare parts and repaired articles.

“Our products” also include products made by or sold by Toshiba Group companies 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 can not be removed by a refining process with existing technology.

(6) Homogenous 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 homogenous 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 homogenous material because mechanical processes could separate the different materials.
- A semi-conductor package contains many homogenous 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 densities are not defined, impurities must be well controlled.

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 6.

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

Ref. No.	Substance
1	Cadmium and its compounds
2	Hexavalent chromium and its compounds
3	Lead and its compounds
4	Mercury and its compounds
5	Polybrominated biphenyls (PBBs)
6	Polybrominated diphenyl ethers (PBDEs)
7	Bis(tributyltin)=oxide (TBTO)
8	Polychlorinatedbiphenyls (PCBs) / Polychlorinated terphenyls (PCTs)
9	Polychloronaphtalenes (with 3 or more chlorine atoms)
10	Short Chain Chlorinated Paraffins (with carbon length 10 through 13)
11	Asbestos
12	Azo pigments and dyes (only those able to form certain amines and are directly and continuously applied to the human body)
13	Ozone depleting substances (ODS)
14	Tributyltins (TBTs) & Tripheniltins (TPTs)
15	Radioactive Substances
16	Aldrin
17	Endrin
18	Yellow Phosphorus
19	Chlordanes
20	N,N'-ditolyl-p-phenylenediamin, N-tolyl-N'-xyly l-p-phenylenediamine or N,N'-dixylyl-p-phenylene diamine
21	Dioxins
22	DDT
23	Dieldrin
24	Toxaphene
25	2,4,6-Tri-t-Butylphenol
26	4-Nitrobiphenyl and its salt
27	Bis(chloromethyl)ether
28	Hexachlorobenzene
29	Benzene
30	Mirex
31	2,2,2-trichloro-1,1-bis(4-chlorophenyl)ethanol (synonyms: Kelthane, Dicofo)
32	Hexachlorobutadiene (synonyms: Hexachloro-1,3-butadiene, Hexachlorobuta-1,3-diene)
33	2-benzotriazol-2-yl-4,6-ditert-butyl-phenol
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)
35	Dimethylfumarate(DMF)

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

table for details.

Table 2 Exempted uses (Allowable uses)

Substance	Exempted uses (Allowable uses)
Cadmium and its compounds	<p>(a) Cadmium in plating of electrical contact that requires high reliability used when no substitute material is available.</p> <p>(b) Cadmium in optical and filter glass.</p> <p>(c) Cadmium in printing inks for the application of enamels on borosilicate glass.</p>
Lead and its compounds	<p>(a) Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.</p> <p>(b) Lead as an alloying element in steel containing up to 0,35 % lead by weight, aluminium containing up to 0,4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.</p> <p>(c) Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).</p> <p>(d) Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunications.</p> <p>(e) Lead in electronic ceramic parts (e.g. piezoelectronic devices).</p> <p>(f) Lead in lead-bronze bearing shells and bushes</p> <p>(g) Lead used in compliant pin connector systems.</p> <p>(h) Lead as a coating material for the thermal conduction module c-ring.</p> <p>(i) Lead in optical and filter glass.</p> <p>(j) Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80 % and less than 85 % by weight.</p> <p>(k) Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages.</p> <p>(l) Lead in linear incandescent lamps with silicate coated tubes.</p> <p>(m) Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications.</p> <p>(n) Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5:Pb) as well as when used as speciality lamps for diazo-printing reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba)2MgSi2O7:Pb).</p> <p>(o) Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact Energy Saving Lamps (ESL).</p> <p>(p) Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCD).</p> <p>(q) Lead and cadmium in printing inks for the application of enamels on borosilicate glass.</p> <p>(r) Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used for fibre optic communications systems.</p> <p>(s) Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with NiFe lead frames and lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with copper lead frames.</p> <p>(t) Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors.</p> <p>(u) Lead oxide in plasma display panels (PDP) and surface conduction electron emitter displays (SED) used in structural elements; notably in the front and rear glass dielectric layer, the bus electrode, the black stripe, the address electrode, the barrier ribs, the seal frit and frit ring as well as in print pastes.</p> <p>(v) Lead oxide in the glass envelope of Black Light Blue (BLB) lamps.</p> <p>(w) Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers.</p> <p>(x) 29. Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC.</p>
Mercury and its compounds	<p>(a) Mercury in compact fluorescent lamps not exceeding 5 mg per lamp.</p> <p>(b) Mercury in straight fluorescent lamps for general purposes not exceeding:</p> <ul style="list-style-type: none"> - halophosphate 10mg - triphosphate with normal lifetime 5mg - triphosphate with long lifetime 8mg <p>(c) Mercury in straight fluorescent lamps for special purposes.</p> <p>(d) Mercury in other lamps not specifically mentioned in this column.</p>
PFOS and its salts	<p>(a) Photoresists or anti reflective coatings for photolithography processes,</p> <p>(b) Photographic coatings applied to films, papers, or printing plates,</p> <p>(c) 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.</p>

(*) Deca-BDE is not exempted in the Guidelines. Its use is prohibited.

