

Green Procurement – Environmental Load Substance List (Ver. 3.0)

- The following shows environmental load substances which are specified in the NJRC "Green Procurement Guideline 9th Edition".
- The content in this list will become effective on December 1, 2011.
- This complies with those that are specified by Joint Industry Guide (JIG).
Refer to JIG-101 Ed 4.0 for the example of substances
→ http://210.254.215.73/jeita_eps/green/green7.htm
- Although the substance, the application or the acceptable level is not specified in this list, we should internal or external laws and regulations when restricted.

< Example of laws and regulations, but not limited to the following >

- Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc (Kashinho)
- The first class and the second class specific chemical substances
- Industrial Safety and Health Act – Substances banned on production
- Poisonous Material Control Law – Specific poisonous substances
- Montreal Protocol on Substances that Deplete the Ozone Layer – Substances specified in Appendix A, B, C and E

(1) Prohibited Substances

	JIG-101 Ed 4.0	Name of substance(s)	Application(s)	Allowable concentration * = in homogeneous material ** = in product	Exception of application
1	1-R	Cadmium / Cadmium compounds	All, except batteries	100ppm *	See appendix Table-1
			Batteries	5 ppm ** Battery	—
			Packaging materials	100ppm * ※	—
2	1-R	Chromium VI compounds	All	1000ppm *	See appendix Table-1
			Packaging materials	100ppm * ※	—
3	1-R	Lead / Lead compounds	All, except as noted below	1000ppm *	See appendix Table-1
			Consumer products designed or intended primarily for children aged 12 or younger	300ppm **	—
			Paint or similar surface coatings of toys and other articles for children	90ppm *	—
			Cables/cords coated with thermoset or thermoplastic resin	300ppm * Surface coating	—
			Batteries	40 ppm **	—
4	1-R	Lead chromate	All	1000ppm **	—
5	1-R	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	All	1000ppm **	—
6	1-R	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	All	1000ppm **	—
7	1-R	Mercury / Mercury compounds	All, except batteries	Intentionally added or 1000ppm *	See appendix Table-1
			Batteries	1 ppm **	—
			Packaging materials	100ppm * ※	—
8	1-R	Tributyl tin oxide (TBTO)	All	Intentionally added or 1000ppm **	—
9	1-R	Tri-substituted organostannic compounds	All	Intentionally added or 1000ppm * tin in a material	—
10	1-R	Polybrominated biphenyls (PBBs)	All	1000ppm *	—
11	1-R	Polybrominated diphenylethers (PBDEs)	All	Intentionally added or 1000ppm *	—
12	1-R	Polychlorinated biphenyls (PCBs) and specific substitutes	All	Intentionally added	—
13	1-R	Polychlorinated terphenyls (PCTs)	All	50ppm *	—
14	1-R	Polychlorinated naphthalenes (more than 3chlorine atoms)	All	Intentionally added	—
15	1-R	Shortchain chlorinated paraffins (C10-C13)	All	1000ppm **	—
16	1-R	Asbestos	All	Intentionally added	—
17	1-R	Azocolourants and azodyes which form certain aromatic amines (limited to surface that directly contact with skins for a long time)	Textiles and leathers	30ppm **	—
18	1-R	Ozone depleting substances	All	Intentionally added	—
19	1-R	Perfluorooctane sulfonate (PFOS)	All	Intentionally added or 1000ppm *	See appendix Table-1
20	1-R	Fluorinated greenhouse gases (PFC, SF6, HFC)	All	Intentionally added	—
21	1-R	Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	All	Intentionally added	—
22	1-R	Dimethyl fumarate	All	0.1ppm *	—
23	1-R	Dibutyltin (DBT) compounds	All	1000ppm * tin in a material	See appendix Table-1
24	1-R	Diocetyl tin (DOT) compounds	(a) textile and leather articles intended to come into contact with the skin, (b) childcare articles (c) two-component room-temperature curing moulding kits (RTV-2 sealant moulding kits)	1000ppm * tin in a material	—

※ Packaging components and materials that the total allowable concentration of Cd, Cr+, Pb and Hg should be 100ppm or less.

