MANAGEMENT REGULATIONS FOR THE ENVIRONMENT-RELATED SUBSTANCES TO BE CONTROLLED WHICH ARE INCLUDED IN PARTS AND MATERIALS

SS-00259 for General Use, Fifteenth Edition

SONY

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1. PURPOSE

With regard to the "Environment-related Substances to be Controlled ('Controlled Substances')" contained in the parts and devices employed in Sony electronics products, this Standard clarifies (1) banned substances, (2) substances to be phased out, and (3) exempted substances and their uses, in order to realize the following aims and objectives:

1) To prevent the above-mentioned substances from being used for Sony electronics products;
2) To comply with related laws and regulations;
3) To reduce the influence of the above substances upon the ecosystem; and
4) To contribute to the preservation of the global environment.

2. SCOPE

2.1 Scope applicable to parts and materials

Targets are the parts, materials, and other goods that are procured by the Sony group, or by third parties to which the Sony group outsources the design and manufacture of its electronics products.

The targets need to satisfy the threshold levels specified in this Standard.
Target parts and materials:

- Semi-finished products (e.g. modules, functional units, board assemblies, and other assembly parts)
- Parts (electrical parts, mechanical parts, semiconductor devices, PWBs, recording media, and packaging components and materials)
- Screws
- Accessories (mice, remote commanders, AC adaptors, and other accessories with which you can use products)
- Materials constituting subsidiary parts and materials (e.g. adhesives, adhesive tapes, soldering materials, etc.) used for products
- Printed materials (e.g. instruction manuals, warranty cards, additional product/parts information)
- Repair parts (The application of some repair parts for products on the market shall be followed the instructions on the separately issued notice.)
- Packaging components and materials that parts suppliers use for delivery and protection (See Section 4.2.1 "Definition of packaging components and materials" for details.)
- Batteries

2.2 Scope applicable to products

1) Sony electronics products that are designed and manufactured by the Sony group for sale, loan, or distribution
2) Sony electronics products being sold and loaned or distributed with the Sony group's logos on them, whose design and/or manufacture are outsourced to companies other than Sony group
3) Electronics products of companies other than Sony group whose design and/or manufacture are outsourced to the Sony group (except when the parts and materials are specified by the companies other than Sony group)

Regarding the use of substances prohibited or restricted by regional or country laws and ordinances, the laws and ordinances must be observed and followed even though the substances and their uses are not clearly regulated in this Standard.

3. TERMS AND DEFINITIONS

In this Standard, terms are defined in the following manners:

1) "Environment-related Substances to be Controlled ('Controlled Substances')"
   Among the substances contained in parts and devices, "Environment-related Substances to be Controlled ('Controlled Substances')" are those which, according to Sony's judgment, have significant environmental impact on both humans and the global environment.
2) Management Levels (abbr: Mgmt level)
   To manage the above-mentioned substances, the following Levels and Exemption are used:
   a) Level 1
      The substances and their applications classified into this Level are those that are banned for the use in parts and materials.
   b) Level 2
      On the date set in each table, the substances and their applications in the respective tables shall be reclassified into Level 1.
   c) Level 3
      Considering possibility of phase-out in the future (i.e. reclassification into Level 2), technical investigations on substances and their applications are conducted.
   d) Exemption
      Not subject to Level 1, Level 2 and Level 3 because of reasons also being reflected by exemptions from laws. Technical investigations and monitoring of substances and their applications are conducted as necessary.
3) Contained
   "Contained" means that a substance remains in parts, devices, or their materials because of addition, filling, blending, or adhesion, whether intended or not. When a substance is unintentionally contained in, or added to a product in a processing process, this situation is also regarded as "Contained."
4) Intentionally added
   "Intentionally added" means a situation where a substance is contained in the part, device, or its materials because of deliberate addition, filling, blending, or adhesion, in order to provide a specific characteristic, appearance, property, attribute or quality.
5) Homogenous material
   "Homogenous material" means one material of uniform composition throughout or a material, consisting of a combination of materials, that cannot be disjointed or separated into different materials by mechanical actions, such as unscrewing, cutting, crushing, grinding and abrasive processes.
6) Material
   "Material" means substance or mixture within a product or product part.
7) Part
   "Part" means an article to be manufactured until it turns into an end product (the final article which is the outcome of assembling, processing or manufacturing chemical products and/or parts).
8) Article
   "Article" means an item of specific shape, appearance or design created during manufacture which substantially determines functions in final use rather than functions provided by its chemical composition.
9) Product
   "Product" means a part or an end product which is delivered to a customer as the outcome of business activities of the organization.
10) Target
    "Target" is an object or element (e.g. parts, materials, applications or processing) that might trigger further obligations depending on the defined "management level."
11) Threshold level
    "Threshold level" is a condition or concentration limit that might trigger further obligations depending on the defined "management level."
    Notes: * When criteria such as 'Intentionally added' and a numerical value are shown in 'threshold level,' both of them shall be satisfied.
12) Effective date of the ban on the delivery
    This indicates the date on or after which Sony won't accept the parts and/or materials specified in the corresponding columns of Table 4.2.

4. MANAGEMENT STANDARDS FOR "ENVIRONMENT-RELATED SUBSTANCES TO BE CONTROLLED"

4.1 "Environment-related Substances to be Controlled ('Controlled Substances')"

Table 4.1 List of "Environment-related Substances to be Controlled ('Controlled Substances')"

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Polychlorinated terphenyls (PCTs)	8
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Table 4.2 Detail of 'Controlled Substances'

Bis (2-ethylhexyl)phthalate (DEHP)		
CAS No. [117-81-7], Synonym: Di(2-ethylhexyl)phthalate (DEHP)		
Mgmt level	Targets	Threshold level
Level 1	- Parts and materials for carrying bags, carrying cases, carrying pouches - Parts and materials for electrical and electronic equipment (EEE) that are in prolonged contact with the human skin (e.g. grip, handle)	0.1 wt% (1000 ppm) in homogenous material
Level 2	**Effective date of the ban on the delivery: April 1, 2018** - Parts and materials for EEE (note that parts and materials for batteries are level 3)	0.1 wt% (1000 ppm) in homogenous material
Level 3	- Packaging parts and materials (including those for devices, semiconductors, and any other components (e.g. trays, magazine sticks, stoppers, reels, embossed carrier tapes)) - Parts and materials for batteries - All application other than the above (e.g. printed materials such as instruction manuals)	0.1 wt% (1000 ppm) in homogenous material

Dibutyl phthalate (DBP)		
CAS No. [84-74-2], Synonym: Dibutylphthalate (DBP)		
Mgmt level	Targets	Threshold level
Level 1	- Parts and materials for carrying bags, carrying cases, carrying pouches - Parts and materials for EEE that are in prolonged contact with the human skin (e.g. grip, handle)	0.1 wt% (1000 ppm) in homogenous material
Level 2	**Effective date of the ban on the delivery: April 1, 2018** - Parts and materials for EEE (note that parts and materials for batteries are level 3)	0.1 wt% (1000 ppm) in homogenous material
Level 3	- Packaging parts and materials (including those for devices, semiconductors, and any other components (e.g. trays, magazine sticks, stoppers, reels, embossed carrier tapes)) - Parts and materials for batteries - All application other than the above (e.g. printed materials such as instruction manuals)	0.1 wt% (1000 ppm) in homogenous material

Benzyl butyl phthalate (BBP)		
CAS No. [85-68-7], Synonym: Benzylbutylphthalate (BBP)		
Mgmt level	Targets	Threshold level
Level 1	- Parts and materials for carrying bags, carrying cases, carrying pouches - Parts and materials for EEE that are in prolonged contact with the human skin (e.g. grip, handle)	0.1 wt% (1000 ppm) in homogenous material
Level 2	**Effective date of the ban on the delivery: April 1, 2018** - Parts and materials for EEE (note that parts and materials for batteries are level 3)	0.1 wt% (1000 ppm) in homogenous material
Level 3	- Packaging parts and materials (including those for devices, semiconductors, and any other components (e.g. trays, magazine sticks, stoppers, reels, embossed carrier tapes)) - Parts and materials for batteries - All application other than the above (e.g. printed materials such as instruction manuals)	0.1 wt% (1000 ppm) in homogenous material

Diisobutyl phthalate (DIBP)		
CAS No. [84-69-5]		
Mgmt level	Targets	Threshold level
Level 1	- Parts and materials for carrying bags, carrying cases, carrying pouches - Parts and materials for EEE that are in prolonged contact with the human skin (e.g. grip, handle)	0.1 wt% (1000 ppm) in homogenous material
Level 2	**Effective date of the ban on the delivery: April 1, 2018** - Parts and materials for EEE (note that parts and materials for batteries are level 3)	0.1 wt% (1000 ppm) in homogenous material
Level 3	- Packaging parts and materials (including those for devices, semiconductors, and any other components (e.g. trays, magazine sticks, stoppers, reels, embossed carrier tapes)) - Parts and materials for batteries - All application other than the above (e.g. printed materials such as instruction manuals)	0.1 wt% (1000 ppm) in homogenous material

Cadmium and cadmium compounds		
Mgmt level	Targets	Threshold level
Level 1	- All (See "4.2 Additional rules for packaging components and materials." See "4.3 Additional rules for batteries.") (Plastics, synthetic fiber, films, adhesive tapes, rubber, adhesive, paints, inks are required to be tested in accordance with "4.4 Rules for chemical analysis.")	0.01 wt% (100 ppm) of total Cd in homogenous material
Exemption	- Cadmium and its compounds in electrical contacts - Cadmium in filter glasses and glasses used for reflectance standards	

Lead and lead compounds		
Mgmt level	Targets	Threshold level
Level 1	- All (See "4.2 Additional rules for packaging components and materials." See "4.3 Additional rules for batteries.") (Plastics, synthetic fiber, films, adhesive tapes, rubber, adhesive, paints, inks are required to be tested in accordance with "4.4 Rules for chemical analysis.")	0.1 wt% (1000 ppm) of total Pb in homogenous material
	- Parts and materials for consumer products designed or intended primarily for children 12 years of age or younger	0.01 wt% (100 ppm) of total Pb in product
	- Paint and similar surface coatings of toys and other articles intended for use by children	0.009 wt% (90 ppm) of total Pb in surface coating material
	- Cables/cords (including plug and connector) with thermoset or thermoplastic coatings	0.03 wt% (300 ppm) of total Pb in surface coating material
Exemption	- Lead in glass of cathode ray tubes - Lead in glass of fluorescent tubes not exceeding 0.2% by weight - Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight - Lead as an alloying element in aluminium containing up to 0.4% lead by weight - Copper alloy containing up to 4% lead by weight - Lead in high melting temperature type solders (i.e. lead- based alloys containing 85% by weight or more lead) - 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 - Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher - Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors - Lead in white glasses used for optical applications - Lead in filter glasses and glasses used for reflectance standards - Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages - Lead in cermet-based trimmer potentiometer elements	

Mercury and mercury compounds		
Mgmt level	Targets	Threshold level
Level 1	- All (See "4.2 Additional rules for packaging components and materials." See "4.3 Additional rules for batteries.")	Intentionally added or 0.1 wt% (1000 ppm) of total Hg in homogenous material
Exemption	- Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes Short length (≤ 500 mm) not exceeding (per lamp): 3.5 mg - Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes Medium length (> 500 mm and ≤ 1 500 mm) not exceeding (per lamp): 5 mg - Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes Long length (> 1 500 mm) not exceeding (per lamp):10 mg - Mercury in projector lamps	

Chromium (VI) compounds		
Synonym: Hexavalent chromium compounds		
Mgmt level	Targets	Threshold level
Level 1	- Natural leather parts and materials (See "4.4 Rules for chemical analysis" for reference.)	0.0003 wt% (3 ppm) of total Cr^{+6} in dry weight of the leather.
	- All application other than the above (See "4.2 Additional rules for packaging components and materials.")	0.1 wt% (1000 ppm) of total Cr^{+6} in homogenous material

Polybrominated biphenyls (PBBs)		
Mgmt level	Targets	Threshold level
Level 1	- All	0.1 wt% (1000 ppm) in homogenous material

Polybrominated diphenylethers (PBDEs)		
Mgmt level	Targets	Threshold level
Level 1	- All	0.1 wt% (1000 ppm) in homogenous material

Hexabromocyclododecane (HBCDD) and all major diastereoisomers		
CAS No.[25637-99-4], [3194-55-6], [134237-51-7], [134237-50-6] and [134237-52-8]		
Mgmt level	Targets	Threshold level
Level 1	- All	Intentionally added or 0.1 mass% of article

Polychlorinated biphenyls (PCBs) and specific substitutes		
CAS No. of Specific substitutes are [76253-60-6], [81161-70-8] and [99688-47-8]		
Mgmt level	Targets	Threshold level
Level 1	- All	Intentionally added

Polychlorinated naphthalenes (PCNs)		
Mgmt level	Targets	Threshold level
Level 1	- All	Intentionally added

Polychlorinated terphenyls (PCTs)		
Mgmt level	Targets	Threshold level
Level 1	- All	0.005 wt% (50 ppm) in material

Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (SCCP)		
Mgmt level	Targets	Threshold level
Level 1	- All	Intentionally added or 0.1 wt% (1000 ppm) of article

Tris(2-chloroethyl)phosphate (TCEP)		
CAS No. [115-96-8]		
Mgmt level	Targets	Threshold level
Level 1	- All	0.1 wt% (1000 ppm) of article

Tris(1-chloro-2-propyl)phosphate (TCPP)		
CAS No. [13674-84-5], Synonym: Tris(2-chloro-1-methylethyl) phosphate		
Mgmt level	Targets	Threshold level
Level 1	- All	0.1 wt% (1000 ppm) of article

Tris(1,3-dichloro-2-propyl)phosphate (TDCPP)		
CAS No. [13674-87-8]		
Mgmt level	Targets	Threshold level
Level 1	- All	0.1 wt% (1000 ppm) of article

Fluorinated greenhouse gases (PFC, SF_6, HFC)		
Mgmt level	Targets	Threshold level
Level 1	- All	Intentionally added
Exemption	- SF_6 incorporated into surge absorber in power unit for projector	

Ozone depleting substances (ODS)		
See Table 4.2a, (CFC, Halon, Carbon tetrachloride and 1,1,1-Trichloroethane)		
Mgmt level	Targets	Threshold level
Level 1	- All	Intentionally added
	- Components and materials processed with ODS	Processes with ODS cleaning, foaming or other processes

Table 4.2a List of ODS (CFC, Halon, Carbon tetrachloride and 1,1,1-Trichloroethane)

CAS No.	Substance name
75-69-4	CFC-11; trichlorofluoromethane
75-71-8	CFC-12; dichlorofluoromethane
76-13-1	CFC-113; trichlorofluoroethane
76-14-2	CFC-114; dichlorotetrafluoroethane
76-15-3	CFC-115; chloropentafluoroethane
353-59-3	Halon-1211; bromochlorodifluoromethane
75-63-8	Halon-1301; bromotrifluoromethane
124-73-2	Halon-2402; dibromotetrafluoroethane
75-72-9	CFC-13; chlorotrifluoromethane
354-56-3	CFC-111; pentachlorofluoroethane
76-12-0	CFC-112; tetrachlorodifluoroethane
422-78-6	CFC-211; heptachlorofluoropropane
3182-26-1	CFC-212; hexachlorodifluoropropane
2354-06-5	CFC-213; pentachlorotrifluoropropane
29255-31-0	CFC-214; tetrachlorotetrafluoropropane
4259-43-2	CFC-215; trichloropentafluoropropane
661-97-2	CFC-216; dichlorohexafluoropropane
422-86-6	CFC-217; chloroheptafluoropropane
56-23-5	Carbon tetrachloride; tetrachloromethane
71-55-6	1,1,1-Trichloroethane; methyl chloroform

Ozone depleting substances (ODS)		
Hydrochlorofluorocarbons (HCFC)		
Mgmt level	Targets	Threshold level
Level 1	- All	Intentionally added

Perfluorooctane sulfonates (PFOS)		
Mgmt level	Targets	Threshold level
Level 1	- Textiles or other coated materials	Intentionally added or 1 μg/m^2 of coated material
	- All except textiles or other coated materials	Intentionally added or 0.1 wt% (1000 ppm) of material in the part (as the sum of PFOS)
Exemption	- Any photoresists or anti-reflective coatings for photolithography processes - Any photographic coatings applied to films, papers, or printing plates	

Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA		
CAS No.[335-67-1], [3825-26-1], [335-95-5], [2395-00-8], [335-93-3], [335-66-0], [376-27-2] and [3108-24-5]		
Mgmt level	Targets	Threshold level
Level 1	- Textiles, photographic coatings applied to films, paper or printing plates and other coated consumer products	1 μg/m^2 (as the sum of PFOA) of material
	- All except textiles, photographic coatings applied to films, paper or printing plates and other coated consumer products	0.1 wt% of material in the part (as the sum of PFOA)

Tri-substituted organostannic compounds		
including tributyltin (TBT) compounds and triphenyltin (TPT) compounds		
Mgmt level	Targets	Threshold level
Level 1	- All	Intentionally added or 0.1 wt% (1000 ppm) of tin in the part

Dibutyltin (DBT) compounds		
Mgmt level	Targets	Threshold level
Level 1	- All	0.1 wt% (1000 ppm) of tin in the part
Exemption	- Packaging components and materials for parts and devices, which are reused and not provided to the consumer - Packaging components or materials for devices, semiconductors, and any other components (e.g. trays, magazine sticks, stoppers, reels, embossed carrier tapes)	

Dioctyltin (DOT) compounds		
Mgmt level	Targets	Threshold level
Level 1	- Textile and leather articles intended to come into contact with the skin - Childcare articles - Two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits)	0.1 wt% (1000 ppm) of tin in the part

Beryllium oxide		
Mgmt level	Targets	Threshold level
Level 1	- All	0.1 wt% (1000 ppm) of product

Cobalt dichloride		
CAS No. [7646-79-9]		
Mgmt level	Targets	Threshold level
Level 1	- Moisture indicator used for a desiccant agent (e.g. silica gel)	Intentionally added
	- Humidity indicator card which is impregnated with cobalt dichloride	0.1 wt% (1000 ppm) of article
Level 3	- All application other than the above	0.1 wt% (1000 ppm) of article

Diarsenic trioxide		
CAS No. [1327-53-3]		
Mgmt level	Targets	Threshold level
Level 1	- Glass for LCD panels (including cover glasses, touchscreens, and backlights)	0.1 wt% (1000 ppm) of article
Level 3	- All application other than the above	0.1 wt% (1000 ppm) of article

Diarsenic pentoxide		
CAS No. [1303-28-2]		
Mgmt level	Targets	Threshold level
Level 1	- Glass for LCD panels (including cover glasses, touchscreens, and backlights)	0.1 wt% (1000 ppm) of article
Level 3	- All application other than the above	0.1 wt% (1000 ppm) of article

Nickel		
Note: If there are other instructions issued by Sony for nickel, it shall be followed.		
Mgmt level	Targets	Threshold level
Level 1	- Parts and materials for mobile phone, where prolonged skin contact is expected	0.28 µg/cm^2/week (release concentration)
Level 3	- All, where prolonged skin contact is expected	Intentionally added

Diisononyl phthalate (DINP)		
CAS No. [28553-12-0] and [68515-48-0]		
Mgmt level	Targets	Threshold level
Level 1	- Parts and materials for children's toy or child care article that can be placed in a child's mouth	0.1 wt% (1000 ppm) as the sum of the phthalate (DINP, DIDP, DNOP) concentrations in plasticized material
Level 3	- All application other than the above	Intentionally added

Di-isodecyl phthalate (DIDP)		
CAS No. [26761-40-0] and [68515-49-1]		
Mgmt level	Targets	Threshold level
Level 1	- Parts and materials for children's toy or child care article that can be placed in a child's mouth	0.1 wt% (1000 ppm) as the sum of the phthalate (DINP, DIDP, DNOP) concentrations in plasticized material
Level 3	- All application other than the above	Intentionally added

Di-n-octyl phthalate (DNOP)		
CAS No. [117-84-0]		
Mgmt level	Targets	Threshold level
Level 1	- Parts and materials for children's toy or child care article that can be placed in a child's mouth	0.1 wt% as the sum of the phthalate (DINP, DIDP, DNOP) concentrations in plasticized material

Asbestos		
Mgmt level	Targets	Threshold level
Level 1	- All	Intentionally added

Formaldehyde		
Mgmt level	Targets	Threshold level
Level 1	- The wooden products made from fiberboard, particleboard, or plywood, which are employed in products (e.g. speakers and racks)	See "4.4 Rules for chemical analysis."
	- Textiles	0.0075 wt% (75 ppm) of textile material

Azocolourants and azodyes which form certain aromatic amines		
Regarding certain aromatic amines, see Table 4.2b.		
Mgmt level	Targets	Threshold level
Level 1	- Textiles and Leather (See "4.4 Rules for chemical analysis" for reference.)	0.003 wt% (30 ppm) of the finished textile/leather product

Table 4.2b List of certain aromatic amines

CAS No.	Substance name
92-67-1	4-aminodiphenyl
92-87-5	benzidine
95-69-2	4-chloro-o-toluidine; 4-chloro-2-methylaniline
91-59-8	2-naphthylamine
97-56-3	o-aminoazotoluene
99-55-8	2-amino-4-nitrotoluene; 5-nitro-o-toluidine
106-47-8	p-chloroaniline
615-05-4	2,4-diaminoanisole
101-77-9	4,4'-diaminodiphenylmethane; 4,4'-methylenedianiline
91-94-1	3,3'-dichlorobenzidine
119-90-4	3,3'-dimethoxybenzidine
119-93-7	3,3'-dimethylbenzidine
838-88-0	3,3'-dimethyl-4,4'-diaminodiphenylmethane; 4,4'-diamino-3,3'-diphenylmethane
120-71-8	p-cresidine; 6-methoxy-m-toluidine
101-14-4	4,4'-methylene-bis-(2-chloroanilene)
101-80-4	4,4'-oxideaniline
139-65-1	4,4'-thiodianiline; 4,4'-diaminodiphenylsulfide
95-53-4	o-toluidine
95-80-7	2,4-toluylenediamine; 4-methyl-m-phenylenediamine
137-17-7	2,4,5-trimethylaniline
90-04-0	o-anisidine
60-09-3	4-aminoazobenzene

Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST)		
CAS No. [68921-45-9]		
Mgmt level	Targets	Threshold level
Level 1	- All	Intentionally added
Exemption	- Additives of rubber (note that such used for tires are Level 1)	

2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)		
CAS No. [3846-71-7], Synonym: "Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethlethyl)-", "2-(3',5'-Di-tert-butyl-2'-hydroxyphenyl)benzotriazole"		
Mgmt level	Targets	Threshold level
Level 1	- All	Intentionally added or 0.1 wt% (1000 ppm) of article

Dimethyl fumarate (DMF)		
CAS No. [624-49-7]		
Mgmt level	Targets	Threshold level
Level 1	- All	0.00001 wt% (0.1 ppm) of the part

Polycyclic aromatic hydrocarbons (PAH)		
CAS No.[50-32-8], [192-97-2], [56-55-3], [218-01-9], [205-99-2], [205-82-3], [207-08-9] and [53-70-3]		
Mgmt level	Targets	Threshold level
Level 1	- Rubber or plastic parts of toys and childcare articles that come into direct, prolonged or repetitive skin or oral cavity contact	0.00005 wt% (0.5 ppm) of the plastic or rubber part
	- Rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity contact except those for toys or childcare articles	0.0001 wt% (1 ppm) of the plastic or rubber part

Brominated flame retardants (BFR)		
(other than PBBs, PBDEs, or HBCDD)		
Mgmt level	Targets	Threshold level
Level 3	- Printed Wiring Board (PWB) Laminates	0.09 wt% (900 ppm) total bromine content in laminate
	- Plastic materials except printed wiring board laminates	0.1 wt% (1000 ppm) of bromine in plastic materials

Chlorinated flame retardants (CFR)		
(other than TCEP, TCPP, or TDCPP)		
Mgmt level	Targets	Threshold level
Level 3	- Printed Wiring Board (PWB) Laminates	0.09 wt% (900 ppm) total chlorine content in laminate
	- Plastic materials except printed wiring board laminates	0.1 wt% (1000 ppm) chlorine in plastic materials

Di-n-hexyl phthalate (DnHP)		
CAS No. [84-75-3], Synonym: Dihexyl phthalate		
Mgmt level	Targets	Threshold level
Level 3	- All	Intentionally added or 0.1wt% (1000 ppm) of article

Perchlorates		
Mgmt level	Targets	Threshold level
Level 3	- All	6 x 10^{-7} wt% (6 ppb) of battery or product part

Radioactive substances		
Mgmt level	Targets	Threshold level
Level 3	- All	Intentionally added

Substances in candidate list for authorization of EU REACH regulation		
See Table 4.2c		
Mgmt level	Targets	Threshold level
Level 3	- All	0.1 wt% (1000 ppm) of article

Table 4.2c List of Substances in candidate list for authorization of EU REACH regulation

CAS No.	Substance name
10043-35-3, 11113-50-1	Boric acid
12179-04-3, 1330-43-4, 1303-96-4, 12267-73-1	Disodium tetraborates
71888-89-6	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)
68515-42-4	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)
	Aluminosilicate Refractory Ceramic Fibres
	Zirconia Aluminosilicate Refractory Ceramic Fibres
140-66-9	4-(1,1,3,3-tetramethylbutyl)phenol Synonym: 4-tert-Octylphenol
111-96-6	Bis(2-methoxyethyl) ether
117-82-8	Bis(2-methoxyethyl) phthalate (DMEP)
112-49-2	1,2-bis(2-methoxyethoxy)ethane (TEGDME) Synonym: Triglyme, Triethylene glycol dimethyl ether, Ansul Ether 161, DMTG, Ethane 1,2-bis(2-methoxyethoxy)-, Glyme 4, Hisolve MTM, Methyltriglyme, NSC 66400
110-71-4	1,2-dimethoxyethane (EGDME) Synonym: 1,2-Ethanediol, dimethyl ether; 2,5-Dioxahexane; DME; DME (glycol ether); Dimethyl Cellosolve; Ethylene dimethyl ether; Glycol dimethyl ether; Glyme; Hisolve MMM; Monoethylene glycol dimethyl ether; Monoglyme; NSC 60542; , -Dimethoxyethane
60-09-3	4-Aminoazobenzene Synonym: 4-Phenylazoaniline, Aniline Yellow
629-14-1	1,2-Diethoxyethane Synonym: Diethyl glycol; Ethylene Glycol Diethyl Ether
1303-86-2	Diboron trioxide Synonym: Boron oxide; Boron sequioxide
68-12-2	N,N-dimethylformamide Synonym: Formyldimethylamine
84777-06-0	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear Synonym: bis-C5-alkyl-(linear and branched)phthalate
605-50-5	Diisopentylphthalate (DIPP) Synonym: 1,2-Benzenedicarboxylic acid; bis(3-methylbutyl)ester; Diisoamyl phthalate; Isoamyl phthalate
776297-69-9	N-pentyl-isopentylphthalate n-Pentyl-isopentyl phthalate; 1,2-Benzenedicarboxylic acid; 3-methylbutylpentyl ester

CAS No.	Substance name
57110-29-9, 19438-60-9, 25550-51-0, 48122-14-1	Hexahydromethylphthalic anhydride
131-18-0	Dipentyl phthalate (DPP) Synonym: amoil; amylphthalate; amyl phthalate; di-n-phthalate; ai3-00363(usda); diamyl phthalate; dipentyl phthalate; diI-n-amyl phthalate; di-1-pentylphthalate
	4-Nonylphenol, branched and linear, ethoxylated (substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof)
25155-23-1	Trixylyl phosphate (TXP)
573-58-0	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)
96-45-7	Imidazolidine-2-thione; (2-imidazoline-2-thiol) Synonym: ethylene thiourea
68515-50-4	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear Synonym: Diisohexyl phthalate (DiHP)
1937-37-7	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)
15571-58-1	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)
	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)
25973-55-1	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)
68515-51-5, 68648-93-1	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)
1120-71-4	1,3-propanesultone
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)
4149-60-4, 375-95-1, 21049-39-8	Perfluorononan-1-oic-acid and its sodium and ammonium salts
50-32-8	Benzo[def]chrysene Synonym: Benzo[a]pyrene
80-05-7	4,4'-isopropylidenediphenol Synonym: Bisphenol A; BPA
335-76-2, 3830-45-3, 3108-42-7	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts

4.2 Additional rules for packaging components and materials

4.2.1 Definition of "packaging components and materials"

Packaging components and materials are defined as products made from any materials and components of any nature to be used for the containment, protection, handling, delivery and presentation of goods, from raw materials to processed goods from the producer to the user or consumer.

Note: The definition excludes the components and materials for the returnable boxes, which are reused or recycled under the control of carriers or parts suppliers, and are not disposed of by end-users or Sony.

Table 4.3 Additional rules for packaging components and materials

Heavy metals (cadmium, lead, mercury, and hexavalent chromium)		
Articles that satisfy not only the rules specified in Table 4.2, but also the following conditions determined by the regulations of relevant laws		
Mgmt level	Targets	Threshold level
Level 1	- All packaging components and materials Some examples are given in PACKAGING of Table 4.3a.	100 ppm (or 0.01 wt%) or more of the total-concentration of four heavy metals (cadmium, lead, mercury, and hexavalent chromium) in each part, ink, or paint that constitutes a package
Exemption	- Cartons for returnable boxes owned by carriers or parts suppliers	
Packaging components and materials are required to be tested in accordance with the "4.4 Rules for chemical analysis."		

Table 4.3a Illustrative examples of PACKAGING components/materials and NOT PACKAGING components/materials

Note: The following lists provide some examples of the products, which we categorize as "packaging" as well as "not packaging," to serve as a reference. They are not intended to include all products in both categories.

For consumer- and professional-electronics products (used for transporting Sony electronics products)		
PACKAGING		
1.	Carton	Including master carton and sub-master carton made from any materials.
2.	Cushion	
3.	Protection bag, protection sheet	Such as made from foamed plastic or nonwoven fabric
4.	Plastic bag	
5.	Envelope	Such as used for warranty card
6.	Blister pack	
7.	Film	Including protection films such as used for the LCD displays
8.	Clamshell	
9.	Separator, spacer, partition	
10.	Printing ink	Used for packaging components
11.	Adhesive tape	Such as used for closing carton or poly bag, or, fixing or protection for removable component
12.	Staple	
13.	Label	Attached to the packaging components under control of Sony, such as bar-code label
14.	Joint	Carton joint
15.	Band	Such as PP band
16.	Hanging tab	
17.	Carrying handle	Including its related components
18.	Crate	Such as wooden frame
19.	Shrink film	
20.	Bottle	
21.	Sleeve	
22.	Jewel box	Such as packaging for fountain pen
23.	Skid	
24.	Spindle case	
NOT PACKAGING		
1.	Case/Bag	Cases or bags intended to be used as storage for CD, DVD, Blu-ray Discs, MD, tapes or MO devices
2.	Inlay card, inlay label	Such as index-card or label for CD and other recording media which are defined as part of product
3.	Carrying case, carrying pouch	Such as used for headphones, camera, and walkman®, which are defined as part of product
4.	Label	Labels attached to products and others except those attached to packaging components and materials
5.	Label	Labels attached by third parties such as cargo label and/or invoice

For devices, semiconductors, and any other components		
PACKAGING		
1.	Magazine stick	Such as used for IC
2.	Stopper	
3.	Tray	
4.	Reel	

For physical distribution		
PACKAGING		
1.	Pallet	Made from wood, plastic, paper, etc. which is used in one-way transportation, including slip sheet.
2.	Crate	Such as wooden container
3.	Stretch film	Wrap around palletized unit
4.	Wooden container	
5.	Items used for over packaging	Such as carton, cushion, adhesive tape, etc. which is used for component delivery
6.	Band, string	Such as PP band
NOT PACKAGING		
1.	Shipping container, air container	Such as 40 ft container for boat, and air cargo container

4.3 Rules for batteries

4.3.1 Definitions of "Battery," "Battery pack," and "Button cell" in this Standard

"Battery" means any source of electrical energy generated by direct conversion of chemical energy and consisting of one or more primary battery cells (non-rechargeable) or consisting of one or more secondary battery cells (rechargeable).
"Battery Pack" means any set of batteries that are connected together and/or encapsulated within an outer casing so as to form a complete unit that the end-user is not intended to split up or open.
"Button Cell" means any small round portable battery whose diameter is greater than its height and which is used for special purposes such as hearing aids, watches, small portable equipment and back-up power.

4.3.2 "Targets" and "Effective date of the ban on the delivery" regarding cadmium, lead and mercury for batteries

For cadmium (Cd), lead (Pb), and mercury (Hg), the threshold level specified in Table 4.4 shall be applied to batteries.
Apart from the following, if there are other instructions for cadmium, lead and mercury in batteries, it shall be followed.

