



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	
-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) -The lead content of the soldering pin should not be higher than 800 ppm (No Exemption)	
	-Solders Pb 800ppm Max	
	-All applications other than the above	



Lead and its compounds

Level	Targets	Banned time
Exemption	<p>■6(a)-I Lead as an alloying element in steel for machining purposes containing up to 0.35 % lead by weigh. (Expiration on 2024/01/21*)</p> <p>■6(a)- II Lead as an alloying element in in batch hot dip galvanised steel components containing up to 0.2 % lead by weight. (Expiration on 2026/01/21*)</p> <p>■6(b)-I Lead as an alloying element in aluminium containing up to 0.4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling (Expiration on 2023/01/21*)</p> <p>■6(b)-II Lead as an alloying element in aluminium for machining purposes with a lead content up to 0.4 % by weight (Expiration on 2023/01/21*)</p> <p>■6(c) Copper alloy containing up to 4 % lead by weight. (Expiration on 2026/01/21*)</p> <p>■7(a) Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead). (Expiration on 21 Jan 2024*) when used for the following applications (excludes those in the scope of exemption 24)</p> <p>-Applies for categories 1-7 (Expiration on 21 Jan 2026*)</p> <p>(1) For internal interconnections for attaching die, or other components along with a die in semiconductor assembly with steady state or transient/impulse currents of 0.1 A or greater or blocking voltages beyond 10 V, or die edge sizes larger than 0.3 mm x 0.3 mm</p> <p>(2) For integral (meaning internal and external) connections of die attach in electrical and electronic components, if the thermal conductivity of the cured/sintered die-attach material is >35W/(m*K) AND the electrical conductivity of the cured/sintered die-attach material shall be >4.7MS/m AND solidus melting temperature has to be above 260°C</p> <p>(3) In first level solder joints (internal or integral connections - meaning internal and external) for manufacturing components so that subsequent mounting of electronic components onto subassemblies (i.e., modules or sub-circuit boards or substrates or point to point soldering) with a secondary solder does not reflow the first level solder. This item excludes die attach applications and hermetic sealings</p> <p>(4) In second level solder joints for the attachment of components to printed circuit board or lead frames: a) in solder balls for the attachment of ceramic</p>	



	<p>ball-grid-array (BGA); b) in high temperature plastic overmouldings (> 220 °C)</p> <p>(5) as a hermetic sealing material between: a) a ceramic package or plug and a metal case; b) component terminations and an internal sub-part</p> <p>(6) for establishing electrical connections between lamp components in incandescent reflector lamps for infrared heating or high intensity discharge lamps or oven lamps</p> <p>(7) for audio transducers where the peak operating temperature exceeds 200°C</p> <p>-7a (Expiration on 21 Jan 2024*).</p> <p>-7a(1)~7a(7) (Expiration on 21 Jan 2026*).</p> <p>■7(c)-1 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 (Expiration on 2024/07/21*)</p> <p>■7(c)-V: Electrical and electronic components containing lead in a glass or glass matrix compound that fulfils the following functions: Applies for all categories (Expiration on 21 Jan 2026*).</p> <p>(1) protection and electrical insulation in glass beads of high voltage diodes and glass layers for wafer on the basis of a lead-zinc-borate or a lead-silica-borate glass body</p> <p>(2) for hermetic sealings between ceramic, metal and/or glass parts</p> <p>(3) for bonding purposes in a process parameter window for < 500°C combined with a viscosity of 1013,3 dPas (so called “glass-transition temperature”)</p> <p>(4) used as resistance materials such as ink, with a resistivity range from 1 Ohms/square to 1 Mega Ohms/square, excluding trimmer potentiometers</p> <p>(5) used in chemically modified glass surfaces for Microchannel Plates (MCPs), Channel Electron Multipliers (CEMs) and Resistive Glass Products (RGPs).</p> <p>■7(c)-VI: Electrical and electronic components containing lead in a ceramic that fulfils the following functions (excluding items covered under item 7(c)-II, 7(c)-III and 7(c)-IV of this annex): Applies for all categories (Expiration on 21 Jan 2026*).</p> <p>1) piezoelectric lead zirconium titanate (PZT) ceramics</p> <p>2) providing ceramics with a positive temperature coefficient (PTC)</p> <p>Note: 【*】 means expiration date is UMEC’s policy, not by EU regulation</p>	
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-The allowed concentration is Plastics /ink/ Paints →Pb 90 ppm Max(Solder→Pb 800 ppm Max)



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	All kinds of purposes except those classified in level 1, such as : - Modules and parts inside the products -Metallic nickel or nickel alloy using in outer surface treatment, and not for prolonged contact with skin. (e.g. screw, USB, plug, HDMI...etc.)	