(2) Controlled Substances

	JIG-101 Ed 4.0	Name of substance(s)	Application(s)	Allowable concentration * = in homogeneous material ** = in product	Exception of application
1	1-R	Nickel	All, where prolonged skin contact is expected	Intentionally added	—
2	3-I	Polyvinyl chloride (PVC)	All	1000ppm **	—
3	3-I	Brominated flame retardants (other than PBBs, PBDEs, or HBCDD)	Plastic parts exceeding 25 grams, except for contained in PWB	1000ppm * plastic material	—
			Laminated printed wiring board	Total bromine content by weight in the laminated board 900 ppm *	—
4	2-A	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	All	1000ppm **	—
5	2-A	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	All	1000ppm **	—
6	1-R	Bis (2-ethylhexyl) phthalate (DEHP)	All	1000ppm **	—
7	1-R	Dibutyl phthalate (DBP)	All	1000ppm **	—
8	1-R	Benzyl butyl phthalate (BBP)	All	1000ppm **	—
9	1-R	Diisobutyl phthalate (DIBP)	All	1000ppm **	—
10	1-R	Selected Phthalates Group 1 (BBP, DBP, DEHP)	Children's toy or child care article	1000ppm * plasticized material	—
11	1-R	Selected Phthalates Group 2 (DIDP, DINP, DNOP)	Children's toy or child care article that children may put in their mouth	1000ppm * plasticized material	—
12	1-R	Radioactive substances	All	Intentionally added	—
13	1-R	Formaldehyde	Composite wood (plywood, particle board, medium density fiberboard) products or components	Intentionally added	—
			Textiles	75ppm **	—
14	1-R	Diarsenic pentoxide	All	1000ppm **	—
15	1-R	Diarsenic trioxide	All	1000ppm **	—
16	1-R	Hexabromocyclododecane (HBCDD) and all major diastereoisomers	All	1000ppm **	—
17	1-R	Perchlorates	All	0.006ppm **	—
18	1-R	Tris (2-chloroethyl) phosphate (TCEP)	All	1000ppm **	—
19	3-I	Beryllium oxide (BeO)	All	1000ppm **	—
20	1-R	Refractory Ceramic Fibres, Aluminosilicate	All	1000ppm **	—
21	1-R	Refractory Ceramic Fibres, Zirconia Aluminosilicate	All	1000ppm **	—
22	1-R	Cobalt dichloride (CoCl ₂)	All	1000ppm **	—
23	1-R	Boric acid	All	1000ppm **	—
24	1-R	Disodium tetraborate, anhydrous	All	1000ppm **	—
25	1-R	Tetraboron disodium heptaoxide, hydrate	All	1000ppm **	—
26	2-A	4-[4,4'-bis(dimethylamino) benzhydrylidene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet 3)	All	1000ppm **	—
27	—	REACH Regulation - Substance of Very High Concern (SVHC) ※ Except as specified in this list	All	1000ppm **	—

The version of the survey tool corresponding with this list is as follows:

<input type="checkbox"/> AIS Form: ver 3.1c or later Substance List: ver 2.050 or later <input type="checkbox"/> Certificate of Nonuse of Hazardous Substances Form: ver 4.0 or later