Table 4.4 Detail for cadmium, lead and mercury for batteries

Cadmium and cadmium compound		
Mgmt level	Targets	Threshold level
Level 1	- Carbon zinc batteries (except button cells) - Alkaline manganese batteries (except button cells) - Nickel hydrogen rechargeable batteries (except button cells)	0.001% (10 ppm) by weight of battery
	- All other batteries	0.002% (20 ppm) by weight of battery

Lead and lead compounds		
Mgmt level	Targets	Threshold level
Level 1	- Alkaline manganese batteries (except button cells)	0.004 wt% (40 ppm) of battery
	- Carbon zinc batteries - Alkaline manganese button cells	0.1 wt% (1000 ppm) of battery
	- All other batteries	0.4 wt% (4000 ppm) of battery

Mercury and mercury compounds		
Mgmt level	Targets	Threshold level
Level 1	- Zinc air button cells (except the batteries packaged concurrently with EEE)	2 wt% (20000 ppm) of battery
	- All other batteries	Intentionally added or 0.0001 wt% (1 ppm) of battery, 0.0005 wt% (5 ppm) of total Hg in homogenous material

4.3.3 "Targets" and "Effective date of the ban on the delivery" regarding substances other than cadmium, lead and mercury for batteries and regarding substances for parts of "Battery packs" other than their batteries

For "controlled substances" other than cadmium (Cd), lead (Pb) and mercury (Hg), the criteria/threshold levels specified in Table 4.2 shall be applied to batteries.
Parts of "Battery packs" other than their batteries shall follow the criteria/threshold levels specified in Table 4.2.

4.4 Rules for chemical analysis

4.4.1 Substances and targets which are chemical analysis is required

Cadmium/cadmium compounds and Lead/lead compounds
Plastics, synthetic fiber, films, adhesive tapes, rubber, adhesive, paints, inks are required to be tested in accordance with the following standards.
Standards for measurement 1) Sample preparation Typical sample preparation methods: e.g. IEC 62321-5:2013, EPA 3052:1996 - Closed system for acid decomposition method (e.g. microwave decomposition method) - Acid digestion method - Dry ashing method Note: Precipitates must be completely dissolved by some technical means (e.g. alkali fusion). Any extraction methods (including EN71-3:2014, ASTM F963-16, ASTM D5517-14, and ISO 8124-3:2010) shall not be applied. 2) Measurement methods Typical measurement methods: e.g. IEC 62321-5:2013 - Inductively Coupled Plasma-Optical (Atomic) Emission Spectrometry (ICP-OES [ICP-AES]) - Atomic Absorption Spectrometry (AAS) - Atomic Fluorescence Spectrometry (AFS) - Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) Note: If a combination of a sample preparation method and a measurement method can ensure that the limit of quantification for cadmium is less than 5 ppm and lead is less than 30 ppm, the combination is applicable.

Formaldehyde
The wooden products made from fiberboard, particleboard, or plywood, which are employed in products (e.g. speakers and racks) are required to satisfy in accordance with the following standards.
Threshold level (emission content): Obtain the value by any one of the following methods. 1) [With a chamber method] Concentration in the air: Equal to or less than 0.1 ppm (or 0.124 mg/m^3) in an air-tight test chamber whose volume is 12 m^3, 1 m^3, or 0.0225 m^3 2) [With a perforator method] - Equal to or less than 6.5 mg in 100 g of a particleboard without a surface treatment (the average value during six months) - Equal to or less than 7.0 mg in 100 g of a fiberboard without a surface treatment (the average value during six months) - Equal to or less than 8.0 mg in 100 g of a particleboard/fiberboard without a surface treatment (the value derived from the one-time measurement based on ISO12460) 3) [With a desiccator method] - Average content: 0.5 mg/l or less - Maximum content: 0.7 mg/l or less (Use N=2 to check the average and maximum values.)
Testing methods: - A chamber method specified in EN 717-1:2004 - A perforator method specified in ISO12460:2015 - A desiccator method specified in JIS A 5905 (Fiberboards) and JIS A 5908 (Particleboards)

Heavy metals (cadmium, lead, mercury, and hexavalent chromium)

Packaging components and materials are required to be tested in accordance with the following standards.

For hexavalent chromium:

1) First analyze total chromium content and verify that the total concentration of cadmium, lead, mercury and total chromium is less than 100 ppm. When analyzing, the same sample preparation methods as those used for cadmium and lead are applicable.
2) If this total concentration is more than 100 ppm, verify that the sum of the cadmium, lead and mercury concentration is less than the 100 ppm limit. When the sum of the cadmium, lead and mercury concentration is less than the 100 ppm limit, analyze and confirm that no hexavalent chromium is present, using the standard methods for detecting hexavalent chromium.

Standards for four heavy metals measurement

1) Sample preparation
   For cadmium, lead and total chromium, follow the methods respectively specified in "Cadmium/cadmium compounds and Lead/lead compounds" (page 20).
   For mercury, typical methods are as follows.
   (1) Closed system for acid decomposition method (e.g. a microwave decomposition method) (e.g. IEC 62321-5:2013, EPA 3052:1996)
   (2) A heating evaporation-cold-vapor mercury-atomic-absorption method
   (3) A wet decomposition method (e.g. Kjeldahl method) in which a decomposition flask with a reflux condenser is used to decompose mercury by sulfuric acid or nitric acid
   Note: In the process of sample preparation, particular attention is required to avoid mercury sublimation, and precipitates must be completely dissolved by some technical means.
2) Measurement methods
   Regarding the measurement of cadmium, lead, and total-chromium concentrations, follow the methods respectively specified in "Cadmium/cadmium compounds and Lead/lead compounds" (page 20).
   Regarding the measurement of mercury, follow the methods respectively specified in "Cadmium/cadmium compounds and Lead/lead compounds". However, when the mercury concentration is predicted to be low, you are advised to use one of the following methods:
   (1) A reduction-evaporation atom-absorption method
   (2) ICP-OES (ICP-AES) method with a hydride-generation apparatus
   (3) ICP-MS method with a hydride-generation apparatus

Standard methods for detecting hexavalent chromium:

Note: Standard methods specified hereafter are applicable when total concentration of the four elements of cadmium, lead, mercury, and total chromium in packaging components and materials is 100 ppm or more.

Detection methods:

1) Sample preparation
   - Extraction methods such as boiling water extraction and alkaline extraction (e.g. IEC 62321 7-2:2017, EPA 3060A)
2) Measurement method
   - Ultraviolet-Visible (UV/VIS) Spectroscopy (e.g. IEC 62321 7-2:2017, EPA 7196A)
   - If a combination of a sample preparation method and a measurement method can ensure the following limits of quantification, the combination is also available.
     (1) Less than 5 ppm for mercury, cadmium, and the total chromium
     (2) Less than 30 ppm for lead

4.4.2 Chemical analysis for reference

Hexavalent chromium compounds
For reference, the methods for natural leather materials are as follows.
Testing methods (for reference) 1) EN ISO 17075:2007 2) IULTCS/IUC18 (conform with ISO 17075:2007)

Azocolourants and azodyes which form certain aromatic amines
For reference, the methods for decomposing azo compounds and then extracting amines are as follows.
Testing methods (for reference) 1) For textiles: EN 14362-1:2012; EN 14362-3:2012 for 4-aminoazobenzene 2) For leather: EN ISO 17234-1:2015; EN ISO 17234-2:2011 for 4-aminoazobenzene

5. REPLACEMENT OF CHEMICAL SUBSTANCES ACCORDING TO "SONY GROUP ENVIRONMENTAL MID-TERM TARGET"

Sony declares in "Sony Group Environmental Mid-Term Target" that:
Sony analyzes the use of chemical substances and the contents in parts and products.
Based on the risk evaluation, Sony identifies and discontinues high-risk uses of these substances.

5.1 Polyvinyl chloride (PVC)

PVC may pose a risk to the environment if disposed of improperly. Another concern is that PVC might contain various other chemical substances, including plasticizers and stabilizers, which could pose risks to the environment and human health.
Sony is concerned with the possibility that in particular its small electronics products in developing countries could be collected for obtaining valuable materials, and then the unwanted parts could be improperly incinerated and disposed of in landfills. Considering the impact of these activities on the environment, Sony will replace PVC with alternative substances for the parts and materials as listed below.

Polyvinyl chloride (PVC)and PVC blends		
Detailed instructions should be given to business partners separately with the specifications of the parts used for target products		
Mgmt level	Target	Threshold level
Level 1	- Substrates for FeliCa contactless IC cards - Carrying bags, carrying cases, and carrying pouches for digital cameras, video camcorders, and portable audio products (excluding those for professional use) - Cable ties used for accessories and connecting cords - Packaging components and materials to protect, contain, or transport products or supplied accessories (e.g. bags, adhesive tapes, cartons, and blister packs) (Note that packaging components or materials for devices, semiconductors, and any other components (e.g. trays, magazine sticks, stoppers, reels, embossed carrier tapes) are excluded.) - Heat shrink tubes (excluding those for batteries) - Flexible flat cables (FFC) - Insulating plates, decorative panels, labels (excluding those for batteries) - Sheets, and laminates (including sheets and laminates used for exterior of wooden speakers) - Suction cups for mounting in-vehicle products	Intentionally use
	- Resin for main housing and insulation of cable for internal wiring of a product specified at below web site link (*) and newly released at least after April 1st, 2011. (excluding accessories and products designed for professional use) (This except in cases where doing so would negatively affect product quality or cause technical problems.)	Intentionally use
Level 3	- All application other than the above	Intentionally use
Exemption	- Binder for resins used for paints, inks, coating agents, adhesives etc.	
* http://www.sony.net/SonyInfo/csr_report/environment/products/replace.html#block2		

5.2 Brominated flame retardants (BFR)

Some BFRs are harmful to human health and tend to remain in the environment and accumulate in living organisms. As in the case of PVC, improper incineration of BFRs carries a risk of releasing harmful substances into the environment. Considering the impact of these activities on the environment, Sony will replace BFR with alternative substances for the product categories or models as listed at below web site link.

Brominated flame retardants (BFR)		
Detailed instructions should be given to business partners separately with the specifications of the parts used for target products.		
Mgmt level	Target	Threshold level
Level 1	- Main printed wiring boards (PWB) of a product specified at below web site link (**) and newly released at least after April 1st, 2011. (excluding accessories and products designed for professional use) (This except in cases where doing so would negatively affect product quality or cause technical problems.)	0.09 wt% (900 ppm) total bromine content in laminate
	- Main housing of a product specified at below web site link (**) and newly released at least after April 1st, 2011. (excluding accessories and products designed for professional use) (This except in cases where doing so would negatively affect product quality or cause technical problems.)	0.1 wt% (1000 ppm) of bromine in plastic materials
** http://www.sony.net/SonyInfo/csr_report/environment/products/replace.html#block3		

APPENDIX

1. MAJOR CONTROLLED SUBSTANCES, AND EXAMPLES OF APPLICABLE LAWS AND REGULATIONS

Disclaimer: Applicable laws and regulations, and controlled substances in Appendix 1 are illustrative only, not all the substances and its alias name are listed.

2. HISTORY OF UPDATES ON EFFECTIVE DATE OF THE BAN ON THE DELIVERY FOR EVERY SUBSTANCE

1. MAJOR CONTROLLED SUBSTANCES, AND EXAMPLES OF APPLICABLE LAWS AND REGULATIONS

Note: This information is confirmed as of January 2017. The revised edition and appendix should be also referred if there are.
The laws and regulations cited herein are subject to change, and it is essential to consult the latest editions of the relevant laws and regulations.

Substances	Laws and regulations (examples)
Cadmium and cadmium compounds	European Union. REACH Regulation (EC) No. 1907/2006.
	European Union. RoHS Directive 2011/65/EU.
	European Union. Batteries Directive 2006/66/EC.
	South Korea. Quality Management and Safety Control of Industrial Products Act
	South Korea. Electrical Appliances Safety Control Act.
	South Korea. Act on Resource Recycling of Electrical and Electronic Equipment and Vehicles.
	Denmark: Statutory Order No. 1199.
Lead and lead compounds	European Union. RoHS Directive 2011/65/EU.
	European Union. Batteries Directive 2006/66/EC.
	Argentina. The Law No..26.184 Portable Power and Resolution 14/2007.
	Brazil. Battery Regulation (Resolution No. 401)
	South Korea. Quality Management and Safety Control of Industrial Products Act
	South Korea. Act on Resource Recycling of Electrical and electronic Equipment and Vehicles.
	Denmark: Statutory Order No. 1012.
Mercury and mercury compounds	European Union. RoHS Directive 2011/65/EU.
	European Union. Batteries Directive 2006/66/EC.
	China. 1997 Regulation on Mercury Content Limitation for Batteries.
	China. Inspection and Management Methods for the Import and Export of Battery Products Containing Mercury. (English translation by EIA)
	United States. Louisiana State. Mercury Risk Reduction Act.
	South Korea. Act on Resource Recycling of Electrical and electronic Equipment and Vehicles.
Hexavalent chromium compounds	European Union. RoHS Directive 2011/65/EU.
	South Korea. Act on Resource Recycling of Electrical and electronic Equipment and Vehicles.
Polybrominated biphenyls (PBB)	European Union. REACH Regulation (EC) No. 1907/2006 Annex XVII.
	European Union. RoHS Directive 2011/65/EU.
	South Korea. Act on Resource Recycling of Electrical and electronic Equipment and Vehicles.
Polybrominated diphenylethers (PBDE)	European Union. REACH Regulation (EC) No. 1907/2006 Annex XVII.
	European Union. RoHS Directive 2011/65/EU.
	South Korea. Act on Resource Recycling of Electrical and electronic Equipment and Vehicles.
Hexabromocyclododecane (HBCDD)	European Union. REACH Regulation (EC) No. 1907/2006.

Substances	Laws and regulations (examples)
Polychlorinated biphenyls (PCB)	Japan. Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances, Class I.
	United States. Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions (40CFR 761).
Polychlorinated naphthalenes (PCN)	Japan. Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances, Class I.
Polychlorinated terphenyls (PCT)	European Union. REACH Regulation (EC) No. 1907/2006.
Short-chain chlorinated paraffins (SCCP)	Norway. Regulations relating to restrictions on the use, etc. of certain dangerous chemicals.
	European Union. EU POPs Regulation (EC) No 850/2004.
Tris(2-chloroethyl) phosphate (TCEP), Tris(2-chloro-1-methylethyl) phosphate (TCPP), Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	European Union. REACH Regulation (EC) No. 1907/2006.
	United States. Vermont State. Act 85
Hydrofluorocarbon (HFC), Perfluorocarbon (PFC), Sulfur hexafluoride (SF_6)	European Union. EU regulation (EC) No. 842/2006.
	Denmark: Statutory Order No. 552.
	Switzerland. Ordinance on Risk Reduction related to Chemical Products (ORRChem).
Ozone depleting substances (ODS)	European Union. EU regulation (EC) No. 2037/2000.
	Japan. Law Concerning the Protection of the Ozone Layer through the Control of Specified Substances and Other Measures.
	United States. Clean Air Act Amendments of 1990.
	Republic of Indonesia. Regulation of the Minister of Industry of the Republic of Indonesia No. 33/M-IND/PER/4/2007 dated April 17, 2007.
Hydrochlorofluorocarbons (HCFC)	European Union. EU regulation (EC) No. 1005/2009.
Perfluorooctane sulfonates (PFOS)	European Union. REACH Regulation (EC) No. 1907/2006 Annex XVII.
Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA	Norway. Product Regulations
Trisubstituted organic tin compounds (incl. tributyltin (TBT) compounds and triphenyltin (TPT) compounds)	European Union. REACH Regulation (EC) No. 1907/2006 Annex XVII.
	Japan. Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances, Class I and Class II.
Dibutyltin (DBT) compounds	European Union. REACH Regulation (EC) No. 1907/2006 Annex XVII.
Dioctyltin (DOT) compounds	European Union. REACH Regulation (EC) No. 1907/2006 Annex XVII.
Beryllium oxide	European Union. WEEE Directive 2002/96/EC and EU Directive 1999/45/EC.
Cobalt dichloride	European Union. REACH Regulation (EC) No. 1907/2006 Annex XVII.
Diarsenic trioxide, Diarsenic pentaoxide	European Union. REACH Regulation (EC) No. 1907/2006.
Bis (2-ethylhexyl)phthalate, Dibutyl phthalate, Benzyl butyl phthalate, Diisobutyl phthalate	European Union. REACH Regulation (EC) No. 1907/2006.
Asbestos	Japan. Industrial Safety and Health Law.
	Germany. Chemicals Prohibition Ordinance. (German abbreviation: ChemVerbotsV)
Specific azo compounds	European Union. REACH Regulation (EC) No. 1907/2006 Annex XVII.

