



# Hazardous Substances Classification, Application and Banned Time

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## Cadmium and its compounds

Level	Targets	Banned time
1	- Packaging parts (e.g. handle, cushions, wraps, foil, trays, reels, sticks) (Refer to page11“Additional rules for packaging materials”) -Batteries parts (Refer to page13“Applicable to all batteries in commercial distribution”)	Banned immediately
	- Plastics (including rubbers) - Paints - Inks - Paints, inks - Solders (20 ppm max) - Metal (50 ppm max)	
	All applications other than the above	
3	-Plating of electrical contacts, for which high reliability is required and which has no alternative materials - Filter glass	
-The allowed concentration is Cd 5ppm Max		

## Lead and its compounds

Level	Targets	Banned time
1	- Packaging parts (e.g. handle, cushions, wraps, foil, trays, reels, sticks) (Refer to page11“Additional rules for packaging materials”) -Batteries parts (Refer to page13“Applicable to all batteries in commercial distribution”)	Banned immediately
	- Plastics (including rubbers) - Paints - Inks -Core(Ferrite)	
	-Solders Pb 800ppm Max	
	-All applications other than the above	



## Lead and its compounds

Level	Targets	Banned time										
3	<p>-High melting temperature type solders (i.e. lead based alloys containing 85 wt% by weight or more lead)</p> <p>- Optical glass, filter glass</p> <p>- Glass of cathode ray tubes</p> <p>- Glass, glass matrix compound, ceramic or ceramic matrix compound, which is used in electrical and electronic components (e.g. piezoelectronic devices)</p> <p>Note that dielectric ceramic in capacitors is excluded.</p> <p>- Solder to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip-packages</p> <p>Allowable concentration of lead as an additive in the following alloys :</p> <table border="1" data-bbox="240 898 1238 1093"> <thead> <tr> <th>Type of alloy</th> <th>Allowable content of lead</th> </tr> </thead> <tbody> <tr> <td>Steel</td> <td>Less than 0.35 wt%</td> </tr> <tr> <td>Aluminum alloy</td> <td>Less than 0.4 wt%</td> </tr> <tr> <td>Copper alloy (including brass and phosphor bronze)</td> <td>Less than 4 wt%</td> </tr> <tr> <td>Solder</td> <td>Less than 800 ppm</td> </tr> </tbody> </table>	Type of alloy	Allowable content of lead	Steel	Less than 0.35 wt%	Aluminum alloy	Less than 0.4 wt%	Copper alloy (including brass and phosphor bronze)	Less than 4 wt%	Solder	Less than 800 ppm	
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Steel	Less than 0.35 wt%											
Aluminum alloy	Less than 0.4 wt%											
Copper alloy (including brass and phosphor bronze)	Less than 4 wt%											
Solder	Less than 800 ppm											
<p>-The allowed concentration is Plastics /ink/ Paints → Pb 90 ppm Max (Solder → Pb 800 ppm Max)</p>												



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## Mercury and its compounds

Level	Targets	Banned time
1	-Packaging parts (e.g. handle, cushions, wraps, foil, trays, reels, sticks) (Refer to page11“Additional rules for packaging materials”)	Banned immediately
	-Batteries parts (Refer to page13“Applicable to all batteries in commercial distribution”)	
	- All applications other than the above	
3	- Mercury in cold cathode fluorescent lamps (CCFL) and external electrode fluorescent lamps (EEFL): -Short length (not over 500 mm): Less than 3.5 mg of mercury per lamp -Medium length (over 500 mm and not over 1500 mm): Less than 5 mg of mercury per lamp -Long length (over 1500 mm): Less than 13 mg of mercury per lamp - Mercury in high-pressure gas discharge lamps (e.g. projector lamps)	

## Hexavalent chromium and its compounds

Level	Targets	Banned time
1	-Packaging parts (e.g. handle, cushions, wraps, foil, trays, reels, sticks) (Refer to page11“Additional rules for packaging materials”)	Banned immediately
	-Batteries parts (Refer to page13“Applicable to all batteries in commercial distribution”)	
	-Surfaces of screws, steel sheets, etc.that are processed with plating or conversion coating	
	- All applications other than the above	

## Nickel and its compounds

Level	Targets	Banned time
1	-The use on external chassis/case parts and the use of frequently handled by the user to prevent the contact with human skin.(Nickel in stainless steel is not restricted)	Banned immediately
3	- Use non-environment controlled substance for the handling of the surface on the exposed position of the product	
-The allowed concentration is 1000PPM MAX.		