Appendix Table – 1 Exempted Applications

Substances	Application or concentration to be exempted	
Mercury	<p>1. Mercury in single capped (compact) fluorescent lamps not exceeding (per burner)</p> <p>(a) For general lighting purposes < 30W 5mg expires on 31 December 2011 3.5mg may be used after 31 December 2011 until 31 December 2012 2.5mg shall be used after 31 December 2012</p> <p>(b) For general lighting purposes > 30W and < 50W 5mg expires on 31 December 2011 3.5mg may be used after 31 December 2011</p> <p>(c) For general lighting purposes > 50W and < 150W 5mg</p> <p>(d) For general lighting purposes > 150W 15mg</p> <p>(e) For general lighting purposes with circular or square structural shape and tube diameter < 17mm No limitation of use until 31 December 2011 7mg may be used after 31 December 2011</p> <p>(f) For special purposes 5mg</p> <p>2a. Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp)</p> <p>(1) Tri-band phosphor with normal lifetime and a tube diameter < 9mm (e.g. T2) 5mg expires on 31 December 2011 4mg may be used after 31 December 2011</p> <p>(2) Tri-band phosphor with normal lifetime and a tube diameter > 9mm and < 17mm (e.g. T5) 5mg expires on 31 December 2011 3mg may be used after 31 December 2011</p> <p>(3) Tri-band phosphor with normal lifetime and a tube diameter > 17mm and < 28mm (e.g. T8) 5mg expires on 31 December 2011 3.5mg may be used after 31 December 2011</p> <p>(4) Tri-band phosphor with normal lifetime and a tube diameter > 28mm (e.g. T12) 5mg expires on 31 December 2012 3.5mg may be used after 31 December 2012</p> <p>(5) Tri-band phosphor with long lifetime (> 25,000h) 8mg expires on 31 December 2011 5mg may be used after 31 December 2011</p> <p>2b. Mercury in other fluorescent lamps not exceeding (per lamp)</p> <p>(1) Linear halophosphate lamps with tube > 28mm (e.g. T10 and T12) 10mg expires on 13 April 2012</p> <p>(2) Non-linear halophosphate lamps (all diameters) 15mg expires on 13 April 2016</p> <p>(3) Non-linear tri-band phosphor lamps with tube diameter > 17mm (e.g. T9) No limitation of use until 31 December 2011 15mg may be used after 31 December 2011</p> <p>(4) Lamps for other general lighting and special purposes (e.g. induction lamps) No limitation of use until 31 December 2011 15mg may be used after 31 December 2011</p> <p>3. Mercury in Cold Cathode Fluorescent Lamps and External Electrode Fluorescent Lamps (CCFL and EEFL) for special purposes not exceeding (per lamp)</p> <p>(a) Short length (< 500mm) No limitation of use until 31 December 2011 3.5mg may be used after 31 December 2011</p> <p>(b) Medium length (> 500mm and < 1500mm) No limitation of use until 31 December 2011 5mg may be used after 31 December 2011</p> <p>(c) Long length (> 1500mm) No limitation of use until 31 December 2011 13mg may be used after 31 December 2011</p> <p>4a. Mercury in other low pressure discharge lamps (per lamp) No limitation of use until 31 December 2011 15mg may be used after 31 December 2011</p> <p>4b. Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60</p> <p>(I) P < 155W No limitation of use until 31 December 2011 30mg may be used after 31 December 2011</p> <p>(II) 155W < P < 405W No limitation of use until 31 December 2011 40mg may be used after 31 December 2011</p> <p>(III) P > 405W No limitation of use until 31 December 2011 40mg may be used after 31 December 2011</p> <p>4c. Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner)</p> <p>(I) P < 155W No limitation of use until 31 December 2011 25mg may be used after 31 December 2011</p> <p>(II) 155W < P < 405W No limitation of use until 31 December 2011 30mg may be used after 31 December 2011</p> <p>(III) P > 405W No limitation of use until 31 December 2011 40mg may be used after 31 December 2011</p> <p>4d. Mercury in High Pressure Mercury (vapour) lamps (HPMV) Expires on 13 April 2015</p> <p>4e. Mercury in Metal Halide lamps (MH)</p> <p>4f. Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex</p> <p>36. —Delete—</p>	
	Lead	<p>5a. Lead in glass of cathode ray tubes</p> <p>5b. Lead in glass of fluorescent tubes not exceeding 0.2% by weight</p> <p>6a. Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight</p> <p>6b. Lead as an alloying element in aluminium containing up to 0.4% lead by weight</p> <p>6c. Copper alloy containing up to 4% lead by weight</p> <p>7a. Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)</p> <p>7b. Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications</p> <p>7c. (I) 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</p> <p>7c. (II) Lead in dielectric ceramic in capacitors for a rated voltage of 125V AC or 250V DC or higher</p> <p>7c. (III) Lead in dielectric ceramic in capacitors for a rated voltage of less than 125V AC or 250V DC Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013</p> <p>7c. (IV) Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors</p> <p>9b. Lead in bearing shells and bushes for refrigerant-containing compressors for Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) applications</p> <p>11a. —Delete—</p> <p>11b. Lead used in other than C-press compliant pin connector systems Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013</p> <p>12. —Delete—</p> <p>13a. Lead in white glasses used for optical applications</p> <p>13b. Lead in filter glasses and glasses used for reflectance standards</p> <p>14. Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80% and less than 85% by weight Expires on 1 January 2011 and after that date may be used in spare parts for EEE placed on the market before 1 January 2011</p> <p>15. Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages</p> <p>16. Lead in linear incandescent lamps with silicate coated tubes Expires on 1 September 2013</p>