Substances	Laws and regulations (examples)
Formaldehyde	Germany. Chemicals Prohibition Ordinance. (German abbreviation: ChemVerbotsV)
	Denmark: Statutory Order No. 289.
Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST)	Prohibition of Certain Toxic Substances Regulations.
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	Japan. Law Concerning the Examination and Regulation of Manufacture of Chemical Substances, Class I.
Dimethyl fumarate (DMF)	European Union. REACH Regulation (EC) No. 1907/2006.
Polycyclic aromatic hydrocarbons (PAHs)	European Union. REACH Regulation (EC) No. 1907/2006 Annex XVII.
Heavy metals (lead, cadmium, mercury, and hexavalent chromium)	European Union. EU Directive 94/62/EC on packaging and packaging waste and its amendments.
	New York State and other 15 states in the United States. Regulations on Heavy Metals in Packaging Materials.

2. HISTORY OF UPDATES ON EFFECTIVE DATE OF THE BAN ON THE DELIVERY FOR EVERY SUBSTANCE

Substances: Cadmium and cadmium compounds	
Targets	Effective date of the ban on the delivery
- Packaging components and materials (See 4.2.1.) - The stabilizers, pigments, or dyes used for plastics (including rubber) materials (e.g. labels, cabinets, phonograph records, cable tie, the keys of remote commanders, the outer plastic resins of electrical parts, and the insulators of electrical wiring) - Paints, inks - Surface treatment (e.g. electroplating, electroless plating, etc.) and coating - Photographic films - Fluorescent lamps (small-sized ones, straight-tube ones)	Banned since the establishment of this Standard
All uses except those specified in Level 2 and Exemption Typical examples are given below: - Switches, relays, breakers, DC motors, and other electrical contact points - Fuse elements of temperature fuses - Glass, and the pigments as well as dyes of glass paints (paints for glass and the pigments as well as dyes used for glass) - Solder (whose cadmium concentration is more than 20 ppm) - CdS-photocells and the phosphors contained in fluorescent display devices - Resistor elements (glass frit)	Banned since January 1, 2005
- Parts composed of metals containing zinc (e.g. brass, hot dip galvanizing, etc.) whose cadmium concentration is more than 100 ppm	Banned since October 1, 2005
- Optical glass	Banned since June 1, 2010
- Cadmium in colour converting II-VI LEDs (< 10 µg Cd per mm^2 of light-emitting area) for use in display systems, except the cases where cadmium is contained in a concentration ≥ 100 ppm in the following designated plastics: Designated plastics: polymers or copolymers of vinyl chloride (PVC), polyurethane (PUR), "low-density polyethylene (LDPE), with the exception of low-density polyethylene used for the production of coloured masterbatch", cellulose acetate (CA), cellulose acetate butyrate (CAB), epoxy resins , melamine-formaldehyde (MF) resins, urea-formaldehyde (UF) resins, unsaturated polyesters (UP), polyethylene terephthalate (PET), polybutylene terephthalate (PBT), transparent/general-purpose polystyrene, acrylonitrile methylmethacrylate (AMMA), crosslinked polyethylene (VPE), high-impact polystyrene, polypropylene (PP) Note: Level 1 applies to the cases where cadmium is contained in a concentration ≥ 100 ppm in the above designated plastics	Banned since July 1, 2014

Substances: Lead and lead compounds	
Targets	Effective date of the ban on the delivery
- Packaging components and materials (See 4.2.1.) - The paints, and inks containing lead, which are used for PWBs	Banned since the establishment of this Standard
- Surface coatings (plating) for the external electrodes, lead wires, and other areas of parts (e.g. electrical parts, semiconductor devices, and heat sinks) - The stabilizers, pigments, and dyes contained in the plastic (including rubber) materials that are used for outer and exposed areas of the following articles: mice, devices, AC adaptors, connection cords, remote commanders, and power supply cords - The paints and inks used for outer and exposed areas of devices	Banned since April 1, 2004
All uses except those specified in Level 2, Level 3 and Exemption Typical examples are given below: - The surface coatings for the external electrodes, lead wires, etc. of the parts contained in AC adaptors, remote commanders, semiconductor devices, etc. - Leaded solder that meets both of the following conditions: 1) lead content is less than 85 wt%; and 2) lead content is more than 1000 ppm - All kinds of alloys (including solder materials) whose individual lead concentrations exceed their allowable ones provided in the table at the bottom of Exemption below. (*1) - The stabilizers, pigments, and dyes contained in the plastic (including rubber) materials that are used for areas (excluding outer and exposed ones) of the following articles: mice, devices, AC adaptors, connection cords, remote commanders, and power supply cords - The paints and inks used for areas other than the outer and exposed ones of devices	Banned since January 1, 2005
- Electroless plating films such as electroless nickel plating and electroless gold plating whose lead content is more than 1000 ppm	Banned since February 1, 2006
- Glass for all uses except those specified in Exemption - Solder 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 wt% and less than 85 wt%	Banned since June 1, 2010
- Dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	Banned since January 1, 2012
- Crystal glass as defined in Annex 1 (Categories 1, 2, 3 and 4) of EU Directive 69/493/EEC	Banned since April 1, 2012

(*1) Allowable lead concentrations

Type of alloy	Allowable lead concentration
Steel	up to 0.35 wt%
Aluminum alloy	up to 0.4 wt%
Copper alloys (including brass and phosphor bronze)	up to 4 wt%
Solder (*2)	up to 1000 ppm

Substances: Mercury and mercury compounds	
Targets	Effective date of the ban on the delivery
- Packaging components and materials (See 4.2.1.) - Paints, and inks - Hour meters - Relays, switches, or sensors whose contacts contain mercury - Mercury or its compounds mixed in plastics	Banned since the establishment of this Standard
- All uses except those specified in Level 2 and Exemption	Banned since January 1, 2005
- Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL): Short length (not over 500 mm) : 3.5 mg or more, and less than 5 mg per lamp	Banned since January 1, 2011

Substances: Hexavalent chromium compounds	
Targets	Effective date of the ban on the delivery
- Packaging components and materials (See 4.2.1.)	Banned since the establishment of this Standard
- Constituents of parts or materials (e.g. inks, paints, additives, etc.) - Residues in the surfaces of screws, steel sheets, etc. that are processed with plating or conversion coating	Banned since January 1, 2005

Substances: Polybrominated biphenyls (PBB)	
Targets	Effective date of the ban on the delivery
- All uses (e.g. flame retardants contained in plastics)	Banned since the establishment of this Standard

Substances: Polybrominated diphenylethers (PBDE) (including decabromodiphenyl ether [DecaBDE])	
Targets	Effective date of the ban on the delivery
- All uses (e.g. flame retardants contained in plastics)	Banned since the establishment of this Standard
- The parts manufactured using the molding dies, which were made in or before December 2002 (Applicable only to the bodies of the displays and TV sets shipped to countries and regions other than European ones) The parts whose molding dies have been made since January 2003 must not contain PBDE.	Banned since January 1, 2005

Substances: Polychlorinated biphenyls (PCB), polychlorinated naphthalenes (PCN), polychlorinated terphenyls (PCT)	
Targets	Effective date of the ban on the delivery
- All uses (e.g. capacitors, lubricants, insulating oils, transformers containing oil, paints, and flame retardants in plastics)	Banned since the establishment of this Standard

Substances: Short-chain chlorinated paraffins (SCCP)	
Short-chain chlorinated paraffins with carbon chain length;10-13	
Targets	Effective date of the ban on the delivery
- The cabinets of products (including accessories) and PWBs	Banned since the establishment of this Standard
- All uses other than the above	Banned since February 1, 2006

Substances: Polyvinyl chloride (PVC) and PVC blends	
Targets	Effective date of the ban on the delivery
- Substrates for FeliCa contactless IC cards * For reference, the targets have never contained PVC or PVC blends.	Banned since before the establishment of this Standard
- Coating agents and fabrics for the carrying bags, carrying cases, and carrying pouches, which are designed for use with personal computers, digital cameras, camcorders, and portable audio products (excluding those for professional use)	Banned since the establishment of this Standard
- Cable ties used for accessories and connecting cords	Banned since July 1, 2002
- Packaging components and materials to protect, contain, or transport products or supplied accessories (e.g. bags, adhesive tapes, cartons, and blister packs)	Banned since January 1, 2005
- Heat shrink tubes	Banned since April 1, 2005
- Flexible flat cables (FFC) - Sheets and laminates used for exterior of wooden speakers - Insulating plates, decorative panels, labels, sheets, and laminates	Banned since April 1, 2007
- Suction cups for mounting in-vehicle products	Banned since April 1, 2010

Substances: Hydrofluorocarbon (HFC), Perfluorocarbon (PFC)	
Targets	Effective date of the ban on the delivery
- All uses installed into product (e.g. refrigerant and insulation)	Banned since April 1, 2008

Substance: Ozone depleting substances (ODS)	
ODS in Table 4.2d	
Targets	Effective date of the ban on the delivery
- All uses for refrigerant, insulation and other products - Components and materials processed with ODS during cleaning, foaming and other processes	Banned since before the establishment of this Standard

Note: The incorrect CAS No. 165-97-7 in Table 4.2d is replaced with the correct CAS No. 2354-06-5.

Substances: Perfluorooctane sulfonates (PFOS)	
Targets	Effective date of the ban on the delivery
- Materials whose PFOS concentration is 0.1 wt% or more - Textiles or other coated materials whose amount of PFOS is 1 μg/m^2 or more of the coated material	Banned since April 1, 2008
- All uses except those specified in Exemption (photographic films for professional use and resists for semiconductors)	Banned since April 1, 2010

Substances: Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA		
CAS No. 335-67-1, 3825-26-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0, 376-27-2, 3108-24-5		
Targets	Criteria/threshold levels	Effective date of the ban on the delivery
- Coatings applied to textiles, leathers and fabrics	- More than 1 μg/m^2 of the coated material	Banned since April 1, 2014
- All applications other than above and Level 2	- More than 1000 ppm (or 0.1 wt%) of the parts	Banned since April 1, 2014

Substances: Trisubstituted organotin compounds (including tributyltin (TBT) compounds and triphenyltin (TPT) compounds)	
Metal tin, tin alloys, tin plating and tin inorganic compounds do not fall under this category.	
Targets	Effective date of the ban on the delivery
- All uses (e.g. paints, inks, preservatives, and fungicides)	Banned since the establishment of this Standard

Substances: Dibutyltin (DBT) compounds		
Metal tin, tin alloys, tin plating and tin inorganic compounds do not fall under this category.		
Targets	Criteria/threshold levels	Effective date of the ban on the delivery
- All applications including additives of plastics (except Level 2)	- More than 1000 ppm (or 0.1 wt%) of the tin contained in materials	Banned since July 1, 2011
- One-component and two-component room temperature vulcanisation sealants (RTV-1 and RTV-2 sealants) - One-component and two-component room temperature vulcanisation adhesives (RTV-1 and RTV-2 adhesives) - Catalysts for paints or coating agents - Stabilizers in PVC used for coating of fabrics intended for outdoor applications - Additives of soft polyvinyl chloride (PVC) profiles whether by themselves or coextruded with hard PVC	- More than 1000 ppm (or 0.1 wt%) of the tin contained in materials	Banned since July 1, 2014

Substances: Dioctyltin (DOT) compounds		
Metal tin, tin alloys, tin plating and tin inorganic compounds do not fall under this category.		
Targets	Criteria/threshold levels	Effective date of the ban on the delivery
- Additives of textiles	- More than 1000 ppm (or 0.1 wt%) of the tin contained in materials	Banned since July 1, 2011

Substances: Beryllium oxide	
Targets	Effective date of the ban on the delivery
- All uses	Banned since April 1, 2008

Substance: Cobalt dichloride	
Targets	Effective date of the ban on the delivery
- Moisture indicator used for a desiccant agent (e.g. silica gel)	Banned since April 1, 2009
- Humidity indicator card which is impregnated with cobalt dichloride	Banned since April 1, 2011

Substances: Diarsenic trioxide, Diarsenic pentaoxide		
The target substances are as follows: CAS No. 1327-53-3, 1303-28-2.The following threshold level for each substance shall be applied.		
Targets	Criteria/threshold levels	Effective date of the ban on the delivery
- Antifoam agents or fining agents for LCD panels (including cover glasses, touchscreens, and backlights)	- More than 1000 ppm (or 0.1 wt%) of the parts	Banned since July 1, 2014

Substances: Asbestos	
Targets	Effective date of the ban on the delivery
- All uses (e.g. insulators and fillers)	Banned since the establishment of this Standard

Substances: Specific azo compounds	
Azodyes that form any of the amine compounds listed in Table 4.2b through the decomposition methods cited in REACH Regulation (EC) No. 1907/2006 / Annex XVII and amine compounds in Table 4.2b	
Targets	Effective date of the ban on the delivery
- The substances which are used in parts or articles that may come into direct and prolonged contact with the human skin (e.g. belts, straps, ear phones, head phones, and shoulder pads for bags)	Banned since the establishment of this Standard

Substance: Formaldehyde	
Targets	Effective date of the ban on the delivery
- The wooden products made from fiberboard, particleboard, or plywood, which are employed in products for import into Europe (e.g. speakers and racks)	Banned since the establishment of this Standard
- The wooden products made from fiberboard, particleboard, or plywood, which are employed in products for destinations other than Europe (e.g. speakers and racks)	Banned since January 1, 2005

Substance: Specific benzotriazole	
2-(3',5'-Di-tert-butyl-2'-hydroxyphenyl)benzotriazole (CAS No. 3846-71-7)	
Targets	Effective date of the ban on the delivery
- Ultraviolet protectants and ultraviolet absorbers applied to decorative laminate, developing papers, molded plastic parts	Banned since April 1, 2008
- Lenses and frames of glasses	Banned since April 1, 2011

Substances: Dimethyl fumarate (DMF)	
CAS No. 624-49-7	
Targets	Effective date of the ban on the delivery
- All uses (e.g. fungicides and desiccant agents)	Banned since April 1, 2010

(Note)
This document is subject to change without prior notice, as a result of a revision or modifications on the SS-00259, the Sony Technical Standard titled "Management Regulations for the Environment-related Substances to be Controlled which are included in Parts and Materials."