Table 3 Maximum tolerance concentration as impurities

Substance	Uses and regal requirements	Maximum tolerance concentration (*1)(*2)
Cadmium and its compounds	Use other than described bellow. Under the EU RoHS Directive.	0.01wt% (100ppm)
	Use restricted by EU chemical substances restriction (EU Directive 76/769/EEC and its amendments.) - Resin, paint, ink, etc	0.0075wt% (75ppm)
Hexavalent chromium compounds	All uses. Under the RoHS Directive.	0.1wt% (1000ppm)
Lead and its compounds	All uses. Under the RoHS Directive.	0.1wt% (1000ppm)
Mercury and its compounds	All uses. Under the RoHS Directive.	0.1wt% (1000ppm)
PBB	All uses. Under the RoHS Directive.	0.1wt% (1000ppm)
PBDE	All uses. Under the RoHS Directive.	0.1wt% (1000ppm) (*3)
PFOS and its salts	Coated materials (use restricted by EU chemical substances restriction (EU Directive 76/769/EEC and its amendments.))	less than 1 ug/m ²
	Others (same as above)	less than 0.1wt% (1000ppm)

(*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.

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 ₇ H ₉ NO	90-04-0
2-naphthylamine	C ₁₀ H ₉ N	91-59-8
3, 3'-dichlorobenzidine	C ₁₂ H ₁₀ Cl ₂ N 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 ₇ H ₉ N	95-53-4
4-chloro- o-toluidine	C ₇ H ₈ ClN	95-69-2
2, 4-toluenediamine	C ₇ H ₁₀ N ₂	95-80-7
o-aminoazotoluene	C ₁₄ H ₁₅ N ₃	97-56-3
5- nitro-o-toluidine	C ₇ H ₈ N ₂ O ₂	99-55-8
3, 3'-dichloro-4, 4'-diaminodiphenylmethane	C ₁₃ H ₁₂ Cl ₂ N ₂	101-14-4
4, 4'-methylenedianiline	C ₁₃ H ₁₄ N ₂	101-77-9
4, 4'-diaminodiphenylether	C ₁₂ H ₁₂ N ₂ O	101-80-4
p-chloroaniline	C ₆ H ₆ ClN	106-47-8
3, 3'-dimethoxybenzidine	C ₁₄ H ₁₆ N ₂ O ₂	119-90-4
3, 3'-dimethylbenzidine	C ₁₄ H ₁₆ N ₂	119-93-7
2-methoxy-5-methylaniline	C ₈ H ₁₁ NO	120-71-8
2, 4, 5-trimethylaniline	C ₉ H ₁₃ N	137-17-7
4,4'-Thiodianiline	C ₁₂ H ₁₂ N ₂ S	139-65-1
2,4'-methoxy-m-Phenylenediamine	C ₇ H ₁₀ N ₂ O	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)

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

The volume of substances listed in Table 6 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 6.

Table 6 Substances whose inclusion in articles to be supplied is subject to reduction and substitution

Ref. No.	Substance
36	Polyvinyl chloride (PVC)
37	Tetrabromo-bisphenol A (TBBPA)
38	Brominated flame retardant (except PBBs(Ref. No.5), PBDEs(No.6) and TBBPA(No.37))
39	Antimony and its compounds
40	Arsenic and its compounds
41	Beryllium and its compounds
42	Bismuth and its compounds
43	Nickel and its compounds (*1)
44	Some Phthalic Esters
45	Selenium and its compounds
46	Zinc and its compounds
47	Chlorinated paraffin (except some short chain chlorinated paraffins (Ref. No.10))
48	Chromium compounds (III)
49	Cyanogen compounds
50	Perfluorocarbon (PFC)
51	Hydrogenerated fluorocarbon (HFC)
52	Hydrogenerated organic compounds (except those listed in Table1 (No.5, No.6, etc.)
53	Manganese and its compounds
54	Organic Tin Compounds (except TBTO (Ref. No.7) and TBT/TPT (Ref. No.14))
55	Sulfur hexafluoride (SF6)
56	Anthracene
57	4,4'- Diaminodiphenylmethane
58	Cobalt dichloride
59	5-tert-butyl-2,4,6-trinitro-m-xylene(synonym: musk xylene)

(*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 7. 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 7 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 when the accumulated concentration of these substances at any portion of the packaging exceeds the maximum tolerance concentration.	0.01wt% (100ppm)
35	Polyvinyl chloride (PVC)	Intentional inclusion of PVC in the packaging	- (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.

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 91/157/EEC). The requirements of 2006/66/EEC include prohibition of inclusion exceeding the maximum tolerance concentration described on Table 8.

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 8 Substances whose inclusion in the battery is prohibited

Ref. No.	Substance	Restriction	Maximum tolerance concentration (*1)
1	Cadmium and its compounds	Portable batteries or accumulators that contain cadmium and its compounds exceeding the maximum tolerance concentration.	0.002wt% (20ppm)
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)
		Button batteries that contain mercury and its compounds exceeding the maximum tolerance concentration.	2wt%(20000ppm)

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

6. Additional requirements relating to specified products

This section describes additional requirements relating to specified products of our companies. If a supplier knows that an article to be supplied is for use in one of these specified products, the supplier must meet requirements described in this section in addition to those described in section 3. - 5.

