

## RoHS Declaration of Conformity

### Mfg. Part Numbers:

Advantech pursues its social responsibility for global environmental preservation, hereby declaring that the product(s) listed above is (are) in conformity with RoHS Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

EU RoHS regulated Substances	Threshold *
Cadmium ( Cd ) / Cadmium Compounds	<100 ppm
Lead ( Pb ) / Lead Compounds	<1000 ppm
Mercury(Hg)/Mercury compounds	<1000 ppm
Hexavalent-Chromium (Cr <sup>6+</sup> ) Compounds	<1000 ppm
Polybrominated biphenyls(PBBs)	<1000 ppm
Polybrominated diphenyl ethers(PBDEs)	<1000 ppm

\*Threshold does not apply to applications covered by a RoHS substance exemption.

- The described product has been assessed and determined compliant with the relevant harmonized standard EN 50581:2012
  - [RoHS compliant for the parts/products without using exemption.](#)
  - [RoHS compliant for some applications using exemption identified below](#)
- 1(a). For general lighting purposes < 30 W: 5 mg (Expires on 31 December 2011; 3,5 mg may be used per burner after 31 December 2011 until 31 December 2012; 2,5 mg shall be used per burner after 31 December 2012)
- 1(b). For general lighting purposes ≥ 30 W and < 50 W: 5 mg (Expires on 31 December 2011; 3,5 mg may be used per burner after 31 December 2011)
- 1(c). For general lighting purposes ≥ 50 W and ≤ 150 W: 5 mg
- 1(d). For general lighting purposes ≥ 150 W: 15 mg
- 1(e). For general lighting purposes with circular or square structural shape and tube diameter < 17 mm (No limitation of use until 31 December 2011; 7 mg may be used per burner after 31 December 2011)
- 1(f). For special purposes: 5 mg
- 2a. Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):
- 2(a)(1). Tri-band phosphor with normal lifetime and a tube diameter > 9 mm (e.g. T2): 5 mg (Expires on 31 December 2011; 4 mg may be used per lamp after 31 December 2011)

- 2(a)(2). Tri-band phosphor with normal lifetime and a tube diameter  $\geq 9$  mm and  $\geq 17$  mm (e.g. T5): 5 mg (Expires on 31 December 2011; 3 mg may be used per lamp after 31 December 2011)
  - 2(a)(3). Tri-band phosphor with normal lifetime and a tube diameter  $\geq 17$  mm and  $\leq 28$  mm (e.g. T8): 5 mg (Expires on 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011)
  - 2(a)(4). Tri-band phosphor with normal lifetime and a tube diameter  $> 28$  mm (e.g. T12): 5 mg
  - 2(a)(5). Tri-band phosphor with long lifetime ( $\geq 25\ 000$  h): 8 mg
  - 2b. Mercury in other fluorescent lamps not exceeding 5 (per lamp):
    - 2(b)(1). Linear halophosphate lamps with tube  $> 28$  mm (e.g. T10 and T12): 10 mg (Expires on 13 April 2012)
    - 2(b)(2). Non-linear halophosphate lamps (all diameters): 15 mg (Expires on 13 April 2016)
    - 2(b)(3). Non-linear tri-band phosphor lamps with tube diameter  $> 17$  mm (e.g. T9)( No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011)
    - 2(b)(4). Lamps for other general lighting and special purposes (e.g. induction lamps)( No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011)
- Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):
- 3. Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes.
    - 3(a). Short length ( $\geq 500$  mm) (No limitation of use until 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011)
    - 3(b). Medium length ( $> 500$  mm and  $< 1\ 500$  mm)( No limitation of use until 31 December 2011; 5 mg may be used per lamp after 31 December 2011)
    - 3(c). Long length ( $> 1\ 500$  mm) (No limitation of use until 31 December 2011; 13 mg may be used per lamp after 31 December 2011)
  - 4(a). Mercury in other low pressure discharge lamps (per lamp) (No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011)
  - 4(b). Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index  $R_a > 60$ :
    - 4(b)-I.  $P < 155$  W (No limitation of use until 31 December 2011; 30 mg may be used per burner after 31 December 2011)
    - 4(b)-II.  $155$  W  $< P < 405$  W (No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011)

- 4(b)-III. P > 405 W (No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011)
- 4(c). Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):
  - 4(c)-I. P < 155 W (No limitation of use until 31 December 2011; 25 mg may be used per burner after 31 December 2011)
  - 4(c)-II. 155 W < P < 405 W (No limitation of use until 31 December 2011; 30 mg may be used per burner after 31 December 2011)
  - 4(c)-III. P > 405 W (No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011)
- 4(d). Mercury in High Pressure Mercury (vapour) lamps (HPMV) (Expires on 13 April 2015)
- 4(e). Mercury in metal halide lamps (MH)
- 4(f). Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex
- 5(a). Lead in glass of cathode ray tubes.
- 5(b). Lead in glass of fluorescent tubes not exceeding 0,2 % by weight.
- 6(a). Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight.
- 6(b). Lead as an alloying element in aluminium containing up to 0.4% lead by weight.
- 6(c). Copper alloy containing up to 4% lead by weight.
- 7(a). Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).
- 7(b). Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunications.
- 7(c)-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.
- 7(c)-II. Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher.
- 7(c)-IV. Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors
- 8(b). Cadmium and its compounds in electrical contacts
- 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.
- 9(b). Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications

- 12. Lead as a coating material for the thermal conduction module C-ring.
- 13(a). Lead in white glasses used for optical applications
- 13(b). Cadmium and lead in filter glasses and glasses used for reflectance standards.
- 15. Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages.
- 17. Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications.
- 18(b). 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 ( $\text{BaSi}_2\text{O}_5:\text{Pb}$ )
- 21. Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses.
- 24. Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors.
- 25. Lead oxide in surface conduction electron emitter displays (SED) used in structural elements; notably in the seal frit and frit ring.
- 29. Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC .
- 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 100 dB (A) and more.
- 31. Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting).
- 32. Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes.
- 33. Lead in solders for the soldering of thin copper wires of 100  $\mu\text{m}$  diameter and less in power transformers.
- 34. Lead in cermet-based trimmer potentiometer elements.
- 37. Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body.
- 38. Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide.
- 39. Cadmium in colour converting II-VI LEDs ( $< 10 \mu\text{g Cd per mm}^2$  of light-emitting area) for use in solid state illumination or display systems.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_