Management Regulations for the Environment-related Substances to be Controlled which are included in Parts and Materials

SS-00259 for General Use, Fifteenth Edition

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零部件和材料中的环境管理物质　管理规定

（SS-00259 第 15 版　一般公开版）

SONY

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1. 目的

本技术标准是：通过明确构成索尼电子产品的零部件和组件等含有的环境管理物质之(1)禁止使用物质、(2)计划全废物质、(3)适用对象外项目，以防止其混入索尼电子产品中，同时实现遵守法令、保护地球环境以及减轻对生态系统的影响等的目的。

2. 适用范围

2.1 零部件和材料的适用范围

本技术标准适用于：索尼集团以及由索尼集团委托设计、制造的企业采购的零部件、材料及其他物品。这些对象均必须符合本技术标准规定的界限值水准。

所适用的零部件和材料等为：

- 半成品（功能单元、模块、板组件等的组装零部件等）
- 零部件（电气零部件、机械零部件、半导体器件、印刷线路板、记录媒体、包装零部件和材料）
- 螺丝
- 附件（配合机器使用的附属品，例如，遥控指挥器、鼠标、AC 适配器等）
- 产品采用的辅助材料（胶带、焊接材料、粘结剂等）之组成材料等
- 印刷品（操作说明书、保证书、产品和零部件相关的补充信息等）
- 修理用零部件（对于已出货产品的修理用部分零部件，应依照另行规定的通知书执行）
- 零部件交货厂商为了发送或保护货物而使用“4.2.1 包装零部件和材料的定义”中定义的包装零部件和材料
- 电池

2.2 产品的适用范围

(1) 由索尼集团设计和制造、销售、借阅以及发布的索尼电子产品
(2) 索尼集团委托集团外企业设计和制造，且贴有索尼集团的商标进行销售、借阅或发布的索尼电子产品
(3) 集团外企业委托索尼集团进行设计和制造的电子产品（但是，由集团外企业指定的零部件和材料除外）

此外，对本技术标准中未明确规定的物质或是其用途，如果各国或当地法令规定禁止使用或限制使用该物质或用途时，则必须遵照相关法令执行。

3. 术语的定义

本技术标准中所使用的术语定义如下：

(1) 环境管理物质

包含在零部件和组件等的物质中，由索尼判断对地球环境和人体存在着显著影响的物质。

(2) 管理级别

按照以下 3 种管理级别和适用对象外的分类进行管理。

(a) 1 级

相应对象物质及其用途禁止使用于零部件和材料中。

(b) 2 级

表中规定的该日期开始（即：禁止收货时期栏中所指定的日期）指定提升为“1 级”。

(c) 3 级

今后，考虑到上升至 2 级，须把握的物质及其用途的相关使用情况。

(d) 适用对象外

考虑到法令适用对象外项目等，从 1～3 级对象中刨除的物质及其用途。

必要时，需要把握的物质及其用途的使用情况。

(3) 含有

含有是指：无论是否有意识地，通过添加、填充、混入或者付着的形式，在产品的零部件、组件或者其所使用的材料中残留的情况。

在加工过程中无意图地向产品里混入或者付着后残留的情况也作为含有。

(4) 有意添加

为了达到特定的特性、外观、性质、属性和质量，通过有意识地添加、填充、混入和付着，使物质残留在构成产品的零部件、组件以及其所使用的材料中的情况。

(5) 均质材料

整体成分完全相同的单一材料或由多种无法通过机械行为（拧开螺丝、切割、碾压、破碎、研磨加工等）拆解或分离成不同材料的材料所组成的材料。

(6) 材料

产品或零部件中的物质或混合物。

(7) 零部件

完成品（化学品及/或零部件经组装或加工后制造的最终成品）之前的成品。

例如：电脑的键盘、电话的听筒、电钻的电机

(8) 成品（article）

与化学成分发挥的功能相比，制造过程中形成的特定形状、外观或设计更大程度地决定其最终使用功能的物体。

例如：键盘的一个键、电话的塑料外壳、电机的铜材

(9) 产品

作为组织开展活动的结果交付给客户的零部件和完成品。

(10) 对象

在各个“管理级别”里，管理所要求的要素（零部件、材料、用途、处理等）。

(11) 界限值水准

各个的“管理级别”里，管理所要求的条件或浓度限值。

*“界限值水准”里出现诸如“有意添加”和“数值”等多个界限值水准时，必须都要满足。

(12) 禁止收货日

禁止向索尼供应零部件和材料的日期。

4. 环境管理物质的管理标准

4.1 环境管理物质

本技术标准中作为对象的环境管理物质名称如表 4.1 所示。

表 4.1 环境管理物质名称一览表

物质名称	页数
邻苯二甲酸二（2-乙基己）酯（DEHP）	5
邻苯二甲酸二丁酯（DBP）	5
邻苯二甲酸丁苄酯（BBP）	6
邻苯二甲酸二异丁酯（DIBP）	6
镉以及镉化合物	6
铅以及铅化合物	7
汞以及汞化合物	7
六价铬化合物	7
多溴联苯类（PBB 类）	8
多溴联苯醚类（PBDE 类）	8
六溴环十二烷（HBCDD）及所有的主要非对映异构体	8
多氯联苯类（PCB 类）及特定替代品	8
多氯化萘类（PCN 类）	8
多氯三联苯类（PCT 类）	8
短链型氯代烷烃类（C10-13）（SCCP）	8
磷酸三（2-氯乙基）酯（TCEP）	8
磷酸三（1-氯丙基）酯（TCPP）	8
磷酸三（1,3-二氯丙基）酯（TDCPP）	9
含氟温室气体（PFC、SF_6、HFC）	9
臭氧层破坏物质（ODS）（对象为 CFC、Halon、四氯化碳、1,1,1-三氯乙烷）	9
臭氧层破坏物质（ODS）（对象为氢氯氟烃（HCFC））	9
全氟辛烷磺酸盐（PFOS）	10
全氟辛酸铵（PFOA）及其各种盐和 PFOA 酯	10
三取代基有机锡化合物	10
二丁基锡（DBT）化合物	10
二辛基锡（DOT）化合物	10
氧化铍	10
二氯化钴	11
三氧化二砷	11
五氧化二砷	11
镍	11
邻苯二甲酸二异壬酯（DINP）	11
邻苯二甲酸二异癸酯（DIDP）	11
邻苯二甲酸二正辛酯（DNOP）	12
石棉	12
甲醛	12
产生部分芳香胺的偶氮染料和颜料	12
二苯胺与苯乙烯和 2,4,4-三甲基戊烯的反应产物（BNST）	13
2-（2H）-苯并三氮唑-2-基）-4,6-双（1,1-二甲基乙基）苯酚（UV-320）	13
二甲基甲酰胺（DMF）	13
多环芳烃化合物（PAH）	13

物质名称	页数
溴系阻燃剂（BFR）	13
氯系阻燃剂（CFR）	13
邻苯二甲酸二正己酯（DnHP）	13
高氯酸盐	14
放射性物质	14
欧盟 REACH 法规需授权物质清单中的物质	14

表 4.2 环境管理物质详解

邻苯二甲酸二（2-乙基己）酯（DEHP）		
CAS No.[117-81-7]，别名：邻苯二甲酸二异辛酯、邻苯二甲酸二辛酯（DOP）、邻苯二甲酸二（2-乙基己）酯、1,2-苯二甲酸二（2-乙基己基）酯、双（2-乙基己基）邻苯二甲酸酯		
管理级别	对象	界限值水准
1 级	· 手提包、手提箱、便携包使用的零部件和材料 · 电气电子产品长期接触皮肤的部位使用的零部件和材料（例如：手柄、把手等）	均质材料中占 0.1 wt%（1000 ppm）
2 级	**禁止收货日：2018 年 4 月 1 日** · 电气电子产品使用的零部件和材料（但是，电池产品使用的零部件和材料作为 3 级管理）	均质材料中占 0.1 wt%（1000 ppm）
3 级	· 包装零部件和材料（包括组件、半导体及其他零部件使用的托盘、料条、止动器、带盘、压纹承载带等） · 电池使用的零部件和材料 · 上述以外的全部用途（例如：操作说明书等印刷品）	均质材料中占 0.1 wt%（1000 ppm）

邻苯二甲酸二丁酯（DBP）		
CAS No.[84-74-2]，别名：邻苯二甲酸二正丁酯、1,2-苯二甲酸二丁基酯、邻酞酸二丁酯		
管理级别	对象	界限值水准
1 级	· 手提包、手提箱、便携包使用的零部件和材料 · 电气电子产品长期接触皮肤的部位使用的零部件和材料（例如：手柄、把手等）	均质材料中占 0.1 wt%（1000 ppm）
2 级	**禁止收货日：2018 年 4 月 1 日** · 电气电子产品使用的零部件和材料（但是，电池产品使用的零部件和材料作为 3 级管理）	均质材料中占 0.1 wt%（1000 ppm）
3 级	· 包装零部件和材料（包括组件、半导体及其他零部件使用的托盘、料条、止动器、带盘、压纹承载带等） · 电池使用的零部件和材料 · 上述以外的全部用途（例如：操作说明书等印刷品）	均质材料中占 0.1 wt%（1000 ppm）

邻苯二甲酸丁苄酯（BBP）		
CAS No.[85-68-7]，别名：邻苯二甲酸酯、邻苯二甲酸丁基基酯、邻苯二甲酸苄基丁基酯、酞酸丁基苄酯		
管理级别	对象	界限值水准
1 级	· 手提包、手提箱、便携包使用的零部件和材料 · 电气电子产品长期接触皮肤的部位使用的零部件和材料（例如：手柄、把手等）	均质材料中占 0.1 wt%（1000 ppm）
2 级	**禁止收货日：2018 年 4 月 1 日** · 电气电子产品使用的零部件和材料（但是，电池产品使用的零部件和材料作为 3 级管理）	均质材料中占 0.1 wt%（1000 ppm）
3 级	· 包装零部件和材料（包括组件、半导体及其他零部件使用的托盘、料条、止动器、带盘、压纹承载带等） · 电池使用的零部件和材料 · 上述以外的全部用途（例如：操作说明书等印刷品）	均质材料中占 0.1 wt%（1000 ppm）

邻苯二甲酸二异丁酯（DIBP）		
CAS No.[84-69-5]，别名：二异丁基邻苯二甲酸酯		
管理级别	对象	界限值水准
1 级	· 手提包、手提箱、便携包使用的零部件和材料 · 电气电子产品长期接触皮肤的部位使用的零部件和材料（例如：手柄、把手等）	均质材料中占 0.1 wt%（1000 ppm）
2 级	**禁止收货日：2018 年 4 月 1 日** · 电气电子产品使用的零部件和材料（但是，电池产品使用的零部件和材料作为 3 级管理）	均质材料中占 0.1 wt%（1000 ppm）
3 级	· 包装零部件和材料（包括组件、半导体及其他零部件使用的托盘、料条、止动器、带盘、压纹承载带等） · 电池使用的零部件和材料 · 上述以外的全部用途（例如：操作说明书等印刷品）	均质材料中占 0.1 wt%（1000 ppm）

镉以及镉化合物		
管理级别	对象	界限值水准
1 级	· 全部用途 （关于包装零部件/材料，也请参照4.2；关于电池，也请参照4.3） （塑料、合成纤维、薄膜、胶带、橡胶、粘结剂、涂料、油墨根据“4.4 分析相关事项”进行测量）	均质材料中镉占 0.01 wt%（100 ppm）
适用对象外	· 电气触点中的镉及其化合物 · 滤光玻璃及作为反射率标准物质的玻璃中含有的镉	

铅以及铅化合物		
管理级别	对象	界限值水准
1 级	· 全部用途 （关于包装零部件/材料，也请参照 4.2；关于电池，也请参照 4.3） （塑料、合成纤维、薄膜、胶带、橡胶、粘结剂、涂料、油墨根据“4.4 分析相关事项”进行测量）	均质材料中铅占 0.1 wt%（1000 ppm）
	· 主要为面向 12 岁以下儿童的消费品零部件和材料	产品中铅占 0.01 wt%（100 ppm）
	· 玩具及儿童产品的涂料或表面涂层	表面涂层中铅占 0.009 wt%（90 ppm）
	· 热硬化性/热可塑性树脂覆盖的电线、电缆或导线（包括插头、连接器）	表面覆盖层中铅占 0.03 wt%（300 ppm）
适用对象外	· CRT（显像管、冷阴极管）的玻璃中含有的铅 · 铅含量不超过 0.2 wt%的玻璃荧光管中的铅 · 用于机械加工的钢材及镀锌钢板中，作为合金成分含量低于 0.35 wt%的铅 · 铝材中，作为合金成分含量低于 0.4 wt%的铅 · 铅含量低于 4 wt%的铜合金 · 高熔点焊料中含有的铅（即铅含量在 85 wt%以上的铅基合金） · 电容器内介电陶瓷以外的玻璃或陶瓷中含铅的电气电子零部件（例如：压电元件），或以玻璃或陶瓷为母材的化合物中含铅的电气电子零部件 · 额定电压为 AC125 V、DC250 V 或更高的电容器介电陶瓷中的铅 · 集成电路、分立半导体的零部件使用的电容器的锆钛酸铅（PZT）压电陶瓷材料中的铅 · 光学设备使用的白色玻璃中含有的铅 · 滤光玻璃及作为反射率标准物质的玻璃中含有的铅 · 集成电路封装（叩焊晶片）的内部半导体芯片及载体间实现有效焊接所需焊料中含有的铅 · 以金属陶瓷（陶瓷合金）为主要构成要素的微调电位器构成零部件中的铅	

汞以及汞化合物		
管理级别	对象	界限值水准
1 级	· 全部用途（关于包装零部件/材料，也请参照 4.2；关于电池，也请参照 4.3）	有意添加或均质材料中汞占 0.1wt%（1000 ppm）
适用对象外	· 每根灯管的汞含量不超过 3.5 mg 的短尺寸灯管（低于 500 mm）/特殊用途冷阴极荧光灯管及外置电极荧光灯管（CCFL 及 EEFL） · 每根灯管的汞含量不超过 5mg 的中长尺寸灯管（超过 500 mm 但低于 1500 mm）/特殊用途冷阴极荧光灯管及外置电极荧光灯管（CCFL 及 EEFL） · 长度超过 1500 mm 的特殊用途冷阴极荧光灯管（CCFL）及外置电极荧光灯管（EEFL）中的汞：每根灯管的汞含量低于 10 mg · 投影仪灯中含有的汞	

六价铬化合物		
管理级别	对象	界限值水准
1 级	· 天然皮革零部件及材料（参考分析方法参照 4.4）	干燥部分皮革中六价铬占 0.0003 wt%(3 ppm)
	· 上述以外的全部用途（关于包装零部件和材料，也请参照 4.2）	均质材料中六价铬占 0.1 wt%（1000 ppm）

多溴联苯类（PBB 类）		
别名：多溴化联苯		
管理级别	对象	界限值水准
1 级	· 全部用途	均质材料中占 0.1 wt%（1000 ppm）

多溴联苯醚类（PBDE 类）		
别名：多溴二苯醚		
管理级别	对象	界限值水准
1 级	· 全部用途	均质材料中占 0.1 wt%（1000 ppm）

六溴环十二烷（HBCDD）及所有的主要非对映异构体		
CAS No.[25637-99-4]、[3194-55-6]、[134237-51-7]、[134237-50-6]、[134237-52-8]		
管理级别	对象	界限值水准
1 级	· 全部用途	有意添加或成品中占 0.1 wt%（1000 ppm）

多氯联苯类（PCB 类）及特定替代品		
特定替代品对象为 CAS No.[76253-60-6]、[81161-70-8]、[99688-47-8]		
管理级别	对象	界限值水准
1 级	· 全部用途	有意添加

多氯化萘类（PCN 类）		
管理级别	对象	界限值水准
1 级	· 全部用途	有意添加

多氯三联苯类（PCT 类）		
管理级别	对象	界限值水准
1 级	· 全部用途	材料中占 0.005 wt%（50 ppm）

短链型氯代烷烃类（C10-13）（SCCP）		
管理级别	对象	界限值水准
1 级	· 全部用途	有意添加或成品中占 0.1 wt%（1000 ppm）

磷酸三（2-氯乙基）酯（TCEP）		
CAS No.[115-96-8]，别名：磷酸三（2-氯乙基）酯		
管理级别	对象	界限值水准
1 级	· 全部用途	成品中占 0.1 wt%（1000 ppm）

磷酸三（2-氯丙基）酯（TCPP）		
CAS No.[13674-84-5]，别名：磷酸三（1-氯-2-丙基）酯、三（1-氯-2-丙基）磷酸酯		
管理级别	对象	界限值水准
1 级	· 全部用途	成品中占 0.1 wt%（1000 ppm）

磷酸三（1,3-二氯丙基）酯（TDCPP）		
CAS No.[13674-87-8]，别名：磷酸三（1,3-二氯-2-丙基）、三（1,3-二氯-2-丙基）磷酸酯		
管理级别	对象	界限值水准
1 级	· 全部用途	成品中占 0.1 wt%（1000 ppm）

含氟温室气体（PFC、SF_6、HFC）		
管理级别	对象	界限值水准
1 级	· 全部用途	· 有意添加
适用对象外	· 用于投影机电源装置的冲击压力吸收器的 SF_6	

臭氧层破坏物质（ODS）		
表 4.2a 中所列物质（CFC、Halon、四氯化碳、1,1,1-三氯乙烷）		
管理级别	对象	界限值水准
1 级	· 全部用途	有意添加
	· 通过 ODS 处理过的零部件和材料	通过 ODS 进行的清洗加工、发泡加工等处理

表 4.2a 臭氧层破坏物质（ODS）（CFC、Halon、四氯化碳、1,1,1-三氯乙烷）

CAS No.	名称
75-69-4	CFC-11；三氯氟甲烷
75-71-8	CFC-12；二氯氟甲烷
76-13-1	CFC-113；三氯氟乙烷
76-14-2	CFC-114；二氯四氟乙烷
76-15-3	CFC-115；氯五氟乙烷
353-59-3	Halon-1211；二氟一氯一溴甲烷
75-63-8	Halon-1301；三氟一溴甲烷
124-73-2	Halon-2402；四氟二溴乙烷
75-72-9	CFC-13；氯三氟甲烷
354-56-3	CFC-111；五氯氟乙烷
76-12-0	CFC-112；四氯二氟乙烷
422-78-6	CFC-211；七氯氟丙烷
3182-26-1	CFC-212；六氯二氟丙烷
2354-06-5	CFC-213；五氯三氟丙烷
29255-31-0	CFC-214；四氯四氟丙烷
4259-43-2	CFC-215；三氯五氟丙烷
661-97-2	CFC-216；二氯六氟丙烷
422-86-6	CFC-217；氯七氟丙烷
56-23-5	四氯化碳；四氯甲烷
71-55-6	1,1,1-三氯乙烷；甲基氯仿