6.1 Articles for personal computers

For any article supplied to Digital Products & Network Company intentional inclusion described on Table 9 is prohibited.

Table 9 Restrictions regarding articles for personal computers

Ref. No.	Substance	Restriction	Maximum tolerance concentration
41	Beryllium and its compounds	Inclusion in any article to be supplied except followings 1) Additives in the gold bonding wire of semi-conductors 2) Inclusion not more than 2.0wt% in copper-beryllium alloys used as spring parts.	- (Intentional inclusion)
60	Carcinogenic substances (Group1 and Group2A: evaluated by IARC)	Inclusion in the plastic parts not less than 25g of case and housing	- (Intentional inclusion)
-	Certain flame retardants	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.	0.1wt%(1000ppm)
-	Halogen compounds	Halogen compounds use in the plastic of packaging : fluorine (F), chlorine (Cl), bromine (Br), iodine (I) and astatine (At)	- (Intentional inclusion)

6.2 Articles for hard disk drives (HDD)

For any article supplied to Storage Products Company, if it is used in hard disk drives (HDD), the maximum tolerance concentration described on Table 10 and Table 11 must be fulfilled. These requirements do not apply to articles used only for external hard disk drive units,

Table 10 Restrictions regarding articles for HDD

Ref. No.	Substance	Restriction	Maximum tolerance concentration (*1)(*2)
1	Cadmium and its compounds	Inclusion in any article to be supplied except followings	0.005wt% (50ppm)
		1) Plastic (all materials including resin ingredient), paint and ink	0.0005wt% (5ppm)(*3)
		2) Solder	0.002wt% (20ppm)
		3) Packaging materials except 1) and 2) above used for our products	0.007wt% (70ppm) (*3)
2	Hexavalent chromium and its compounds	Inclusion in any article to be supplied	0.01wt% (100ppm) (*3)
3	Lead and its compounds	Inclusion in any article to be supplied except followings (*4)	0.02wt% (200ppm) (*3)
		1) Plastic (all materials including resin ingredient), paint and ink	0.01wt% (100ppm) (*3)
		2) Solder (*4)	0.07wt% (700ppm)
		3) Metal except solder (*4)	0.05wt% (500ppm) (*3)
4	Mercury and its compounds	Inclusion in any article to be supplied	0.01wt% (100ppm) (*3)
5	Polybrominated biphenyls (PBBs)	Inclusion in any article to be supplied	0.01wt% (100ppm) (*5)
6	Polybrominated diphenyl ethers (PBDEs)	Inclusion in any article to be supplied	0.01wt% (100ppm) (*5)
41	Beryllium and its compounds	Inclusion in any article to be supplied except following 1) Additives in the gold bonding wire of semi-conductors	- (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.

e.g.) In the case of cadmium and its compound the concentration relates to the cadmium element.

(*3) Maximum tolerance concentration is defined as accumulated concentration of cadmium, hexavalent chromium, lead, mercury and their compounds in the packaging is 0.007wt% (70ppm).

(*4) Except exempted uses described on Table 2.

(*5) Maximum tolerance concentration is defined as accumulated concentration of bromine element or its detective limits.

Every PBB or PBDE the number of bromine element of which is 1 to 10 must be covered.

Table 11 Restrictions regarding articles for HDD except packing materials
(Apply to new articles after January, 2009 and Toshiba specified articles.)

Ref. No.	Substance	Restriction	Maximum tolerance concentration (*1)(*2)
39	Antimony and its compounds	Inclusion in any article to be supplied except following 1) Glass of magnetic storage media (until replacement with antimony free glass is completed)	0.1wt% (1000ppm)
61	Bromine and its compounds	Inclusion in any article to be supplied	0.09wt% (900ppm) (*3)
62	Chlorine and its compounds	Inclusion in any article to be supplied	0.09wt% (900ppm) (*3)
63	Red phosphorus	Inclusion in any article to be supplied	0.1wt% (1000ppm) (*4)

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

(*2) Maximum tolerance concentration of compounds is defined as the weight percentage of 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 defined as accumulated concentration of bromine and chlorine is 0.15wt% (1500ppm).

(*4) Maximum tolerance concentration is defined as concentration of phosphorus element when red phosphorus is intentionally included.

6.3 Articles for cellular phones

For any article supplied to Mobile Communications Company, if it is used in cellular phones, inclusion above maximum tolerance concentration described on Table 12 will be prohibited from January 1, 2010. Exempted uses described on Table 12 also apply to the article.

Table 12 Restrictions regarding articles for cellular phones

Ref. No.	Substance	Restriction	Maximum tolerance concentration (*1)(*2)	Time limit
61	Bromine and its compounds	Inclusion in any article to be supplied (*3)	0.09wt% (900ppm) (*4)	December 31, 2009
62	Chlorine and its compounds	Inclusion in any article to be supplied except following (*3) 1) Resin binder containing PVC-vinyl acetate copolymer (paint, ink, etc.) 2) Pigment (paint, ink, etc.)	0.09wt% (900ppm) (*4)	December 31, 2009

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

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

e.g.) In the case of cadmium and its compound the concentration relates to the cadmium element.