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### polybrominated biphenyls (PBBs)

Level	Targets	Banned time
1	- All purposes (e.g. ones for the flame retardants contained in plastics)	Banned immediately

### Polybrominated diphenylethers (PBDEs) including decabromodiphenyl ether(Deca BDE)

Level	Targets	Banned time
1	- All purposes (e.g. ones for the flame retardants contained in plastics)	Banned immediately

### Tetrabromobisphenol-A (TBBP-A)

Level	Targets	Banned time
1	- All purposes (excluding PCB, IC package, wire and connector.).	Banned immediately
3	PCB, IC package, wire and connector.	

### Hexabromocyclododecane (HBCDD)

Level	Targets	Banned time
1	- All purposes (e.g. those for the flameretardants contained in EPS and PP).	Banned immediately

### Brominated organic compounds (BFRs)

Level	Targets	Banned time
1	-External case plastic parts of products and adhesives. Banned Immediately	Banned immediately
3	- Except those classified at "Level 1".	

-The allowed concentration is 900PPM MAX.



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Polychlorinated Biphenyls (PCB) ,Polychlorinated terphenyls (PCT), polychlorinated naphthalenes (PCN)

Level	Targets	Banned time
1	- All purposes (e.g. ones for capacitors, lubricants, insulating oils, transformers containing oil, and flame retardants contained in plastics)	Banned immediately

Chlorinated paraffin (CP) :Short-chain (SCCP) Medium-chain (MCCP)

Level	Targets	Banned time
1	-All purposes (e.g. the external cases and PCBs of products)	Banned immediately

Polyvinyl chloride (PVC) and PVC blends

Level	Targets	Banned time
1	All purposes except those classified at "Level 3"	Banned immediately
3	Wires(cables)	

Cobalt dichloride

Level	Targets	Banned time
1	- Moisture indicator used for a desiccant agent (e.g. silica gel) - Humidity indicator card which is impregnated with cobalt dichloride	Banned immediately

Chlorinated Flame Retardants(CFRs)

Level	Targets	Banned time
3	All purposes( e.g. the flame retardants contained in plastics and used for PCBs).	

Chlorinated Hydrocarbons

Level	Targets	Banned time
1	All purposes (e.g. used in any other parts,components, materials or products, and other Chlorinated Hydrocarbons related substances).	Banned immediately
-The allowed concentration is 1000PPM MAX.		



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### List of the Chlorinated Hydrocarbons related substances

CAS No.	Amine compounds
75-35-4	1,1 Dichloroethylene
76-01-7	Pentachloroethane
75-09-2	Methylenechloride
56-23-5	Tetrachloromethane(Carbon Tetrachloride)
630-20-6	1,1,1,2 Tetrachloroethane
79-34-5	1,1,2,2 Tetrachloroethane
127-18-4	Tetrachloroethylene
67-66-3	Trichloromethane(Chloroform
79-00-5	1,1,2 Trichloroethane
79-01-6	Trichloroethylene
71-55-6	1,1,1-Trichloroethane(TCA
542-88-1	Bis (chloromethyl) ether
—	Polychlorinated Phenols and their salts
75-01-4	Vinyl Chloride (monomer)

### Other chlorinated compounds

Level	Targets	Banned time
1	Hexachlorocyclohexane isomers(HCH), Polychlorinated dibenzodioxins(PCDDs),Polychlorinated dibenzofurans(PCDFs) Tetrachlorobenzenes.	Banned immediately
3	All purposes except those classified at “Level 1”	