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-The allowed concentration is 1000PPM MAX.

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
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1	-External plastic parts of products and adhesives. Banned Immediately (e.g Case. Enclosure and stand of electronic displays)	Banned immediately
3	- Except those classified at "Level 1".	
-The allowed concentration is 900PPM MAX.		

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
1	Enclosure and stand of electronic displays	Banned immediately
3	All purposes(e.g. the flame retardants contained in plastics and used for PCBs).	



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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.		

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



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3	All purposes except those classified at "Level 1"	
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Tributyltin compounds (TBT) and triphenyltin compounds (TPT) and Tributyl Tin Oxide(TBTO))
Dibutyl tin compounds(DBT), Dioctyl tin compounds(DOT,

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

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-chroloaniline



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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)
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 C₁₂H₁₂N₂ and C₁₂H₁₂N₂·2HCl, 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



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3	-All Uses Except Level 1.	
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Ozone depleting substances

[Chlorofluorocarbons (CFCs), Halans, Carbon tetrachloride (CCl₄), 1, 1,1-trichloroethane (C₂H₃Cl₃), Bromochloromethane (CH₂BrC), Methyl bromide (CH₃Br), 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 (e.g Plastic)	Banned immediately
3	DINP, DIDP and DNOP using in all purposes excluding Wire (cables) and Connectors.	
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



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DBP	84-74-2	Di-n-butyl phthalate
BBP	85-68-7	Butyl benzyl phthalate
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
Benzo (a) pyrene	<0.2 mg/kg	<0.2 mg/kg	<0.5 mg/kg
Benzo[e]pyrene	<0.2 mg/kg	<0.2 mg/kg	<0.5 mg/kg
Benzo[a]anthracene	<0.2 mg/kg	<0.2 mg/kg	<0.5 mg/kg
Benzo[b]fluoranthene	<0.2 mg/kg	<0.2 mg/kg	<0.5 mg/kg
Benzo[j]fluoranthene	<0.2 mg/kg	<0.2 mg/kg	<0.5 mg/kg
Benzo[k]fluoranthene	<0.2 mg/kg	<0.2 mg/kg	<0.5 mg/kg
Chrysene	<0.2 mg/kg	<0.2 mg/kg	<0.5 mg/kg



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Dibenzo[a,h]anthracene	<0.2 mg/kg	<0.2 mg/kg	<0.5 mg/kg	
Benzo[g,h,i]perylene	<0.2 mg/kg	<0.2 mg/kg	<0.5 mg/kg	
Indeno[1,2,3-c,d]pyrene	<0.2 mg/kg	<0.2 mg/kg	<0.5 mg/kg	
Acenaphthylene	Sum < 1 mg/kg	< 5 mg/kg	Sum < 20 mg/kg	
Acenaphthene				
Fluorene				
Phenanthrene				
Pyrene				
Anthracene				
Fluoranthene				
Naphthalen	< 1mg/kg	< 2mg/kg	< 10mg/kg	
Sum of 18 PAHs	< 1mg/kg	< 5mg/kg	< 20mg/kg	

Table 18 common PAHs :

Abbreviation	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



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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.		

Pentachlorophenol(PCP)

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

Pentachlorothiophenol (PCTP)

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

Phenol, Isopropylated phosphate (3:1) (PIP 3:1)

Level	Targets	Banned time
1	-All purposes	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



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Level	Targets	Banned time
1	-HF material -Mechanical plastic parts above 25 grams. -Mechanical plastic part: plastic parts that do not internally carry an electrical signal such as housings, brackets, bezels	Banned immediately
3	All purposes except those classified as Level 1, such as 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. fan(cooler,blower), thermal module and adaptor, etc.	
-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

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.		



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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.