(*3) If it is difficult to substitute in the specific industry, the restriction is not applied.

(*4) Maximum tolerance concentration defined as accumulated concentration of bromine and chlorine is 0.15wt% (1500ppm).

6.4 Articles for digital copiers (MFP)

For any article supplied to Toshiba TEC Corporation, if it is used in digital copiers, intentional inclusion described on Table 13 is prohibited.

Table 1 Restrictions regarding articles for digital copiers

Ref. No.	Substance	Restriction	Maximum tolerance concentration
64	Substances classified by the EC Council Directive 67/548/EEC as Category 1-3 of Carcinogenic, Mutagenic or Reprotoxic ones.	Inclusion in the plastic parts not less than 25g of case and housing	- (Intentional inclusion)

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
1		Cadmium and its compounds	
	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	-
2		Hexavalent chromium and its compounds	
	7789-12-0	Sodium dichromate	Na ₂ Cr ₂ O ₇
	10588-01-9		
	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	
3		Lead and its compounds	
	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
	-	Other lead compounds	-
4		Mercury and its compounds.	
	7439-97-6	Mercury	Hg
	7487-94-7	Mercury(II) chloride	HgCl ₂
	21908-53-2	Mercury(II) oxide	HgO
	-	Other mercury compounds	-
5		Polybrominated biphenyls (PBBs)	
	59536-65-1	Polybrominated biphenyls	C ₁₂ H _x Br _(10-x)
	-	Other polybrominated biphenyls	-
6		Polybrominated diphenyl ethers (PBDEs)	
	1163-19-5	Polybrominated diphenyl ethers	C ₁₂ H _x Br _(10-x) O
	-	Other Polybrominated diphenyl ethers	-
7		Bis(tributyltin)oxide	
	56-35-9	Bis(Tri-n-butyltin)oxide	O(Sn(C ₄ H ₉) ₃) ₂
8		Polychlorinatedbiphenyls (PCBs)/ Polychlorinated terphenyls (PCTs)	
	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(Cl≥3)	-
	-	Other Polychlorinated naphthalene(Cl≥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)
11		Asbestos	
	77536-66-4	Actinolite	Ca ₂ (Mg,Fe) ₅ (Si ₈ O ₂₂)(OH) ₂
	12172-73-5	Amosite	Fe ₅ 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	-
12		Azo pigments and dyes. (those able to form certain amines)	
	60-09-3	4-Aminoazobenzene	C ₁₂ H ₁₁ N ₃
	90-04-0	<i>o</i> -Anisidine	C ₇ H ₉ NO
	91-59-8	2-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	<i>o</i> -Toluidine	C ₇ H ₉ N
	95-69-2	4-Chloro- <i>o</i> -toluidine	C ₇ H ₈ ClN
	95-80-7	2,4-Toluendiamine	C ₇ H ₁₀ N ₂
	97-56-3	<i>o</i> -Aminoazotoluene	C ₁₄ H ₁₅ N ₃
	99-55-8	5-Nitro- <i>o</i> -toluidine	C ₇ H ₈ N ₂ O ₂
	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 ₁₅ H ₁₈ N ₂
13		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	Halon1211	CF ₂ BrCl
	75-63-8	Halon1301	CF ₃ Br
	124-73-2	Halon2402	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
	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	CHBr ₂
	1511-62-2	Bromodifluoromethane	CHF ₂ Br
	373-52-4	Bromofluoromethane	CH ₂ FBr
	306-80-9	Tetrabromofluoroethane	C ₂ HBr 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
	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 HF ₂ Br ₅
-	Tetrabromotrifluoropropane	C ₃ HF ₃ Br ₄
-	Tribromotetrafluoropropane	C ₃ HF ₄ Br ₃
431-78-7	Dibromopentafluoropropane	C ₃ HF ₅ Br ₂
2252-79-1	Bromohexafluoropropane	C ₃ HF ₆ 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	CHFCI 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	CHFCICF ₃
134237-34-6	HCFC-131	C ₂ H ₂ FCI 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 FCI ₂
1717-00-6	HCFC-141(b)	C ₂ H ₃ FCI 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 FCI
134237-35-7	HCFC-221	C ₃ HFCl ₆
134237-36-8	HCFC-222	C ₃ HF ₂ Cl ₅
134237-37-9	HCFC-223	C ₃ HF ₃ Cl ₄
134237-38-0	HCFC-224	C ₂ HF ₄ Cl ₃
127564-92-5	HCFC-225	C ₃ HF ₅ Cl ₂
422-56-0	HCFC-225 ca	CF ₃ CF ₂ CHCl ₂
507-55-1	HCFC-225 cb	CF ₂ CICF ₂ CHCIF
134308-72-8	HCFC-226	C ₃ HF ₆ Cl
134190-48-0	HCFC-231	C ₃ H ₂ FCI 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 FCI 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 FCI 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 FCI ₂
	134190-53-7	HCFC-262	C ₃ H ₅ F ₂ Cl
	134190-54-8	HCFC-271	C ₃ H ₆ FCI
		Tributyltin, Triphenyltin	
	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 ₄ H ₉) 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
	56-36-0	Tributyltin acetate	(C ₄ H ₉) ₃ SnOCOCH ₃
14	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-iso propyl-1,4a-dimethyl-1-phenanthren carboxylate and its analogs	-
	-	Other tributyltins & triphenyltins	-
		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
	5103-71-9	Cis- chlordane	C ₁₀ H ₆ Cl ₈
19	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
		N,N'-ditolyl-p-phenylenediamin, N-tolyl-N'-xyly l-p-phenylenediamine and N,N'-dixylyl-p-phenylenediamine	
20	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-p-dioxin	-
	-	Polychlorinated dibenzofuran	-