### Tributyltin compounds (TBT) and triphenyltin compounds (TPT) and Tributyl Tin Oxide(TBTO))

Level	Targets	Banned time
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1	-All uses (e.g. paints, inks, preservatives, and fungicides)	Banned immediately
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### Asbestos

Level	Targets	Banned time
1	- All purposes (e.g. insulators, fillers)	Banned immediately

### Azo Compounds

Level	Targets	Banned time
1	-All purposes (e.g. belts, straps, ear phones, and head phones). Banned Immediately	Banned immediately

### List of specific amine compounds

CAS No.	Amine compounds
92-67-1	4-aminodiphenyl
92-87-5	benzidine
95-69-2	4-chloro-o-toluidine
91-59-8	2-naphthylamine
97-56-3	o-aminoazotoluene
99-55-8	2-amino-4-nitrotoluene
106-47-8	p-chloroaniline
615-05-4	2,4-diaminoanisole
101-77-9	4,4'-diaminodiphenylmethane
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
120-71-8	p-cresidine
101-14-4	4,4'-methylene-bis-(2-chloroanilene)



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101-80-4	4,4'-oxideaniline
139-65-1	4,4'-thiodianiline
95-53-4	o-toluidine
95-80-7	2,4-toluylenediamine
137-17-7	2,4,5-trimethylaniline
90-04-0	o-anisidine
60-09-3	4-aminoazobenzene

Benzidine and benzidine dihydrochloride that have the molecular formulas C<sub>12</sub>H<sub>12</sub>N<sub>2</sub> and C<sub>12</sub>H<sub>12</sub>N<sub>2</sub>·2HCl, respectively

Level	Targets	Banned time
1	- All purposes -	Banned immediately

Formaldehyde

Level	Targets	Banned time
1	- All purposes (e.g. the wooden products made from fiberboard, particleboard, or plywood, which are employed in products, i.e. speakers, racks). -	Banned immediately

EPS

Level	Targets	Banned time
1	-All Packing Material For Korea	Banned immediately
3	-All Uses Except Level 1.	

Ozone depleting substances

[Chlorofluorocarbons (CFCs), Halans, Carbon tetrachloride (CCl<sub>4</sub>), 1, 1,1-trichloroethane (C<sub>2</sub>H<sub>3</sub>Cl<sub>3</sub>), Bromochloromethane (CH<sub>2</sub>BrC), Methyl bromide (CH<sub>3</sub>Br),Hydrochlorofluorocarbons (HCFCs) and Hydrobromofluorocarbons (HBFCs)]

Level	Targets	Banned time
1	- All purposes (e.g. cold matchmaker, vesicant for the packing materials, clean solvent)	Banned immediately





## Radioactive substances

[Uranium (U), Plutonium (Pu), Radon (Rn), Americium (Am), Thorium (Th), Cesium (Cs), Strontium (Sr) and other radioactive substances]

Level	Targets	Banned time
1	All purposes (e.g. Instance electricity is detected the part, phosphorescence pharmaceutical etc.)	Banned immediately

## Halogenated diphenyl dethanes (Ugilec141、Ugilec121、DBBT)

Level	Targets	Banned time
1	- All purposes (e.g. ones for capacitors, lubricants, insulating oils, transformers containing oil).	Banned immediately

Substances: Perfluorooctane sulfonates (PFOS) and Perfluorooctane sulfonyl fluoride (POSF) and Perfluorooctyl acid (PFOA)

Level	Targets	Banned time
1	All purposes (e.g. semiconductor materials, textiles, leathers).	Banned immediately

Substances: Specific phthalates (DEHP, DBP, BBP, DIBP, DINP, DIDP, DNOP)

Level	Targets	Banned time
1	- All uses DEHP, DBP, BBP, DIBP, DINP, DIDP, DNOP, DNHP	Banned immediately

The allowed concentration is 1000PPM MAX.