臭氧层破坏物质（ODS）		
对象为氢氯氟烃（HCFC）		
管理级别	对象	界限值水准
1 级	· 全部用途	有意添加

全氟辛烷磺酸盐（PFOS）		
管理级别	对象	界限值水准
1 级	· 织物（布料、纺织品）或其他被覆盖的材料	有意添加或被覆盖的材料中占 1 μg/m^2
	· 织物（布料、纺织品）及其他被覆盖的材料除外的全部用途	有意添加或零部件的材料中占 0.1 wt%（1000 ppm）（PFOS 的合计）
适用对象外	· 薄膜、纸、打印相片涂层 · 光刻工序中使用的光刻胶或防反射膜	

全氟辛酸铵（PFOA）及其各种盐和 PFOA 的酯		
CAS No.[335-67-1]、[3825-26-1]、[335-95-5]、[2395-00-8]、[335-93-3]、[335-66-0]、[376-27-2]、[3108-24-5]，别名：全氟辛酸铵（PFOA）、其盐和酯		
管理级别	对象	界限值水准
1 级	· 织物（布料、纺织品）及薄膜或纸或印刷用原版用照片涂层及其他被覆盖的消费品用零部件和材料	材料中占 1 μg/m^2（PFOA 的合计）
	· 除织物（布料、纺织品）及薄膜或纸或印刷用原版用照片涂层及其他被覆盖的消费品用零部件和材料以外的全部用途	零部件的材料中占 0.1 wt%（1000 ppm）（PFOA 的合计）

三取代有机锡化合物		
包括三丁基锡（TBT）化合物和三苯基锡（TPT）化合物		
管理级别	对象	界限值水准
1 级	· 全部用途	有意添加或零部件中锡占 0.1 wt%（1000 ppm）

二丁基锡（DBT）化合物		
管理级别	对象	界限值水准
1 级	· 全部用途	零部件中锡占 0.1 wt%（1000 ppm）
适用对象外	· 零部件、组件使用的包装材料及不提供给消费者而再利用的包装零部件和材料中的添加剂 · 组件、半导体及其他零部件所用的包装零部件和材料（托盘、料条、止动器、带盘、压纹承载带等）中的添加剂	

二辛基锡（DOT）化合物		
管理级别	对象	界限值水准
1 级	· 有意与皮肤接触的织物（布料、纺织品）/皮革产品的零部件和材料 · 育儿产品的零部件和材料 · 2 成分室温硬化模塑件（RTV-2 密封剂模塑件）	零部件中锡占 0.1 wt%（1000 ppm）

氧化铍		
管理级别	对象	界限值水准
1 级	· 全部用途	产品中占 0.1 wt%（1000 ppm）

二氯化钴		
CAS No.[7646-79-9]		
管理级别	对象	界限值水准
1 级	· 用于干燥剂（硅胶等）中的湿度指示剂	有意添加
	· 湿度指示剂 （注）所指的湿度指示剂，是将二氯化钴浸渍到纸等里面的吸湿类型	成品中占 0.1 wt%（1000 ppm）
3 级	· 上述以外的全部用途	成品中占 0.1 wt%（1000 ppm）

三氧化二砷		
CAS No.[1327-53-3]		
管理级别	对象	界限值水准
1 级	· 液晶屏（包括玻璃罩、手触屏、后照灯）的玻璃	成品中占 0.1 wt%（1000 ppm）
3 级	· 上述以外的全部用途	成品中占 0.1 wt%（1000 ppm）

五氧化二砷		
CAS No.[1303-28-2]		
管理级别	对象	界限值水准
1 级	· 液晶屏（包括玻璃罩、手触屏、后照灯）的玻璃	成品中占 0.1 wt%（1000 ppm）
3 级	· 上述以外的全部用途	成品中占 0.1 wt%（1000 ppm）

镍		
注：如果索尼对镍作出相关指示则按照指示执行		
管理级别	对象	界限值水准
1 级	· 手机中可能长期接触皮肤的零部件	0.28 μg/cm^2/week（溶出量）
3 级	· 用于可能长期接触皮肤的产品的零部件和材料	有意添加

邻苯二甲酸二异壬酯（DINP）		
CAS No.[28553-12-0]、[68515-48-0]		
管理级别	对象	界限值水准
1 级	· 放入儿童口中的玩具或育儿产品的零部件和材料	塑化材料中占 0.1 wt%（1000 ppm） （DINP、DIDP、DNOP 的合计）
3 级	· 上述以外的全部用途	有意添加

邻苯二甲酸二异癸酯（DIDP）		
CAS No.[26761-40-0]、[68515-49-1]		
管理级别	对象	界限值水准
1 级	· 放入儿童口中的玩具或育儿产品的零部件和材料	塑化材料中占 0.1 wt%（1000 ppm） （DINP、DIDP、DNOP 的合计）
3 级	· 上述以外的全部用途	有意添加

邻苯二甲酸二正辛酯（DNOP）		
CAS No.[117-84-0]		
管理级别	对象	界限值水准
1 级	· 放入儿童口中的玩具或育儿产品的零部件和材料	塑化材料中占 0.1 wt%（1000 ppm）（DINP、DIDP、DNOP 的合计）

石棉		
别名：石棉		
管理级别	对象	界限值水准
1 级	· 全部用途	有意添加

甲醛		
管理级别	对象	界限值水准
1 级	· 产品中使用的纤维板（Fiberboard）、刨花板以及使用胶合板的木制品（例如，扬声器、机架等）	“4.4 分析相关事项”规定的释放浓度
	· 织物（布料、纺织品）	织物材料中占 0.0075 wt%（75 ppm）

产生部分芳香胺的偶氮染料和颜料		
对象芳香胺为表 4.2b 中所列物质		
管理级别	对象	界限值水准
1 级	· 织物（布料、纺织品）/皮革产品的零部件和材料（参考分析方法参照 4.4）	完工织物/皮革产品的材料中产生的胺占 0.003 wt%（30 ppm）

表 4.2b 芳香胺

CAS No.	名称
92-67-1	4-氨基联苯
92-87-5	联苯胺
95-69-2	4-氯邻甲苯胺；4-氯-2-甲基苯胺
91-59-8	2-萘胺
97-56-3	邻氨基偶氮甲苯
99-55-8	2-氨基-4-硝基甲苯；5-硝基邻甲苯胺
106-47-8	对氯苯胺
615-05-4	2,4-二氨基苯甲醚
101-77-9	4,4’-亚甲基二苯胺；4,4’-二氨基二苯甲烷
91-94-1	3,3’-二氯联苯胺
119-90-4	3,3’-二甲氧基联苯胺
119-93-7	3,3’-二甲基联苯胺
838-88-0	3,3’-二甲基-4,4’二氨基二苯甲烷；4,4’-二氨基-3,3’-二甲基二苯基甲烷
120-71-8	5-甲基邻茴香甲胺；2-甲氧基-5-甲基苯氨
101-14-4	4,4’-亚甲基双（2-氯苯胺）
101-80-4	4,4’-二氨基二苯醚
139-65-1	4,4’-二氨基二苯硫醚；4,4’-二氨基苯硫醚
95-53-4	邻甲苯胺
95-80-7	2,4-二氨基甲苯；4-甲基-间-苯二胺
137-17-7	2,4,5-三甲基苯胺
90-04-0	邻甲氧基苯胺
60-09-3	4-氨基偶氮苯

二苯胺与苯乙烯和 2,4,4-三甲基戊烯的反应产物（BNST）		
CAS No.[68921-45-9]		
管理级别	对象	界限值水准
1 级	· 全部用途	有意添加
适用对象外	· 橡胶中的添加剂（但是，轮胎中的添加剂为 1 级）	

2-（2H）-苯并三氮唑-2-基）-4,6-双（1,1-二甲基乙基）苯酚（UV-320）		
CAS No.[3846-71-7]，别名：2-苯并三唑-2-基-4,6-双叔戊基苯酚		
管理级别	对象	界限值水准
1 级	· 全部用途	有意添加或成品中占 0.1 wt%（1000 ppm）

二甲基甲酰胺（DMF）		
CAS No.[624-49-7]，别名：富马酸二甲酯		
管理级别	对象	界限值水准
1 级	· 全部用途	零部件中占 0.00001 wt%（0.1 ppm）

多环芳烃化合物（PAH）		
CAS No.[50-32-8]、[192-97-2]、[56-55-3]、[218-01-9]、[205-99-2]、[205-82-3]、[207-08-9]、[53-70-3]		
管理级别	对象	界限值水准
1 级	· 直接且长期或反复接触皮肤或口腔的玩具和育儿产品的橡胶或塑料部分	塑料或橡胶零部件中占 0.00005 wt%（0.5 ppm）
	· 除玩具和育儿产品以外，直接且长期或反复接触皮肤或口腔的橡胶或塑料部分（例如：手柄、把手等）	塑料或橡胶零部件中占 0.0001 wt%（1 ppm）

溴系阻燃剂（BFR）		
（PBB 类、PBDE 类及 HBCDD 除外）		
管理级别	对象	界限值水准
3 级	· 多层印刷电路板	电路板材料中含有的溴合计占 0.09 wt%（900 ppm）
	· 除多层印刷电路板以外的塑料材料	塑料材料中溴占 0.1 wt%（1000 ppm）

氯系阻燃剂（CFR）		
（TCEP、TCPP、TDCPP 除外）		
管理级别	对象	界限值水准
3 级	· 多层印刷电路板	电路板材料中含有的氯合计占 0.09 wt%（900 ppm）
	· 除多层印刷电路板以外的塑料材料	塑料材料中氯占 0.1 wt%（1000 ppm）

邻苯二甲酸二正己酯（DnHP）		
CAS No.[84-75-3]、别名：邻苯二甲酸二己酯		
管理级别	对象	界限值水准
3 级	· 全部用途	有意添加或成品中占 0.1 wt%（1000 ppm）

高氯酸盐		
管理级别	对象	界限值水准
3 级	· 全部用途	电池或构成零部件中占 6E-7 wt%（6 ppb）

放射性物质		
管理级别	对象	界限值水准
3 级	· 全部用途	有意添加

欧盟 REACH 法规需授权物质清单中的物质		
对象为表 4.2c 中所列物质		
管理级别	对象	界限值水准
3 级	· 全部用途	成品中占 0.1 wt%（1000 ppm）

表 4.2c 欧盟 REACH 法规需授权物质清单中的物质

CAS No.	名称
10043-35-3, 11113-50-1	硼酸
12179-04-3, 1330-43-4, 1303-96-4, 12267-73-1	无水四硼酸钠
71888-89-6	邻苯二甲酸二 C6-8 支链烷基酯（富 C7）(DIHP) 别名：以 C7 为主成分的具有 C6-8 支链的邻苯二甲酸二异庚酯
68515-42-4	邻苯二甲酸二（C7-11 支链与直链）烷基酯（DHNUP） 别名：具有 C7-11 的支链和直链的邻苯二甲酸二异庚酯
	耐火陶瓷纤维（RCF）、硅酸铝
	耐火陶瓷纤维（RCF）、氧化锆硅酸铝
140-66-9	4-（1,1,3,3-四甲基丁基）苯酚 别名：对特辛基苯酚
111-96-6	二甘醇双甲醚
117-82-8	邻苯二甲酸二甲氧乙酯（DMEP） 别名：邻苯二甲酸二（2-甲氧乙基）酯
112-49-2	1,2-二（2-甲氧基乙氧基）乙烷（TEGDME；三甘醇二甲醚）
110-71-4	1,2-二甲氧基乙烷（EGDME） 别名：乙二醇二甲醚
60-09-3	4-氨基偶氮苯
629-14-1	1,2-二乙氧基乙烷
1303-86-2	三氧化二硼
68-12-2	N,N-二甲基甲酰胺
84777-06-0	支链和直链的 1,2-苯二羧二戊酯 别名：邻苯二甲酸戊基异戊酯
605-50-5	邻苯二甲酸二异戊酯（DIPP） 别名：邻酞酸二异戊酯
776297-69-9	正戊基异戊基邻苯二甲酸酯 别名：邻苯二甲酸正戊基异戊基酯

CAS No.	名称
57110-29-9, 19438-60-9, 25550-51-0, 48122-14-1	甲基六氢化邻苯二甲酸酐
131-18-0	邻苯二甲酸二戊酯（DPP） 别名：邻苯二甲酸双戊酯
	分支或线性的壬基酚 （包括含有 9 个碳烷基链的所有独立的同分异构体和所有含有线性或分支 9 个碳烷基链的 UVCB 物质）
25155-23-1	磷酸二甲酚（1:3）酯 别名：磷酸三（二甲苯）酯（TXP）、磷酸三二甲苯酚
573-58-0	3,3'-[[1,1'-联苯]-4,4'-基双（偶氮）]双（4-氨基萘-1-磺酸）二钠 （C.I.直接红 28）
96-45-7	2-咪唑烷硫酮
68515-50-4	邻苯二甲酸二庚酯（支链和直链）（DiHP） 别名：支链和直链的邻苯二甲酸二庚酯
1937-37-7	C.I.直接黑 38 别名：disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate
15571-58-1	2-乙基己基 10-乙基-4,4-二辛基-7-氧代-8-氧杂-3,5-二硫杂-4-锡杂十四烷酸酯（DOTE） 别名：10-乙基-4,4-二辛基-7-氧代-8-氧杂-3,5-二硫杂-4-锡杂十四烷酸 2-乙基己基酯
	以硫代甘醇酸异辛酯二正辛基锡和甲基锡三（巯基乙酸异辛酯）为组成要素的物质（以 DOTE 和 MOTE 为组成要素的物质）
25973-55-1	2-[2-羟基-3,5-二（1,1-二甲基丙基苯基）]-2H-苯并三唑（UV-328）
68515-51-5, 68648-93-1	邻苯二甲酸二（C6-C10）烷基酯:（癸基，己基，辛基）酯与 1，2-邻苯二甲酸的复合物且邻苯二甲酸二己酯（EC No. 201-559-5）含量≥0.3%
1120-71-4	1,3-丙烷磺内酯
3864-99-1	2-（2'-羟基-3',5'-二叔丁基苯基）-5-氯代苯并三唑（UV-327） 别名：2-（3,5-二-叔-丁基-2-羟基苯基）-5-氯-2H-苯并三唑、2-（5-氯-2H-苯并三唑-2-基）-4,6-二（1,1-二甲基乙基）苯酚
36437-37-3	2-（2'-羟基-3'-异丁基-5'-叔丁基苯基）苯并三唑（UV-350） 别名：2-（3-仲丁基-5-叔丁基-2-羟苯基）苯并三唑
4149-60-4, 375-95-1, 21049-39-8	十七氟壬酸及其钠盐和铵盐
50-32-8	苯并[a]芘 别名：Benzo[def]chrysene
80-05-7	4,4' 二羟基二苯丙烷 别名：Bisphenol A; BPA
335-76-2, 3830-45-3, 3108-42-7	全氟癸酸(PFDA)及其钠盐和铵盐

4.2 有关包装零部件和材料的追加事项

4.2.1 包装零部件和材料的定义

包装零部件和材料是指：生产者为了将产品（包括原材料到加工品）以“装入”、“保护”、“处理”、“运送”、“交付”等方式送到使用者或消费者手中，使用各类材料及零部件制成的产品。

（注）但是，在运输公司或零部件交货厂商的管理下回收且再次使用的物流箱等的包装除外。在此所指的物流箱等不包含在由索尼集团内部或终端用户废弃的包装材料中。

表 4.3 有关包装零部件和材料的追加事项

<table>
<tr><td colspan="3">重金属（镉、铅、六价铬、汞）</td></tr>
<tr><td colspan="3">除 4.1 项（表 4.2）的规定外，还需遵守法律规定满足以下条件</td></tr>
<tr><td>管理级别</td><td>对象</td><td>界限值水准</td></tr>
<tr><td>1 级</td><td>· 所有的包装零部件和材料
（具体示例记载于表 4.3a 中）</td><td>组成包装的各种零部件、油墨、涂料含有合计超过 100 ppm 的重金属（汞、镉、六价铬、铅）</td></tr>
<tr><td>适用对象外</td><td colspan="2">运输公司或零部件交货厂商所使用的物流箱</td></tr>
<tr><td colspan="3">包装零部件和材料按照“4.4 分析相关事项”进行测量</td></tr>
</table>