	-	Co- PCBs	-
22		DDT	
	50-29-3	DDT	C ₁₄ H ₉ Cl ₅
23		Dieldrin	
	60-57-1	Dieldrin	C ₁₂ H ₈ Cl ₆ O
24		Toxaphene	
	8001-35-2	Toxaphene	C ₁₀ H ₁₀ Cl ₈
25		2,4,6-Tri-t-butylphenol	
	732-26-3	2,4,6-Tri-t-butylphenol	C ₁₈ H ₃₀ O
26		4-Nitrodiphenyl and its salt	
	92-93-3	4-Nitrodiphenyl	C ₁₂ H ₉ NO ₂
27		Bis(chloromethyl)ether	
	542-88-1	Bis(Chloromethyl)ether	C ₂ H ₄ Cl ₂ O
28		Hexachlorobenzene	
	118-74-1	Hexachlorobenzene	C ₆ Cl ₆
29		Benzene	
	71-43-2	Benzene	C ₆ H ₆
30		Mirex	
	2385-85-5	Mirex	C ₁₀ Cl ₁₂
31		2,2,2-trichloro-1,1-bis(4-chlorophenyl)ethanol	
	115-32-2	2,2,2-trichloro-1,1-bis(4-chlorophenyl)ethanol	C ₁₄ H ₉ Cl ₅ O
32		Hexachlorobutadiene	
	87-68-3	Hexachlorobutadiene (Hexachloro-1,3-butadiene, Hexachlorobuta-1,3-diene)	C ₄ Cl ₆
33		2-benzotriazol-2-yl-4,6-di-tert-butyl-phenol	
	3846-71-7	2-benzotriazol-2-yl-4,6-di-tert-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		Dimethylfumarate(DMF)	
	624-49-7	Dimethylfumarate(DMF)	C ₆ H ₈ O ₄
36		Polyvinylchloride(PVC)	
	9002-86-2	Polyvinyl chloride	(CH ₂ CHCl) _n
37		Tetrabromo-bisphenol A(TBBPA,TBBA)	
	79-94-7	Tetrabromo-bisphenol A	C ₁₅ H ₁₂ Br ₄ O ₂
	30496-13-0	TBBA, unspecified	-
	40039-93-8	TBBA-epichlorhydrin oligomer	(C ₁₅ H ₁₂ Br ₄ O ₂ .C ₃ H ₅ ClO)x
	70682-74-5	TBBA-diglycidyl-ether oligomer	-
	28906-13-0	TBBA carbonate oligomer	(C ₁₅ H ₁₂ Br ₄ O ₂ .CCl ₂ O)x
	94334-64-2	TBBA carbonate oligomer,phenoxy end capped	(C ₇ H ₅ O ₂)(C ₁₆ H ₁₀ Br ₄ O ₃)x(C ₆ H ₅ O)
	71342-77-3	TBBA carbonate oligomer,2,4,6-tribromo-phenolterminated	(C ₇ H ₂ Br ₃ O ₃)(C ₁₆ H ₁₀ Br ₄ O ₃)n(C ₆ H ₂ Br ₃)
	32844-27-2	TBBA-bisphenol A-phosgene polymer	(C ₁₅ H ₁₆ O ₂ .C ₁₅ H ₁₂ Br ₄ O ₂ .CCl ₂ O)x
	21850-44-2	TBBA-(2,3-dibromo-propyl-ether)	C ₂₁ H ₂₀ Br ₈ O ₂
	4162-45-2	TBBA bis-(2-hydroxy-ethyl-ether)	C ₁₉ H ₂₀ Br ₄ O ₄
	25327-89-3	TBBA-bis-(allyl-ether)	C ₂₁ H ₂₀ Br ₄ O ₂
	37853-61-5	TBBA-dimethyl-ether	C ₁₇ H ₁₆ Br ₄ O ₂
38		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	ISO code 1043-4