**Table List of specific phthalates (phthalic esters)**

Abbreviation	CAS NO.	Specific phthalates
DEHP	117-81-7	Di (2-ethylhexyl)phthalate
DBP	84-74-2	Di-n-butyl phthalate
BBP	85-68-7	Butyl benzyl phthalate



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DIBP	16 84-69-5	Di-iso-butyl Phthalate
DINP	28553-12-0 68515-48-0	Diisononyl phthalate (technical mixture)
DIDP	26761-40-0 68515-49-1	Diisononyl phthalate (technical mixture)
DNOP	117-84-0	Di-n-octyl phthalate
DNHP	84-75-3	Di-n-hexyl phthalate
DPP	84-62-8	Diphenyl phthalate
DMP	131-11-3	Dimethyl Phthalate
DEP	84-66-2	Diethyl Phthalate
DPRP	131-16-8	Di-n-propyl Phthalate
DNPP	131-18-0	Di-n-pentyl Phthalate
DCHP	84-61-7	Dicyclohexyl Phthalate
DNP	84-76-4	Di-n-nonyl phthalate
DIBP	84-69-5	Di-iso-butyl Phthalate
DIHP	68515-50-4	Di-iso-hexyl phthalate
DIOP	27554-26-3	Di-iso-octyl Phthalate
----	-----	Other Phthalates

### PAHs

Level	Targets	Banned time
1	Rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use.	Banned immediately

Allowable concentration for Polycyclic Aromatic Hydrocarbons :

Parameter	Category 1	Category 2	Category 3
<b>Benzo (a) pyrene</b>	<0.1 mg/kg	<0.5 mg/kg	<1 mg/kg
<b>Benzo[e]pyrene</b>	<0.1 mg/kg	<0.5 mg/kg	<1 mg/kg
<b>Benzo[a]anthracene</b>	<0.1 mg/kg	<0.5 mg/kg	<1 mg/kg
<b>Benzo[b]fluoranthene</b>	<0.1 mg/kg	<0.5 mg/kg	<1 mg/kg
<b>Benzo[j]fluoranthene</b>	<0.1 mg/kg	<0.5 mg/kg	<1 mg/kg
<b>Benzo[k]fluoranthene</b>	<0.1 mg/kg	<0.5 mg/kg	<1 mg/kg
<b>Chrysene</b>	<0.1 mg/kg	<0.5 mg/kg	<1 mg/kg
<b>Dibenzo[a,h]anthracene</b>	<0.1 mg/kg	<0.5 mg/kg	<1 mg/kg
<b>Benzo[g,h,i]perylene</b>	<0.1 mg/kg	<0.5 mg/kg	<1 mg/kg
<b>Indeno[1,2,3- c,d]pyrene</b>	<0.1 mg/kg	<0.5 mg/kg	<1 mg/kg



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	<b>Acenaphthylene</b>	Sum < 1 mg/kg	< 10 mg/kg	Sum < 50 mg/kg	
	<b>Acenaphthene</b>				
	<b>Fluorene</b>				
	<b>Phenanthrene</b>				
	<b>Pyrene</b>				
	<b>Anthracene</b>				
	<b>Fluoranthene</b>				
	<b>Naphthalen</b>	< 1mg/kg	< 2mg/kg	< 10mg/kg	
	<b>Sum of 18 PAHs</b>	< 1mg/kg	< 10mg/kg	< 50mg/kg	

Table 18 commom PAHs :

Addreviation	PAHs	CAS No.
Nap	Naphthalene	91-20-3
AcPY	Acenaphthylene	208-96-8
Acp	Acenaphthene	83-32-9
Flu	Fluorene	86-73-7
PA	Phenanthrene	85-01-8
Ant	Anthracene	120-12-7
FL	Fluoranthene	206-44-0
Pyr	Pyrene	129-00-0
BaA	Benzo[a]anthracene	56-55-3
CHR	Chrysene	218-01-9
BbF	Benzo[b]fluoranthene	205-99-2
BkF	Benzo[k]fluoranthene	207-08-9
BaP	Benzo[a]pyrene	50-32-8
DBA	Dibenz[a,h]anthracene	53-70-3
IND	Indeno[1,2,3-cd]pyrene	193-39-5
Bghip	Benzo[g,h,i]perylene	191-24-2
BjFA	Benzo[j]fluoranthene	205-82-3
BeP	Benzo[e]pyrene	192-97-2

Fragrance substance (Musk xylene and Musk ketone)

Level	Targets	Banned time
1	-All purposes (e.g. essence).	Banned immediately
-Allowed concentration:500 ppm MAX.		