表 4.3a 识别包装零部件和材料的具体示例

（注）本表并没有网罗所有的包装零部件和材料。

用于包装消费者用产品以及业务用产品的包装零部件和材料（用于运输索尼电子产品的包装零部件和材料）		
PACKAGING		
1.	纸箱（箱子）	由各种材料制成的内箱、辅助纸箱、主纸箱
2.	缓冲材料	
3.	防护袋（片材）	泡沫塑料或无纺布等
4.	塑料袋	
5.	信封	装保证书的信封等
6.	泡罩包装	
7.	薄膜	包括粘贴液晶显示器表面等的防护膜
8.	对折泡壳	
9.	隔离板/间隔物	
10.	印刷油墨	用于包装零部件的印刷油墨
11.	胶带	用于封缄纸箱、塑料袋，以及保护和固定可动部分的胶带
12.	U 形钉	
13.	标签	条形码标签等在索尼的监督管理下粘贴于包装零部件上的标签
14.	接头	粘接纸箱等
15.	打包带	PP 打包带等
16.	挂钩	
17.	提手	提手及其构成零部件
18.	外框	木框等
19.	热收缩薄膜	
20.	瓶	
21.	套筒	
22.	装饰箱	例如装钢笔或化妆品的装饰箱
23.	防滑垫	
24.	芯轴盒	
NOT PACKAGING		
1.	盒/袋	CD、DVD、Blu-ray 光盘、MD、磁带和 MO 设备等保管中所使用的盒、袋
2.	检索卡片/标签	附属于 CD 或其他记录媒体的检索卡片或标签等，均属于产品的一部分
3.	专用携带附件盒/附件腰包	耳机、照相机、WALKMAN®随身听等的附属品，均属于产品的一部分
4.	标签	粘贴在包装零部件和材料以外的标签
5.	标签	由第三方粘贴的货物标签或发票等

用于组件、半导体及其他零部件的包装零部件和材料		
PACKAGING		
1.	料条	用于运输 IC 等的包装零部件
2.	止动器	
3.	托盘	
4.	带盘	

用于物流的包装零部件和材料		
PACKAGING		
1.	板条托盘	包括滑托板在内的木制、塑料制、纸制等 One-Way 规格的托盘
2.	板条箱	
3.	缠绕膜	防止散包
4.	木制集装箱	
5.	辅助包装	运输零部件时的辅助包装所采用的纸箱、缓冲材料、胶带等
6.	打包带/绳	PP 打包带等
NOT PACKAGING		
1.	船运和空运集装箱	船运用 40 英尺集装箱、空运集装箱等

4.3 电池相关事项

4.3.1 本技术标准中的“电池”、“电池组”以及“纽扣电池”的定义如下：

电池通过直接转换化学能源来产生电能，由单个或多个一次电池单体（不能充电）或者单个或多个二次电池单体（可充电）组成。

电池组由多个电池连接形成，不随终端用户意图分解的整体单元，并收纳于外部封装之中。

纽扣电池是一种直径大于厚度的小型圆形便携式电池，用于助听器、手表、小型便携式设备、备用电源等特殊用途。

4.3.2 电池中含有的镉、铅、汞的相关对象和禁止收货日期

电池中含有的镉（Cd）、铅（Pb）、汞（Hg）适用于表 4.4 的界限值水准。

如对镉、铅、汞有其他指示，则按照相关指示执行。

表 4.4 电池中含有的镉、铅、汞详解

镉以及镉化合物		
管理级别	对象	界限值水准
1 级	· 锰电池（纽扣电池除外） · 碱锰电池（纽扣电池除外） · 镍氢二次电池（纽扣电池除外）	电池中镉占 0.001 wt%（10 ppm）
	· 上述以外的电池	电池中镉占 0.002 wt%（20 ppm）

铅以及铅化合物		
管理级别	对象	界限值水准
1 级	· 碱锰电池（纽扣电池除外）	电池中的铅占 0.004 wt%（40 ppm）
	· 锰电池 · 碱锰纽扣电池	电池中的铅占 0.1 wt%（1000 ppm）
	· 上述以外的电池	电池中的铅占 0.4 wt%（4000 ppm）

汞以及汞化合物		
管理级别	对象	界限值水准
1 级	· 锌空气纽扣电池（同包装除外）	电池中的汞占 2 wt%（20000 ppm）
	· 上述以外的电池	有意添加或 电池中的汞占 0.0001 wt%（1 ppm）、 均质材料中的汞占 0.0005 wt%（5 ppm）

4.3.3 电池中含有的镉、铅、汞以外的物质以及“电池组”中电池组件以外的零部件含有的物质相关对象及禁止收货日期

电池中含有的镉（Cd）、铅（Pb）、汞（Hg）以外的环境管理物质适用于表 4.2 的界限值水准。

此外，“电池组”中电池组件以外的零部件参照表 4.2 的界限值水准。

4.4 分析相关事项

4.4.1 分析对象物质及用途

镉以及镉化合物、 铅以及铅化合物
塑料、合成纤维、薄膜、胶带、橡胶、粘结剂、涂料、油墨按照以下测量标准进行测量
测量标准： （1）预处理 主要的预处理方法：例如 IEC 62321-5:2013、EPA 3052:1996 ・ 在密闭容器内进行的加压酸分解法（例如，微波分解法） ・ 酸分解法 ・ 干式灰化法 （注）沉淀物（不溶解物）必须采用某种方法（碱溶法等）使其完全溶解。 以 EN71-3:2014、ASTM F963-16、ASTM D5517-14、ISO 8124-3:2010 为代表的萃取法不适用于预处理。 （2）测量方法 主要的测量方法：例如 IEC 62321-5：2013 ・ 电感耦合等离子体发射光谱法（ICP-OES [ICP-AES]） ・ 原子吸收分光光度法（AAS） ・ 原子荧光光谱法（AFS） ・ 电感耦合等离子体质谱法（ICP-MS） （注）本测定标准通过预处理和测定法的组合，若能保证镉的定量下限小于 5 ppm，铅的定量下限小于 30 ppm，则规定为该组合所得到的测量结果合格。

甲醛	
产品中使用的纤维板（Fiberboard）、刨花板以及使用胶合板的木制品（例如，扬声器、机架等）应符合以下标准	
界限值水准（排放浓度）：采用以下任意一种试验方法。	
（1）测试室法	12 m^3、1 m^3 或 0.0225 m^3 的气密试验槽中，其浓度在 0.1 ppm 以下（小于或等于 0.124 mg/m^3）
（2）穿孔法	・未经表面处理的每 100 g 刨花板中的标准值应小于或等于 6.5 mg（6 个月的平均值） ・未经表面处理的每 100 g 纤维板中的标准值应小于或等于 7.0 mg（6 个月的平均值） 或 ・未经表面处理的每 100 g 刨花板及纤维板中的标准值应小于或等于 8.0 mg （根据 ISO12460 规定测量 1 次的数据）
（3）干燥器法	平均标准值应小于或等于 0.5 mg/L，最大标准值应小于或等于 0.7 mg/L（通过 N= 2 确认平均值和最大值）
试验方法	
测试室法	EN 717-1:2004
穿孔法	ISO12460:2015
干燥器法	JIS A 5905（Fiberboards）、JIS A 5908（Particleboards）

重金属（镉、铅、六价铬、汞）
包装零部件和材料，应依照以下测量标准进行测量
（1）六价铬方面，首先分析总铬的量，确认 4 种元素合计小于 100 ppm。此时也可以同时进行镉和铅的预处理。 （2）如果 4 种元素合计超过 100 ppm 时，必须确认镉、铅、汞的合计含量小于 100 ppm。当镉、铅、汞的合计含量小于 100 ppm 时，再进一步实施六价铬的检测判定，最后确认没有检测到六价铬。 测量标准： （1）预处理 镉、铅、总铬应依照“镉以及镉化合物、铅以及铅化合物”（第 20 页）的方法处理。 汞的预处理方法主要有以下几种： ・ 在密闭容器内进行的加压酸分解法（例如：微波分解法）（例如 IEC 62321-5:2013、EPA 3052:1996） ・ 加热气化-冷原子吸光法 ・ 将硫酸、硝酸放入附带回流冷凝器的分解烧瓶（基耶达尔法）中进行的湿式分解法 （注）无论采用何种方法均需注意防止汞挥发。另外，产生沉淀物时，必须采用某种方法使其完全溶解。 （2）测量方法 镉、铅、总铬应依照“镉以及镉化合物、铅以及铅化合物”（第 20 页）的方法测量。 另外，汞也应依照“镉以及镉化合物、铅以及铅化合物”的方法测量。但是，如果事先预测混入浓度较低，则如下分析方法较为适合：还原气化原子吸光法、附带氢化物发生器的 ICP-OES（ICP-AES）与附带氢化物发生器的 ICP-MS。
六价铬的检测判定 （包装零部件和材料中镉、铅、汞、总铬 4 种元素合计超过 100 ppm 时的确认方法） 检测方法： （1）预处理：萃取法 [沸水萃取法、碱萃取法（例如 IEC 62321 7-2:2017、EPA 3060A)] （2）测量方法：紫外-可见光分光光度法（例如 IEC 62321 7-2:2017、EPA 7196A） 本测定标准通过预处理和测定法的组合，若能分别保证汞的定量下限小于 5 ppm，镉的定量下限小于 5 ppm，总铬的定量下限小于 5 ppm，铅的定量下限小于 30 ppm，则规定为该组合所得到的测量结果合格。

4.4.2 参考分析方法

六价铬化合物
天然皮革零部件和材料参考以下试验方法
试验方法（参考） （1）EN ISO 17075:2007 （2）IULTCS/IUC18（与 ISO 17075:2007 一致）

产生特定胺的偶氮色素和偶氮颜料	
参考以下试验方法	
试验方法（参考）	
（1）纤维、布料：	EN 14362-1:2012; EN 14362-3:2012（4-氨基偶氮苯）
（2）皮革材料：	EN ISO 17234-1:2015; EN ISO 17234-2:2011（4-氨基偶氮苯）

5. 按照环境中期目标替代化学物质

索尼根据化学物质的有害性和暴露量进行风险评估，在此基础上根据收集到的用途信息和含量信息确定高风险用途，并在环境中期计划中作出规定，逐步废除相关化学物质在该用途中的使用。

5.1 聚氯乙烯（PVC）

PVC 处置不当存在产生有害物质的风险，PVC 中用作增塑剂、稳定剂的部分物质可能会对环境和人体造成影响。考虑到发展中国家为回收有价物而集中对小型电子设备进行不当焚烧、填埋会影响环境，故以以下物质为对象进行替代。

<table>
<tr><td colspan="3">聚氯乙烯（PVC）及 PVC 混合物</td></tr>
<tr><td colspan="3">按照各对象产品所用零部件的规格书等对供应商进行具体指示。</td></tr>
<tr><td>管理级别</td><td>对象</td><td>界限值水准</td></tr>
<tr><td rowspan="2">1 级</td><td>・ 非接触式 IC 卡（FeliCa）的基材
・ 除业务用以外的数码照相机、摄像机及便携式音频设备的手提包、手提箱、便携包的布料和涂饰剂
・ 捆扎附件、连接线等的扎线带
・ 产品及与产品同包装的附件等使用的包装零部件和材料
（袋、胶带、纸箱、泡罩包装等）
（组件、半导体及其他零部件使用的托盘、料条、止动器、带盘、压纹承载带等除外）
・ 热收缩软管（电池用除外）
・ 柔性扁平电缆（FFC）
・ 绝缘板、装饰板、标签（电池用除外）
・ 片材、层压板（包括木制扬声器外装采用的片材、层压板）
・ 安装车载设备的吸盘</td><td>有意使用</td></tr>
<tr><td>・ 2011 年 4 月 1 日以后发售的新机型中，索尼 CSR/环境/社会公益网页（*）中指定产品的框体及内部配线
（附属品、附件和以业务用途为前提设计的产品除外）
（质量和技术方面的问题未得到解决的情况除外）</td><td>有意使用</td></tr>
<tr><td>3 级</td><td>・ 上述以外的全部用途</td><td>有意使用</td></tr>
<tr><td>适用对象外</td><td colspan="2">・ 涂料、油墨、涂饰剂、粘结剂等使用的树脂用粘结剂</td></tr>
<tr><td colspan="3">* http://www.sony.co.jp/SonyInfo/csr_report/environment/products/replace.html#block2</td></tr>
</table>

5.2 溴系阻燃剂（BFR）

BFR 有的可能会对人体产生影响，有的会残留在环境中，有的在活体内具有蓄积性，与 PVC 一样，也具有焚烧不当产生有害物质的风险，考虑到这些问题，故以以下物质为对象进行替代。

溴系阻燃剂（BFR）		
按照各对象产品所用零部件的规格书等对供应商进行具体指示。		
管理级别	对象	界限值水准
1 级	· 2011 年 4 月 1 日以后发售的新机型中，索尼 CSR/环境/社会公益网页（**）中指定产品的主要电路板 （附属品、附件和以业务用途为前提设计的产品除外） （质量和技术方面的问题未得到解决的零部件除外）	电路板材料中溴合计占 0.09 wt%（900 ppm）
	· 2011 年 4 月 1 日以后发售的新机型中，索尼 CSR/环境/社会公益网页（**）中指定产品的框体树脂 （附属品、附件和以业务用途为前提设计的产品除外） （质量和技术方面的问题未得到解决的零部件除外）	塑料材料中溴占 0.1 wt%（1000 ppm）
** http://www.sony.co.jp/SonyInfo/csr_report/environment/products/replace.html#block3		

附属资料

1. 世界各国和地区就物质使用所实施的法律法规（主要法规）

注意事项：本附属资料中列举的法律规定及化学物质只是一个例子，其他的名称等也存在，并不是记载所有的信息。

2. 各物质禁止收货时期的变更履历

1. 世界各国和地区就物质的使用所实施的法律法规（主要法规）

注） 以下登载的是截止至目前 2017 年 1 月已确认的内容。如果有改定版及附属资料，也应同时参考。另外，由于法律法规的内容会有变动，因此请参照各国的法律法规的最新版的详细内容。

物质名称	法律法规（主要法规）
镉以及镉化合物	欧盟・REACH 法规（EC）No.1907/2006 Annex XVII
	欧盟・RoHS 指令（2011/65/EU）及其修订版
	欧盟・电池指令（2006/66/EC）
	韩国・质量经营及工产品安全管理法
	韩国・电气用品安全管理法
	韩国・电气电子产品及汽车资源循环相关法律
	丹麦・指令 No. 1199
铅以及铅化合物	欧盟・RoHS 指令（2011/65/EU）及其修订版
	欧盟・电池指令（2006/66/EC）
	阿根廷・便携式电气能源法律 26,184 号及决议 14/2007
	巴西・电池规则 Resolution No.401
	韩国・质量经营及工产品安全管理法
	韩国・电气电子产品及汽车资源循环相关法律
	丹麦・指令 No.1199
汞以及汞化合物	欧盟・RoHS 指令（2011/65/EU）及其修订版
	欧盟・电池指令（2006/66/EC）
	中国・关于限制电池产品汞含量的规定
	中国・进出口电池产品汞含量检验监督管理规则
	美国・路易斯安那州降低汞危险法
	韩国・电气电子产品及汽车资源循环相关法律
六价铬化合物	欧盟・RoHS 指令（2011/65/EU）及其修订版
	韩国・电气电子产品及汽车资源循环相关法律
多溴联苯（PBB）	欧盟・REACH 法规（EC）No.1907/2006 Annex XVII
	欧盟・RoHS 指令（2011/65/EU）
	韩国・电气电子产品及汽车资源循环相关法律
多溴联苯醚（PBDE）	欧盟・REACH 法规（EC）No.1907/2006 Annex XVII
	欧盟・RoHS 指令（2011/65/EU）
	韩国・电气电子产品及汽车资源循环相关法律