	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]	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 ₆ H ₂ Br ₂ O) _x
58965-66-5	Tetra-decabromo-diphenoxy-benzene	C ₁₈ Br ₁₄ O ₂
37853-59-1	1,2-Bis(2,4,6-tribromo-phenoxy)ethane	C ₁₄ H ₈ Br ₆ O 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 ₆ Br ₄ O ₄ S
42757-55-1	TBBS-bis-(2,3-dibromo-propyl-ether)	C ₁₈ H ₁₄ Br ₈ O ₄ S
615-58-7	2,4-Dibromo-phenol	C ₆ H ₄ Br ₂ O
118-79-6	2,4,6-tribromo-phenol	C ₆ H ₃ Br ₃ O
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
-	Phthalic acid, 3,4,5,6-tetrabromo-, dialkyl ester (C=6~23)	-
25637-99-4 , 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8)	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α – HBCDD, β-HBCDD, γ-HBCDD)	C ₁₂ H ₁₈ Br ₆
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-phtalate	C ₁₀ H ₆ Br ₄ O ₄
26040-51-7	Bis(2-ethylhexyl)tetrabromo-phtalate	C ₂₄ H ₃₄ Br ₄ O ₄
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-dicarb oximide)	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)
39	-	Other Brominated flame retardants	-
		Antimony and its compounds	
	7440-36-0	Antimony	Sb
	10025-91-9	Antimony trichloride	SbCl ₃
	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
40	-	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
41	15606-95-8	Triethyl arsenate	C ₆ H ₁₅ AsO ₄
	-	Other arsenic compounds	-
		Beryllium and its compounds	
	7440-41-7	Beryllium	Be
	1304-56-9	Beryllium oxide	BeO
	-	Other Beryllium compounds	
		Bismuth and its compounds.	
42	7440-69-9	Bismuth	Bi
		Nickel and its compounds.	
	1313-99-1	Nickel(II) oxide	NiO
	3333-67-3	Nickel(II) carbonate	NiCO ₃
	7786-81-4	Nickel(II) sulfate	NiSO ₄
	7440-02-0	Nickel	Ni
	-	Other nickel compounds	
43		Some Phthalic Esters	
	117-81-7	Bis(2-ethyl(hexyl)phthalate) (DEHP)	C ₂₄ H ₃₈ O ₄
	84-74-2	Dibutyl phthalate (DBP)	C ₁₆ H ₂₂ O ₄
	85-68-7	Benzyl butyl phthalate	C ₁₉ H ₂₀ O ₄
	117-82-8	bis(2-ethylhexyl) phthalate (DEP)	C ₁₄ H ₁₈ O ₆
		Selenium and its compounds	
	7782-49-2	Selenium	Se
44	7783-00-8	Selenous acid	H ₂ SeO ₃
	-	Other selenium compounds	
		Zinc and its compounds	
	10025-64-6	Zinc perchlorate hexahydrate	Zn(ClO ₄) ₂ ·6H ₂ O
	10139-47-6	Zinc Iodide	ZnI ₂
	10196-18-6	Zinc nitrate hexahydrate	Zn(NO ₃) ₂ ·6H ₂ O
	10361-95-2	Zinc chlorate	Zn(ClO ₃) ₂
45	1313-49-1	Zinc nitride	Zn ₃ N ₂
	1314-13-2	Zinc oxide	ZnO
	1314-84-7	Zinc phosphide	Zn ₃ P ₂
	1314-98-3	Zinc sulfide	ZnS
	1315-11-3	Zinc telluride	ZnTe
	13530-65-9	Zinc chromate	CrO ₄ Zn
	13637-61-1	Zinc perchlorate	Zn(ClO ₄) ₂
46	13814-87-4	Ammonium zinc sulfate	(NH ₄) ₂ Zn(SO ₄) ₂
	13932-17-7	Potassium zinc sulfate	K ₂ Zn(SO ₄) ₂
	14485-28-0	Zinc phosphate, monobasic	Zn(H ₂ PO ₄) ₂
	14639-97-5	Zinc ammonium chloride	(NH ₄) ₂ [ZnCl ₄]