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## Pentachlorophenol(PCP)

Level	Targets	Banned time
1	-All purposes (e.g. preservative and pesticide).	Banned immediately

## Arsenic (As) and Arsenic compounds

Level	Targets	Banned time
1	- All purposes	Banned immediately
3	- semiconductor & PCB	
-Allowed concentration:1000ppm MAX.		

## Antimony(Sb) and its compounds

Level	Targets	Banned time
1	- All purposes (except those classified as “Level 3”).)	Banned immediately
3	a. Solder and solder pastes used in pin attach and flip chip integrated circuits. b. Varistors used for surge suppression/over-voltage protection in power supplies. c. Halogen plastic (< 25g) and halogen cable	
-Allowed concentration:1000ppm MAX.		

## Substances:Beryllium oxide

Level	Targets	Banned time
1	- All uses	Banned immediately

## Substances:Dimethylfumarate (DMF)

Level	Targets	Banned time
1	- All purposes (e.g. antiseptic).	Banned immediately

## Substances: Red Phosphorus · Yellow Phosphorus



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Level	Targets	Banned time
1	-All uses	Banned immediately

## Substances: Organophosphorus Compounds

Level	Targets	Banned time
1	- Tris(1-chloro-2-propyl)phosphate (TCPP) and Tris(2-chloroethyl) phosphate, TCEP) and (Tris (1,3-Dichloro-2-propyl)phosphate; TDCPP) using in retardants	Banned immediately
3	Except Organophosphorus compounds listed in level 1, organophosphorus retardants used in products	
-Allowed concentration:1000ppm MAX.		

## Substances: 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)

Level	Targets	Banned time
1	-All uses	Banned immediately

## Substances: Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)

Level	Targets	Implementation Date
1	All purposes (e.g. binder,paint, ink and plastic material)	Banned immediately

## Substances: Nonylphenol / ethoxylates(NP / NPEs) and related substances

Level	Targets	Implementation Date
1	All purposes	Banned immediately

## Substances: Alkyphenols

Level	Targets	Implementation Date
1	All purposes	Banned immediately

## Substances: 4,4'-Diaminodiphenylmethane

Level	Targets	Implementation Date
1	Hardener used as an epoxy resins and adhesives	Banned immediately
Less than 1000 ppm.		



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## Substances: Fluorinated Greenhouse Gases

Level	Targets	Implementation Date
1	All purposes including in manufacturing process of any parts , components materials or poroducts. Fluorinated greenhouse gases listed in Table 5.2g and Table 5.2h, including Perfluorocarbons (PFCs), hydroflubrocarbons (HFCs), sulphur hexafluoride (SF6)	Banned immediately

### List of the Perfluorocarbons(PFCs)

CAS No.	Perfluorocarbons(PFCs)
75-73-0	Carbon tetrafluoride (Perfluoromethane)
76-16-4	Perfluoroethane (Hexafluoroethane)
76-19-7	Perfluoropropane (Octafluoropubtane)
355-25-9	Perfluorobutane (Decafluorobutane)
678-26-2	Perfluoropentane (Dodecafluoropentane)
355-42-0	Perfluorohexane (Tetradecafluorohexane)
115-25-3	Perfluorocyclobutane
75-46-7	Trifluoromethane(HFC-23)
75-10-5	Difluoromethane(HFC-32)
593-53-3	Methyl fluoride(HFC-41)
138495-42-8	2H,3H-Decafluoropentane (HFC-43-10mee)
354-33-6	Pentafluoroethane (HFC-125)
359-35-3	1,1,2,2-Tetrafluoroethane (HFC-134)
811-97-2	1,1,1,2-Tetrafluoroethane (HFC-134a)
75-37-6	1,1-Difluoroethane (HFC-152a)
430-66-0	1,1,2-Trichloroethane (HFC-143)
420-46-2	1,1,1-Trichloroethane (HFC-143a)
431-89-0	2H-Heptafluoropropane (HFC-227ea)
677-56-5	1,1,1,2,2,3-Hexafluoro-propane (HFC-236cb)
431-63-0	1,1,1,2,3,3,-Hhexafluoropropane (HFC-236ea)
690-39-1	1,1,1,3,3,3-Hexafluoropropane(HFC-236fa)