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)



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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)
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)



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Level	Targets	Implementation Date
1	All purposes	Banned immediately
Allowable concentration:Not Detdcted.		

Substances:Tris-(1-aziridiny) phosphinoxide

Level	Targets	Implementation Date
1	All purposes	Banned immediately
Allowable concentration:Not Detdcted.		

Substances: **Benzene**

Level	Targets	Banned time
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
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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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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: Hexachlorobutadiene(HCBBD) , Hexachlorobenzene (HCB)

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
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



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-Allowed concentration:100ppm MAX.

Substances:Beryllium oxide

Level	Targets	Banned time
1	- All uses.	Banned immediately

Substances:Diarsenic trioxide, Diarsenic pentaoxide

Level	Targets	Banned time
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: n-Propyl Bromide (nPB)

Level	Targets	Banned time
1	- All purposes	Banned immediately
3	- Cleaning solvent and used as an intermediate in the synthesis ofquaternary ammonium compounds. Also used as a solvent in adhesive sprays.	

-Allowed concentration:100ppm MAX.

Substances: Long-chain perfluoroalkyl carboxylate (LCPFACs) and perfluoroalkyl sulfonate chemicals(PFAS)

Level	Targets	Banned time
1	- All uses	Banned immediately

Substances: PFCAs C9-C21-related substances

Level	Targets	Banned time
1	- All uses	Banned immediately



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Substances: Specific phthalates (MOAH and MOSH)

Level	Targets	Banned time
1	- Printing ink used in packaging	Banned immediately
2	DINP, DIDP and DNOP using in all purposes excluding Wire (cables) and Connectors.	2024/7/1
The allowed concentration is 1000PPM MAX.		

Substances: 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)

Level	Targets	Banned time
1	- All uses	Banned immediately

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) Less than 100 ppm is determined as an allowable total-concentration of four heavy metals (Cd,Pb,Cr+6,Hg). 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)	Banned immediately

Description :

DEHP、DBP、BBP、DIBP End users of packaging plastic parts and products will be prohibited from use.
 PFAS -Allowed concentration: Not Detected.
 Phthalates Sum -Allowed total-concentration:100 ppm MAX.
 Cd,Pb,Cr+6,Hg -Allowed total-concentration:100 ppm MAX.

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.



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



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	Cd		
	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

Level	Targets	Banned time
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 : http://www.echa.eu and https://echa.europa.eu/regulations/reach/restriction	Banned immediately
-The list of SVHC will be continuously updated by ECHA and can be referred to ECHA website : http://echa.europa.eu/web/guest/candidate-list-table -To comply with REACH regulation, suppliers shall submit the related SCIP 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)	≤ 900 ppm
	Chlorine (Cl)	≤ 900 ppm
	Total concentration of bromine(Br)+chlorine(Cl)	≤ 1500 ppm
		Banned immediately



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	Antimony Trioxide Sb ₂ O ₃	≤ 1000ppm	
	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 Tin 、Tantalum 、gold 、 Tungsten 、Cobalt 、Mica 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. https://www.responsiblemineralsinitiative.org/reporting-templates/cmrt/ https://www.responsiblemineralsinitiative.org/reporting-templates/emrt/	Banned immediately

China VOC Standard

Level	Targets	Banned time
1	- protective coatings 、 inadhesive 、 Ink 、 cleaning agents.	Banned immediately
Allowed concentration: : GB 30981-2020 Limits of harmful substances in industrial protective coatings ; http://openstd.samr.gov.cn/bzgk/gb/newGbInfo?hcno=24B8F23569AAABB041D0F93A39F6519D GB 33372-2020 Limits of volatile organic compound inadhesive ; http://openstd.samr.gov.cn/bzgk/gb/newGbInfo?hcno=34A7173C8B6D2757DAEB6C4BEE8B9175 GB 38507-2020 Limit of volatile organic compound content in ink ; http://openstd.samr.gov.cn/bzgk/gb/newGbInfo?hcno=BEC525CEF58A6B3D25D125E166BDD515 GB 38508-2020 Limits of volatile organic compounds in cleaning agents 。 http://openstd.samr.gov.cn/bzgk/gb/newGbInfo?hcno=FE1FC015A8AC8E87F74085C3ADE06C3E		