	15060-64-7	Zinc hypophosphite	$\text{Zn}(\text{PH}_2\text{O}_2)_2$
	16871-71-9	Zinc fluorosilicate	$\text{Zn}[\text{SiF}_6]$
	544-97-8	Dimethyl zinc	$\text{Zn}(\text{CH}_3)_2$
	557-20-0	Diethyl zinc	$\text{Zn}(\text{C}_2\text{H}_5)_2$
	557-21-1	Zinc cyanide	$\text{Zn}(\text{CN})_2$
	557-34-6	Zinc acetate	$\text{Zn}(\text{CH}_3\text{COO})_2$
	557-42-6	Zinc thiocyanate	$\text{Zn}(\text{SCN})_2$
	5970-45-6	Zinc acetate dihydrate	$\text{Zn}(\text{CH}_3\text{COO})_2 \cdot 2\text{H}_2\text{O}$
	73640-07-0	Zinc fluoride tetrahydrate	$\text{ZnF}_2 \cdot 4\text{H}_2\text{O}$
	7446-20-0	Sulfuric acid, zinc salt(1:1), Heptahydrate	$\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$
	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	$\text{Zn}(\text{NO}_3)_2$
	7783-49-5	Zinc fluoride	ZnF_2
	77998-33-5	Ammonium zinc sulfate hydrateE	$(\text{NH}_4)_2\text{Zn}(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$
47		Chlorinated paraffine (except short chain chlorinated paraffins (No.10))	
		Medium chain chlorinated paraffins (C14-17)	$\text{C}_n\text{H}_{2n+2-x}\text{Cl}_x$ (n: 14-17)
		Long chain chlorinated paraffins (C18-30)	$\text{C}_n\text{H}_{2n+2-x}\text{Cl}_x$ (n: 18-30)
48		Chromium(III) and its compounds	
	10022-47-6	Ammonium chromium(III) sulfate dodecahydrate	$\text{Cr}(\text{NH}_4)(\text{SO}_4)_2 \cdot 2\text{H}_2\text{O}$
	10025-73-7	Chromic chloride	CrCl_3
	10031-25-1	Chromium(III) bromide	CrBr_3
	10060-12-5	Chromium Trichloride Hexahydrate	$\text{CrCl}_3 \cdot 6\text{H}_2\text{O}$
	10101-53-8	Chromic Sulfate	$\text{Cr}_2(\text{SO}_4)_3$
	10141-00-1	Chromium Potassium Sulfate	$\text{CrK}(\text{SO}_4)_2$
	1066-30-4	Chromic Acetate	$\text{Cr}(\text{CH}_3\text{COO})_3$
	12018-22-3	Chromium(III) sulfide	Cr_2S_3
	1308-38-9	Chromium oxide	Cr_2O_3
	13475-98-4	Chromium(III) phosphate hexahydrate	$\text{CrPO}_4 \cdot 6\text{H}_2\text{O}$
	13478-06-3	Chromium(III) bromide hexahydrate	$\text{CrBr}_3 \cdot 6\text{H}_2\text{O}$
	13537-21-8	Chromic perchlorate	$\text{Cr}(\text{ClO}_4)_3$
	13548-38-4	Chromium nitrate	$\text{Cr}(\text{NO}_3)_3$
	13548-43-1	Ammonium chromic sulfate	$\text{Cr}(\text{NH}_4)(\text{SO}_4)_2$
	13569-75-0	Chromium(III) iodide	CrI_3
	13573-16-5	Chromate(1-),Diamine tetrakis(Thiocyanate-N)-, Ammonium,(OC-6-11)	$\text{trans-NH}_4[\text{Cr}(\text{NCS})_4(\text{NH}_3)_2]$
	13573-17-6	Reinecke salt monohydrate;Ammonium Tetra thiocyanate diammine chromate	$\text{trans-NH}_4[\text{Cr}(\text{NCS})_4(\text{NH}_3)_2] \cdot \text{H}_2\text{O}$
	13601-11-1	Potassium hexacyano chromate(III)	$\text{K}_3[\text{Cr}(\text{CN})_6]$
	15244-38-9	Chromium(III) sulfate N-hydrate	$\text{Cr}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$
	16165-32-5	Tris(ethylene diamine)chromium(III) Chloride hydrate	$[\text{Cr}(\text{C}_2\text{H}_8\text{N}_2)_3]\text{Cl}_3 \cdot 3\text{H}_2\text{O}$
	21679-31-2	Chromium(III) acetyl acetonate	$\text{Cr}(\text{C}_5\text{H}_7\text{O}_2)_3$
	24094-93-7	Chromium(III) nitride	CrN
	25013-82-5	Chromium(III) acetate monohydrate	$\text{Cr}(\text{CH}_3\text{COO})_3 \cdot \text{H}_2\text{O}$
	26342-61-0	Chromium phosphide	CrP
	30737-19-0	Chromium(III) oxalate	$\text{Cr}_2(\text{C}_2\text{O}_4)_3$
	55147-94-9	Chromium(III) perchlorate hexahydrate	$\text{Cr}(\text{ClO}_4)_3 \cdot 6\text{H}_2\text{O}$
	64093-79-4	Neochromium	$\text{Cr}(\text{OH})\text{SO}_4 \cdot \text{Na}_2\text{SO}_4 \cdot \text{H}_2\text{O}$
	7440-47-3	Chromium	Cr
	7788-97-8	Chromium(III) fluoride	CrF_3
	7788-99-0	Chromium potassium sulfate dodeca hydrate	$\text{CrK}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$
	7789-02-8	Chromium nitrate, Nona hydrate	$\text{Cr}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$
	7789-04-0	Chromium(III) phosphate	CrPO_4
49		Cyanogen compounds.	
	100-47-0	Benzonitrile	$\text{C}_7\text{H}_5\text{N}$
	107-13-1	Acrylonitrile	$\text{C}_3\text{H}_3\text{N}$
	109-78-4	Ethylene cyanohydrin	$\text{C}_3\text{H}_5\text{NO}$
	1194-65-6	2,6-Dichloro benzonitrile	$\text{C}_7\text{H}_3\text{Cl}_2\text{N}$