Appendix Table – 1 Exempted Applications

Substances	Application or concentration to be exempted
Lead	<p>17. Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications</p> <p>18a. Lead as activator in the fluorescent powder (1% lead by weight or less) of discharge lamps when used as speciality lamps for diazoprinting reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba) 2MgSi2O7:Pb) Expires on 1 January 2011</p> <p>18b. Lead as activator in the fluorescent powder (1% lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5:Pb)</p> <p>19. Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact Energy Saving Lamps (ESL) Expires on 1 June 2011</p> <p>20. Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs) Expires on 1 June 2011</p> <p>21. Lead in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses</p> <p>22. –Delete–</p> <p>23. –Delete–</p> <p>24. Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors</p> <p>25. Lead oxide in Surface conduction Electron emitter Displays (SED) used in structural elements, notably in the seal frit and frit ring</p> <p>26. Lead oxide in the glass envelope of Black Light Blue (BLB) lamps Expires on 1 June 2011</p> <p>27. –Delete–</p> <p>29. Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC</p> <p>31. Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for LCDs, design or industrial lighting)</p> <p>32. Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes</p> <p>33. Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers</p> <p>34. Lead in cermet-based trimmer potentiometer elements</p> <p>37. <u>Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body</u></p>
Cadmium	<p>8a. Cadmium and its compounds in one shot pellet type thermal cut-offs Expires on 1 January 2012 and after that date may be used in spare parts for EEE placed on the market before 1 January 2012</p> <p>8b. Cadmium and its compounds in electrical contacts</p> <p>13b. Cadmium in filter glasses and glasses used for reflectance standards</p> <p>21. Cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses</p> <p>30. Cadmium alloys as electrical / mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100dB (A) and more</p> <p>35. –Delete–</p> <p>38. Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide</p> <p>39. Cadmium in colour converting II-VI LEDs (<10 µg Cd per mm2 of light-emitting area) for use in solid state illumination or display systems Expires on 1 July 2014</p> <p>40. Cadmium in photoresistors for analogue optocouplers applied in professional audio equipment Expires on 31 December 2013</p>
Hexavalent chromium	<p>9. Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0.75 % by weight in the cooling solution</p> <p>28. –Delete–</p>
PBDE	9a. –Delete–
Perfluorooctane sulfonates (PFOS)	<p>a. Photo resist or antireflective coating agent for photolithography process</p> <p>b. <u>Photographic coating agent for films, papers or plates</u></p>
Dibutyltin (DBT) compounds	<p>a. One-component and two-component room temperature vulcanisation sealants (RTV-1 and RTV-2 sealants) and adhesives</p> <p>b. Paints and coatings containing DBT compounds as catalysts when applied on articles</p> <p>c. Soft polyvinyl chloride (PVC) profiles whether by themselves or coextruded with hard PVC</p> <p>d. Fabrics coated with PVC containing DBT compounds as stabilisers when intended for outdoor applications</p> <p>e. Outdoor rainwater pipes, gutters and fittings, as well as covering material for roofing and façades a. – e. : Expires on 31 December 2014</p>

< Note > Though this list was created in accordance with the Official Journal of European Union “2010/276/EC” issued on March 2010, “2010/571/EU” issued on September 2010 and “2011/534/EU” issued on September 2011, the content does not provide any guarantees against the conformity with it. Please refer to the original for the latest information.