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679-86-7	1,1,2,2,3-Pentafluoropropane(HFC-245ca)
460-73-1	1,1,1,3,3-Pentafluoropropane (HFC-245fa)
406-58-6	1,1,1,3,3-Pentafluorobutane (HFC-365mfa)

Substances: 2,4,6-Tri-tert-butylphenol

Level	Targets	Implementation Date
1	Lubricating oils	Banned immediately

Substances: Tri-(2,3-dibromo-propyl phosphate)

Level	Targets	Implementation Date
1	All purposes	Banned immediately

Allowable concentration:Not Detdcted.

Substances:Tris-(1-aziridiny) phosphin oxide

Level	Targets	Implementation Date
1	All purposes	Banned immediately

Allowable concentration:Not Detdcted.

Substances: **Benzene**

Level	Targets	Banned time
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1	- All purposes including in manufacturing process of any parts, components, materials or products (ex. Cleaning agents, degreaser and demolder solutions.)	Banned immediately
3	- Solvents in paints, coatings, inks, adhesives, primers	
-Allowed concentration:100ppm MAX.		

### Substances: **n -Hexane**

Level	Targets	Implementation Date
1	- All purposes including in manufacturing process of any parts, components, materials or products (ex. Cleaning agents, degreasers, demolder solutions.)	Banned immediately

### Substances: **Benzenamine, N- phenyl- , reaction products with styrene and 2,4,4- trimethylpentene(BNST)**

Level	Targets	Implementation Date
1	All purposes (ex. additive in lubricants, rubber tires)	Banned immediately

### Substances: Hexacholrobotadiene, HCBD

Level	Targets	Implementation Date
1	All purposes	Banned immediately

### Substances: **Toluene**

Level	Targets	Banned time
1	- All purposes including in manufacturing process of any parts, components, materials or products (ex. Cleaning agents, degreasers, demolder solutions.)	Banned immediately





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3	- Solvents in paints, coatings, inks, adhesives, primers	
-Allowed concentration:100ppm MAX.		

Substances: N-methylpyrrolidone (NMP)

Level	Targets	Banned time
1	All purposes including in manufacturing process of any parts, components, materials or products (ex. Cleaning agents, degreasers, demolder solutions)	Banned immediately
-Allowed concentration:100ppm MAX.		

Substances:**Dibutyltin (DBT) compounds**

Level	Targets	Banned time
1	- All purposes	Banned immediately
3	- Additives of reused packaging components and materials for parts and devices - Additives of packaging components or materials for devices, semiconductors, and any other components (e.g. trays, magazine sticks, stoppers, reels, embossed carrier tapes)	
-Allowed concentration:1000ppm MAX.		

Substances:Dioctyltin (DOT) compounds

Level	Targets	Banned time
1	Additives of textiles	Banned immediately
-Allowed concentration:1000ppm MAX.		

Substances:Beryllium oxide

Level	Targets	Banned time
1	- All uses.	Banned immediately

Substances:Diarsenic trioxide, Diarsenic pentaoxide

Level	Targets	Banned time
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1	- Antifoam agents or fining agents for LCDpanels (including cover glasses touchscreens, and backlights)	Banned immediately
3.	- All uses other than above	

**Substances:Perchlorates**

Level	Targets	Banned time
3	- All uses	
-Allowed concentration:0.006 ppm MAX.		

