

**ASMP005 Appendix 4 : Management Classifications of Four Heavy Metals and Phthalates (for Component and Sensor & Communication Businesses)**

This document is distributed to suppliers that we have dealings with for our **Component and Sensor & Communication** businesses.

This appendix defines the management classifications and thresholds for substances corresponding to the four heavy metals (cadmium compounds, hexavalent chromium compounds, lead compounds, and mercury compounds) and phthalates. For suppliers who have received Appendix 4, we apply the management classifications and thresholds of Appendix 4 corresponding to the four heavy metals and phthalates.

(Note1) How to read classification

P: Prohibited substance. If the concentration is greater than threshold is Prohibited substance, if the concentration is less than threshold is Declarable substance.

D: Declarable Substance.

Substance	Classification(Note1)	Threshold	Intended application
cadmium and its compounds	P	5 ppm	•plastic •pigment •ink •paint •rubber
	P	20 ppm	solder
	P	100 ppm	all applications other than the above
	D	Threshold set by each exemption	• Applications exempted from the prohibition in RoHS • Applications exempted from the prohibition in ELV
	P	20 ppm	battery (There are applications exempted from the prohibition)
	P	Sum of Pb, Cd, Hg, Cr (VI): 100 ppm	Packaging material
hexavalent chromium compounds	P	1000 ppm	All applications
	P	Sum of Pb, Cd, Hg, Cr (VI): 100 ppm	Packaging material
	D	Threshold set by each exemption	• Applications exempted from the prohibition in RoHS • Applications exempted from the prohibition in ELV
lead and its compounds	P	100 ppm	•plastic •rubber •paint •ink
	P	1000 ppm ※ However, a substance unintentionally added is "Prohibited", beside the content.	All applications other than the above.
	D	Threshold set by each exemption	• Applications exempted from the prohibition in RoHS However, 7 (a): Applies to lead in high melting temperature type solders for internal connections (i.e. lead-based alloys containing 85% by weight or more lead), as long as these solders are not exposed through external use.  • Applications exempted from the prohibition in ELV
	P	40 ppm	battery (Confirm: requirements for indication etc.)
	P	Sum of Pb, Cd, Hg, Cr (VI): 100 ppm	Packaging material
mercury and its compounds	P	1000 ppm	All applications
	D	Threshold set by each exemption	• Applications exempted from the prohibition in RoHS • Applications exempted from the prohibition in ELV
	P	5 ppm 20000 ppm	battery Coin Battery
	P	Sum of Pb, Cd, Hg, Cr (VI): 100 ppm	Packaging material
Following four phthalates; Di(2-ethylhexyl)phthalate (DEHP) CAS RN: 117-81-7 Dibutylphthalate (DBP) CAS RN: 84-74-2 Benzyl butyl phthalate (BBP) CAS RN: 85-68-7 Diisobutylphthalate (DiBP) CAS RN: 84-69-5	P	Each phthalate (DEHP, DBP, BBP, DiBP): 1000 ppm	Regulated products by RoHS
		Sum of four phthalates(DEHP, DBP, BBP, DiBP): 1000 ppm	Packaging material