	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	CCaN ₂
	2035-66-7	Palladium(II) cyanide	Pd(CN) ₂
	21159-32-0	Cesium cyanide	CsCN
	21725-46-2	Cyanazine	C ₉ H ₁₃ ClN ₆
	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
50		Perfluorocarbon (PFC)	
	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
51		Hydrogenerated fluorocarbon (HFC)	
	811-97-2	HFC-134a	CH ₂ FCF ₃
	138495-42-8	HFC-43-10mee	C ₃ 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	-
52		Halogenated additives	
	115-96-8	Tris (2-chloroethyl)phosphate	$C_6H_{12}Cl_3PO_4$
	21850-44-2	TBBA-(2,3-dibromo-propyl-ether)	$C_{21}H_{20}Br_8O_2$
	3194-55-6	1,2,5,6,9,10-Hexabromocyclodecane	$C_{12}H_{18}Br_6$
	79-27-6	1,1,2,2-Tetrabromoethane	$C_2H_2Br_4$
	79-94-7	Tetrabromo-bisphenol A(TBBA)	$C_{15}H_{12}Br_4O_2$
	87-82-1	Hexabromobenzene	C_6Br_6
	9002-84-0	Polytetrafluoroethylene	$(C_2F_4)_n$
	75-25-2	Tribromomethane	$CHBr_3$
	118-79-6	2,4,6-Tribromo-Phenol	$C_6H_3Br_3O$
	4162-45-2	TBBA-bis(2-Hydroxy-ethyl-ether)	$C_{19}H_{20}Br_4O_4$
53		Maganese and its compounds	
	7439-96-5	Manganese	Mn
	10031-20-6	Manganese(II) bromide tetrahydrate	$MnBr_2 \cdot 4H_2O$
	10034-96-5	Manganese(II) sulfate heptahydrate	$Mn(C_2O_4) \cdot 2H_2O$
	10043-84-2	Manganese hypophosphite	$Mn(PH_2O_2)_2$
	10101-50-5	Sodium permanganate	$NaMnO_4$
	10124-54-6	Manganese(III) phosphate hydrate	$MnPO_4 \cdot H_2O$
	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	$C_4H_6MnN_2S_4$
	12777-96-7	Manganese carbide	Mn_3C
	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_2O_3
	1317-35-7	Manganomanganic oxide; manganese tetra oxide; trimanganese tetraoxide; manganese(II,III) oxide; manganese oxide(II,III)	Mn_3O_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	$MnCl_2 \cdot 4H_2O$
	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	Acetylacetone manganese(III) salt; Tris(2,4-pentanedionate)manganese;	$Mn(C_5H_7O_2)_3$
	15364-94-0	Manganese(II) perchlorate	$Mn(ClO_4)_2$
	17141-63-8	Manganese(II) nitrate hexahydrate	$Mn(NO_3)_2 \cdot 6H_2O$
	18820-29-6	Manganese sulfide	MnS
	598-62-9	Manganese(II) carbonate	$MnCO_3$
	6156-78-1	Manganese(II) acetate tetrahydrate	$Mn(CH_3COO)_2 \cdot 4H_2O$
	638-38-0	Manganese(II) acetate	$Mn(CH_3COO)_2$
	640-67-5	Manganese oxalate	$Mn(C_2O_4)$
	6556-16-7	Manganese(II) oxalate dihydrate	$Mn(C_2O_4) \cdot 2H_2O$
	7439-96-5	Manganese	Mn
	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	$Mn(PH_2O_2)_2 \cdot H_2O$
	7783-53-1	Manganese(III) fluoride	MnF_3
	7790-33-2	Manganese(II) iodide	MnI_2

	993-2-2	Manganese(III) acetate	$\text{Mn}(\text{CH}_3\text{COO})_3$
	-	Other manganese compounds	$\text{Mn}(\text{CH}_3\text{COO})_3$
54	-	Organic Tin Compounds (except TBTO (No.7) and TBT/TPT (No.14))	-
55		Sulfur hexafluoride(SF6)	
	2551-62-4	Sulfur hexafluoride	F_6S
56		Anthracene	
	120-12-7	Anthracene	$\text{C}_{14}\text{H}_{10}$
57		4,4'- Diaminodiphenylmethane	
	101-77-9	4,4'- Diaminodiphenylmethane	$\text{C}_{13}\text{H}_{14}\text{N}_2$
58		Cobalt dichloride	
	7646-79-9	Cobalt dichloride	CoCl_2
59		5-tert-butyl-2,4,6-trinitro-m-xylene(musk xylene)	
	81-15-2	5-tert-butyl-2,4,6-trinitro-m-xylene(musk xylene)	$\text{C}_{12}\text{H}_{15}\text{N}_3\text{O}_6$
60		Carcinogenic substances (Group1 and group2A: evaluated by IARC)	
		Bromine and its compounds	
61	-	Polybrominated biphenyls (PBBs) (No.5), Polybrominated diphenyl ethers (PBDEs), (No.6), Tetrabromo-bisphenol A(TBBPA,TBBA) (No.34), other Brominated flame retardants (No.35), and other Bromine compounds	-
		Chlorine and its compounds	
62	-	Polychlorinatedbiphenyls (PCBs) (No.8), Polychlorinated naphthalene($\text{Cl} \geq 3$) (No.9), Short chain chlorinated paraffins (No.10), Polyvinylchloride(PVC) (No.33), Chlorinated paraffine (except short chain chlorinated paraffins (No.10)) (No.44), and other Chlorine compounds	-
63		Red Phosphorus	
	7723-14-0	Red Phosphorus	Pn
64	-	Substances classified by the EC Council Directive 67/548/EEC as Category 1-3 of Carcinogenic, Mutagenic or Reprotoxic ones	

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TOSHIBA

Toshiba Corporation

Mobile Communications Company
Visual Products Company
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TOSHIBA TEC CORPORATION

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