**Substances:Additional rules for packaging materials**

Level	Targets	Banned time
1	The articles used for cartons to package products, cartons for returnable boxes, and packaging for part transportation. (e.g. handles, reels, sticks, magazines, bags, staples, sheets, wraps, paints, inks, tapes, labels, cushions, wooden frames, corrugated cardboard, vinyl ties, cushioning materials, and foil or trays)	Banned immediately

**Description :**

Less than 100 ppm is determined as an allowable total-concentration of four heavy metals (mercury, cadmium, hexavalent chromium, and lead). Less than 5 ppm is determined as an allowable cadmium concentration in a plastic (including rubber) part, paints and inks. (Typical plastic parts: handles, cushions, wraps, reels, tapes, sticks, magazines, polyvinyl bags, and foil or trays)

**Illustrative examples of PACKAGING 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.

ITEM	NAME	DESCRIPTION
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	



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9.	Separator ,spacer, partition	
10.	Printing ink	Used for packaging
11.	Adhesive tape	Such as used for closing carton or poly bag, or, fixing or protection for removable component.
12.	Staple	
13.	Label	Sticked on the packaging component 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	

Applicable to all batteries in commercial distribution

All metals, alloys, inorganic compounds, metal-organic compounds, inorganic salts, organic salts, and Cadmium-, lead-, and mercury-compounds

Level	Targets		Banned time
1	Cd	Cadmium content in proportion to the total weight of batteries and battery pack does not exceed 0.0005 %	Banned immediately



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	Pb	Lead content in proportion to the total weight of batteries and battery pack does not exceed 0.004%. (including seal lead-acid batteries) (solder used in battery packs: 800 ppm).	
	Hg	- Hg Mercury content in proportion to the total weight of batteries and battery pack does not exceed 0.0001%.	
3	Pb	Dry cell battery (ex. Zinc Carbon Batteries) lead content in proportion to the total weight of batteries and battery pack does not exceed 0.004%	
If dry cell battery (ex. Zinc Carbon Batteries) lead content in batteries and battery pack does exceed 0.004%, it must follow 2006/66/EC label requirement.			

EU REACH requirements SVHC(Substance of very high concern )

Level	Targets	Banned time
1	- SVHC <0.1% -In Annex 17 of REACH, dangerous substances are listed in total to explain the restrictions on purpose of potential use and the conditions of producing, using, and consuming when placing in the EU market. The list will be updated all the time and updated by ECHA and can be referred to ECHA website : <a href="http://www.echa.eu">http://www.echa.eu</a> and <a href="https://echa.europa.eu/regulations/reach/restriction">https://echa.europa.eu/regulations/reach/restriction</a>	Banned immediately
-The list of SVHC will be continuously updated by ECHA and can be referred to ECHA website : <a href="http://echa.europa.eu/web/guest/candidate-list-table">http://echa.europa.eu/web/guest/candidate-list-table</a> -To comply with REACH regulation, suppliers shall submit the related information to UMEC upon request within the regulated period of time.		

Substances: restrictions for halogen-free products and components

Level	Targets	Banned time	
1	Bromine (Br)	$\leq 900\text{ppm}(0.09\text{wt}\%)$	Banned immediately
	Chlorine (Cl)	$\leq 900\text{ppm}(0.09\text{wt}\%)$	
	Total concentration of bromine(Br)+chlorine(Cl)	$\leq 1500\text{ppm}(0.15\text{wt}\%)$	



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	Antimony Trioxide Sb <sub>2</sub> O <sub>3</sub> & Triphenyl Phosphate (TPP) → Banned	
	PART NO. Status “HF” shall meet this requirements.	
3	No halogen-free requirements.	

### Conflict Minerals management requirements

Level	Targets	Banned time
1	- UMEC requires the products, components and materials etc. delivered by its suppliers does not contain cassiterite, columbite-tantalite, gold, wolframite, or their derivatives, or any other minerals or their derivatives determined by the Secretary of State to be financing conflict in the Democratic Republic of the Congo or an adjoining country.	Banned immediately