物质名称	法律法规（主要法规）
六溴环十二烷（HBCDD）	欧盟・REACH 法规（EC）No.1907/2006
多氯联苯（PCB）	日本・化学物质审查规制法　第 1 种特定化学物质
	PCB 商业生产/处理/流通和使用禁止规则（40CFR 761）
多氯化萘（PCN）	日本・化学物质审查规制法　第 1 种特定化学物质
多氯三联苯（PCT）	欧盟・REACH 法规（EC）No.1907/2006 Annex XVII
短链型氯代烷烃（SCCP）	挪威・对特定有害化学物质使用等相关限制等
	欧盟・POPs 规则（EC）No 850/2004
磷酸三（2-氯乙基）酯（TCEP）、磷酸三（2-氯丙基）酯（TCPP）、磷酸三（2,3-二氯丙基）酯（TDCPP）	欧盟・REACH 法规（EC）No.1907/2006
	美国・佛蒙特州・Act85
氢氟碳化合物（HFC）、全氟化碳（PFC）、六氟化硫（SF_6）	欧盟・欧盟法规（EC）No 842/2006
	丹麦・指令 No.552
	瑞士・减少化学品风险条令（※简称 ORRChem）
臭氧层破坏物质（ODS）	欧盟・欧盟法规（EC）No.2037/2000
	日本・关于通过对特定物质的控制等措施保护臭氧层的法律
	美国・1990 年的清洁空气法案修订案
	印度尼西亚・Regulation of the Minister of Industry of the Republic of Indonesia No.33/M-IND/PER/4/2007 dated April 17, 2007
氢氯氟烃（HCFC）	欧盟・欧盟法规（EC）No.1005/2009
全氟辛烷磺酸(及其盐）（PFOS）	欧盟・REACH 法规（EC）No.1907/2006 Annex XVII
全氟辛酸铵（PFOA），其盐和酯	挪威・Product Regulations
三取代基有机锡化合物（包括三丁基锡化合物（TBT）、三苯基锡化合物（TPT））	欧盟・REACH 法规（EC）No.1907/2006 Annex XVII
	日本现行的《化学物质审查规制法》规定的第 1 种 / 第 2 种特定化学物质
二丁基锡化合物（DBT）	欧盟・REACH 法规（EC）No.1907/2006 Annex XVII
二辛基锡化合物（DOT）	欧盟・REACH 法规（EC）No.1907/2006 Annex XVII
氧化铍	欧盟・WEEE 指令（2002/96/EC）及欧盟・欧盟指令（1999/45/EC）
二氯化钴	欧盟・REACH 法规（EC）No.1907/2006 Annex XVII
三氧化二砷、五氧化二砷	欧盟・REACH 法规（EC）No.1907/2006
邻苯二甲酸（2-乙基己基酯）、邻苯二甲酸二丁酯、邻苯二甲酸丁苄酯、邻苯二甲酸二异丁酯	欧盟・REACH 法规（EC）No.1907/2006
石棉	日本・劳动安全卫生法
	德国・化学品禁止规则（简称 ChemVerbotsV）
特定偶氮化合物	欧盟・REACH 法规（EC）No.1907/2006 Annex XVII

物质名称	法律法规（主要法规）
甲醛	德国・化学品禁止规则（简称 ChemVerbotsV）
	丹麦・指令 No.289
二苯胺、苯乙烯和 2,4,4-三甲基戊烯的反应产物（BNST）	加拿大・禁止特定有毒物质条例
2-（2H）-苯并三氮唑-2-基）-4,6-双（1,1-二甲基乙基）苯酚（UV-320）	日本・化学物质审查规制法（简称化审法）第 1 种特定化学物质
富马酸二甲酯（DMF）	欧盟・REACH 法规（EC）No 1907/2006
多环芳烃化合物（PAHs）	欧盟・REACH 法规（EC）No 1907/2006 Annex XVII
重金属（鉛、镉、汞、六价铬）	欧盟・包装和包装废弃物的指令（94/62/EC）
	美国・纽约州等 16 个州的包装材料重金属规定

2. 各物质收货禁止时期的变更履历

物质名称：镉以及镉化合物	
对象	禁止收货时期
• 包装零部件和材料（参照 4.2.1 的内容） • 塑料（包括橡胶）材料中含有的稳定剂、颜料、染料（电器配线的绝缘体、遥控指挥器-键、扎线带（cable tie）、电子元器件的外装树脂、外框（机壳）、标签、记录盘等） • 涂料、油墨 • 表面处理（电镀、无电解电镀等）、涂层 • 照片胶卷 • 日光灯（小型日光灯、直管日光灯）	从第 1 版发行时开始
2 级和适用对象外以外的所有用途。 例如， • 直流电动机、开关、继电器、断路器等电气接点 • 温度保险丝的可熔体 • 玻璃以及玻璃涂料的颜料、染料（用于玻璃的颜料、染料以及玻璃用涂料） • 焊料（镉含量大于 20 ppm 的焊料） • 荧光显示装置中含有的荧光体、CdS（硫化镉）光敏传感器 • 电阻（玻璃粉） 等	从 2005 年 1 月 1 日开始
• 含锌金属（黄铜、熔融镀锌等），其镉含量超过 100 ppm 的部件	从 2005 年 10 月 1 日开始
• 光学玻璃	从 2010 年 6 月 1 日开始
• 用于显示系统的彩色转换 II – VI 族 LED 中的镉（每平方毫米发光区域中的镉小于 10 μg） 但是，不包括镉在下列对象树脂中含有 100 ppm 及以上的情况 对象树脂：聚氯乙烯（PVC）以及共聚物、聚氨酯（PUR）、低密度聚乙烯（LDPE）但不包括用于生产彩色母料低密度聚乙烯、醋酸纤维素（CA）、丁基醋酸纤维素（CAB）、环氧树脂、三聚氰胺甲醛树脂（MF）、脲醛树脂（UF）、不饱和聚酯（UP）、聚对苯二甲酸乙二醇酯（PET）、聚对苯二甲酸丁二醇酯（PBT）、透明/通用聚苯乙烯、丙烯腈 – 甲基丙烯酸甲酯（AMMA）、交联聚乙烯（VPE）、耐冲击性聚苯乙烯、聚丙烯（PP） （注）镉在上列对象树脂中含有 100 ppm 及以上的情况时定为 1 级	从 2014 年 7 月 1 日开始

物质名称：铅以及铅化合物	
对象	禁止收货时期
• 包装零部件和材料（参照 4.2.1 的内容） • 用于印刷线路板中的含铅涂料与油墨	从第 1 版发行时开始
• 零部件的外部电极、引线端子等的表面处理（例如，电气零部件、半导体器件、散热片等） • AC 适配器、电源线、连接电缆、遥控指挥器、鼠标、机器的外露部位所使用的塑料（包括橡胶）材料中含有的稳定剂、颜料、染料 • 用于机器的外露部位的涂料、油墨	从 2004 年 4 月 1 日开始
2、3 级和适用对象外以外的所有用途 例如， • 零部件的外部电极、引线端子等的表面处理，内藏在 AC 适配器、遥控器、半导体器件等中的零部件 • 对于铅的重量百分比小于 85 wt%的含铅焊锡，其铅的含有量超过 1000 ppm 的焊料 • 超过允许浓度（*1）的各种合金（包括焊锡材料） • AC 适配器、电源线、连接电缆、遥控器、鼠标、机器的外露部位以外使用的塑料（包括橡胶）材料中含有的稳定剂、颜料、染料 • 用于机器的外露部位以外的涂料、油墨 等	从 2005 年 1 月 1 日开始
• 在无电解镀镍、无电解镀金等的无电解电镀皮膜中的铅含量超过 1000 ppm 的皮膜	从 2006 年 2 月 1 日开始
• 适用对象外以外的所有用途的玻璃 • 用于焊接微处理器端子和器件封装的焊料，该焊料是由 2 种以上的元素所组成，其铅元素的含量大于 80 wt%而小于 85 wt%	从 2010 年 6 月 1 日开始
• 低于 125 V AC 或 250 V DC 额定电压的电容器上的介电陶瓷	从 2012 年 1 月 1 日开始
• EU 指令 69/493/EEC 附录 I（分类 1、2、3 和 4）中定义的水晶玻璃	从 2012 年 4 月 1 日开始

（*1）各种合金的含铅允许浓度

合金的种类	含铅允许浓度
钢材	≤ 0.35 wt%
铝合金	≤ 0.4 wt%
铜合金（也包括铸铜、磷青铜）	≤ 4 wt%
焊料（*2）	≤ 1000 ppm

物质名称：汞以及汞化合物	
对象	禁止收货时期
• 包装零部件和材料（参照 4.2.1 的内容） • 涂料、油墨 • 计时器 • 接点中使用汞的继电器、开关、传感器 • 塑料中的调和剂	从第 1 版发行时开始
• 2 级和适用对象外以外的所有用途	从 2005 年 1 月 1 日开始
• 冷阴极荧光灯管（CCFL）及外置电极荧光灯（EEFL）： 长度在 500 mm 以下的:且每支汞的含量大于 3.5 mg 而小于 5 mg 的产品	从 2011 年 1 月 1 日开始

物质名称：六价铬化合物	
对象	禁止收货时期
• 包装零部件和材料（参照 4.2.1 的内容）	从第 1 版发行时开始
• 包含在零部件和材料成分中的涂料、油墨以及其他添加剂等 • 在电镀、化学转化处理等的表面处理（螺丝、钢板等）过程中，残留在被处理部位的本物质	从 2005 年 1 月 1 日开始

物质名称：多溴联苯（PBB）	
对象	禁止收货时期
• 用于塑料的阻燃剂等的所有用途	从第 1 版发行时开始

物质名称：包含十溴联苯醚（DecaBDE）的多溴联苯醚（PBDE）	
对象	禁止收货时期
• 用于塑料的阻燃剂等的所有用途	从第 1 版发行时开始
• 使用 2002 年 12 月以前启用的模具所制造的零部件（限定为：出口欧洲以外国家的电视、显示器的框体） 但是，2003 年 1 月以后启用的模具零部件中禁止使用本项物质	从 2005 年 1 月 1 日开始

物质名称：多氯联苯（PCB）、多氯化萘（PCN）、多氯三联苯（PCT）	
对象	禁止收货时期
• 油浸变压器、电容器、绝缘油、润滑油、塑料用的阻燃剂等的所有用途	从第 1 版发行时开始

物质名称：短链型氯代烷烃（SCCP）	
对象为“碳链长为 10－13 的短链型氯代烷烃”	
对象	禁止收货时期
• 用于包括附件在内的产品外框（机壳）、印刷线路板的用途时	从第 1 版发行时开始
• 上述以外的所有用途	从 2006 年 2 月 1 日开始

物质名称：聚氯乙烯（PVC）以及聚氯乙烯混合物	
对象	禁止收货时期
• 非接触 IC 卡（FeliCa）用基材	开始生产时就未使用
• 电脑、数码相机、摄像机、便携式多媒体播放器等所使用的配件背包、专用携带配件盒、配件腰包的材料和涂装剂（但是，业务用除外）	从第 1 版发行时开始
• 捆绑附件、连接电源线的扎线带（cable tie）	从 2002 年 7 月 1 日开始
• 产品以及与产品一同包装的附件等使用的包装零部件和材料（袋、胶带（adhesive tape）、纸箱、泡罩包装等）	从 2005 年 1 月 1 日开始
• 热收缩软管	从 2005 年 4 月 1 日开始
• 扁型软电线（FFC） • 木制扬声器外装部分采用的片材（Sheet）、层压板 • 绝缘板、装饰板、标签、片材（例如，绝缘 Sheet、保护膜等）、层压板	从 2007 年 4 月 1 日开始
• 安装车用机器（In-vehicle product）的吸盘	从 2010 年 4 月 1 日开始

物质名称：氢氟碳化合物（HFC）、全氟化碳（PFC）	
对象	禁止收货时期
• 用于制冷剂、隔热材料等的所有用途	从 2008 年 4 月 1 日开始

物质名称：臭氧层破坏物质（ODS）	
表 4.2d 的物质（注）	
对象	禁止收货时期
• 用于制冷剂、隔热材料等产品的所有用途 • 使用 ODS 实施清洗加工、发泡加工等的零部件和材料	从第 1 版发行时开始

（注）表 4.2 d 的 CAS No.165-97-7 修改为正确的 CAS No. 2354-06-5

物质名称：全氟辛烷磺酸（及其盐）（PFOS）	
对象	禁止收货时期
• 针对零部件中所使用的材料，PFOS 浓度要在 0.1 wt%以上的材料 • 针对纤维或其他被覆盖的材料，各个被覆盖材料的 PFOS 的量要为 1 μg/m^2 以上的	从 2008 年 4 月 1 日开始
• 适用对象外（商业用的相片胶卷、半导体用的记录器）以外的所有用途	从 2010 年 4 月 1 日开始

物质名称：全氟辛酸铵（PFOA）、其盐和酯		
CAS No.335-67-1、3825-26-1、335-95-5、2395-00-8、335-93-3、335-66-0、376-27-2、3108-24-5 的物质是对象		
对象	标准/界限值水准	禁止收货时期
• 在塑料中的添加物等所有用途（2 级除外）	• 被涂抹的材料中，含有超过 1 μg/m^2	从 2014 年 4 月 1 日开始
• 上述以及下述的 2 级以外的全部用途	• 零部件中，含有超过 1000 ppm（0.1 wt%）	从 2014 年 4 月 1 日开始

物质名称：三取代基有机锡化合物 （包括三丁基锡化合物（TBT）、三苯基锡化合物（TPT））	
对象中不包括金属锡、锡合金、锡电镀、锡无机化合物	
对象	禁止收货时期
• 用于涂料、油墨、防腐剂、防霉剂等的所有用途	从第 1 版发行时开始

物质名称：二丁基锡化合物（DBT）		
对象中不包括金属锡、锡合金、锡电镀、锡无机化合物		
对象	标准/界限值水准	禁止收货时期
• 在塑料中的添加物等所有用途 （2 级除外）	• 材料中，锡含有超过 1000 ppm（0.1 wt%）（材料里锡的换算超过 1000 ppm 的含有）	从 2011 年 7 月 1 日开始
• 一液型及二液型室温硬化型（RTV-1 及 RTV-2）密封剂 • 一液型及二液型室温硬化型（RTV-1 及 RTV-2）接着剂 • 涂料及涂抹剂的触媒 • 面向用 PVC 涂抹的室外用途屋外用织物、纤维的安定剂 • 软质 PVC 其本身，或者，硬质 PVC 和同時被成形按出的软质 PVC 异型材中的添加剂	• 材料中，锡含有超过 1000 ppm（0.1 wt%）（材料里锡的换算超过 1000 ppm 的含有）	从 2014 年 7 月 1 日开始

物质名称：二辛基锡化合物（DOT）		
对象中不包括金属锡、锡合金、锡电镀、锡无机化合物		
对象	标准/界限值水准	禁止收货时期
• 纤维、布料中的添加剂	• 材料中，锡含有超过 1000 ppm（0.1 wt%）（材料里锡的换算超过 1000 ppm 的含有）	从 2011 年 7 月 1 日开始

物质名称：氧化铍	
对象	禁止收货时期
• 所有用途	从 2008 年 4 月 1 日开始

物质名称：二氯化钴	
对象	禁止收货时期
• 用于干燥剂（硅胶等）中的湿度指示剂	从 2009 年 4 月 1 日开始
• 湿度指示剂（湿度显示卡） （注） 所指的湿度指示剂，是将二氯化钴浸渍到纸等里面的吸湿类型	从 2011 年 4 月 1 日开始

物质名称：三氧化二砷、五氧化二砷		
对象为 CAS No.1327-53-3、1303-28-2 的物质、各物质的界限值被适用		
对象	标准/界限值水准	禁止收货时期
• 液晶屏（包含玻璃罩、手触屏、后照灯）的玻璃的消泡剂、澄清剂的用途	• 零部件中，含有量超过 1000 ppm（0.1 wt%）	从 2014 年 7 月 1 日开始

物质名称：石棉	
对象	禁止收货时期
• 用于绝缘材、填料等的所有用途	从第 1 版发行时开始

物质名称：特定偶氮化合物	
对象为：REACH 规则（EC）No 1907/2006・附件 XVII 中引用的试验法进行分解，生成表 4.2b 特定胺化合物的偶氮化合物，和 4.2b 的特定胺化合物	
对象	禁止收货时期
• 与人体持续接触的产品，其接触人体部位（入耳式耳机、头戴式耳机、肩包的肩垫、皮带、绳索等）所使用的颜料	从第 1 版发行时开始

物质名称：甲醛	
对象	禁止收货时期
• 出口欧州的产品中使用的纤维板（Fiberboard）、刨花板（particleboard），以及使用胶合板的木制品（例如，扬声器、机架等）	从第 1 版发行时开始
• 非出口欧州的产品中使用的纤维板（Fiberboard）、刨花板（particleboard），以及使用胶合板的木制品（例如，扬声器、机架等）	从 2005 年 1 月 1 日开始

物质名称：特定苯并三氮唑	
对象为“2-（3',5'-二叔丁基-2'-羟基苯基）苯并三唑（CAS No.3846-71-7）”	
对象	禁止收货时期
用于以下产品中作为紫外线防护剂、紫外线吸收剂用途 • 装饰性层压板 • 印相纸（照相纸） • 成型塑料产品	从 2008 年 4 月 1 日开始
• 眼镜的镜片、镜框	从 2011 年 4 月 1 日开始

物质名称：富马酸二甲酯（DMF）	
对象为 CAS No.624-49-7	
对象	禁止收货时期
• 防霉剂、干燥剂等的所有用途	从 2010 年 4 月 1 日开始

（注意事项）
有时可能在未公告的情况下，对索尼技术标准 SS-00259 零部件和材料中的环境管理物质 管理规定进行内容的修订或修改。

零部件和材料中的环境管理物质　管理规定
（SS-00259　第 15 版一般公开版）

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