

 Green Mark	Air-Source Heat Pump	No. 132										
	Water Heaters	Category No. H-11										
1. Scope This standard applies to air source heat pump water heaters (“products”) which meet the definitions of <i>CNS 15466</i> .												
2. Product characteristics												
2.1 The product’s energy efficiency shall meet the <i>Energy Efficiency and Labeling Requirements for Air-Source Heat Pump Water Heaters</i> of the Energy Labeling Program, Bureau of Energy, Ministry of Economic Affairs.												
2.2 The product’s measured noise emission level during operation shall meet the following requirements:												
<table><tr><th>Power Rating (kw)</th><th>Noise level (dB(A))</th></tr><tr><td>< 4</td><td>≤ 57</td></tr><tr><td>≥ 4 ~ < 5</td><td>≤ 60</td></tr><tr><td>≥ 5 ~ < 9</td><td>≤ 63</td></tr><tr><td>≥ 9</td><td>≤ 65</td></tr></table>			Power Rating (kw)	Noise level (dB(A))	< 4	≤ 57	≥ 4 ~ < 5	≤ 60	≥ 5 ~ < 9	≤ 63	≥ 9	≤ 65
Power Rating (kw)	Noise level (dB(A))											
< 4	≤ 57											
≥ 4 ~ < 5	≤ 60											
≥ 5 ~ < 9	≤ 63											
≥ 9	≤ 65											
3. Materials, accessories and components												
3.1 For the product’s coating material, its content of cadmium, lead, hexavalent chromium, mercury, triphenyltin and tributyltin shall be below the regulatory limit.												
3.2 The product’s plastic components shall not use chlorinated plastics; and the product shall meet the requirements of ISO 11469, in labelling all major plastic components weighing more than 25 g in prominent areas to indicate the composition code.												
3.3 Product’s plastic parts weighing more than 25 g shall meet the following requirements:												
(1) content of cadmium, lead, hexavalent chromium and mercury shall be below the regulatory limit; if recycled materials are used in the parts or safety considerations require the addition of glass fiber to the parts, the parts’ lead content shall be less than 20 mg/kg.												
(2) content of the following flame-retardants shall be below the regulatory limit:												
(a) Polybromobiphenyls (PBBs);												
(b) Polybromodiphenyl ethers (PBDEs): Include bromodiphenyl ether, dibromodiphenyl ether, tribromodiphenyl ethers, tetrabromodiphenyl ether, pentabromodiphenyl ethers, hexabromodiphenyl ethers, heptabromodiphenyl ethers, octabromodiphenyl ether, nonabromodiphenyl ether, and decabromodiphenyl ether; and												
Date of Promulgation: December 3, 2014	Ministry of Environment	Date of Latest Revision: Feb. 13, 2019										

(c) Chloroparaffins with 10-13 carbon atoms per molecule and chlorine content of greater than 50% by weight.

3.4 Refrigerant used by the product shall have a ozone depletion potential (ODP) of zero.

4. Test methods and regulatory limit

The applicable test methods and regulatory limits for this standard are listed below.

Applicable Part	Regulated Substance	Regulatory Limit	Referenced Test Method
Whole product	noise	Requirements as stated in Section 2.2	CNS 3615
Coating material	cadmium	< 2 mg/kg	US EPA 3051A US EPA 3050B US EPA 3052
Coating material	lead	< 2 mg/kg	US EPA 3051A US EPA 3050B US EPA 3052
Coating material	hexavalent chromium	< 3 mg/kg*	NIEA T303 US EPA 3060A US EPA 7196A
Coating material	mercury	< 2 mg/kg*	US EPA 3051A US EPA 3050B US EPA 3052
Coating material	triphenyltin	< 2 mg/kg	NIEA T504 CNS 13105
Coating material	tributyltin	< 2 mg/kg	NIEA T504 CNS 13105
Plastic	cadmium	< 2 mg/kg*	NIEA M353 US EPA 3051A US EPA 3050B
Plastic	lead	< 2 mg/kg	NIEA M353 US EPA 3051A US EPA 3050B
Plastic	hexavalent chromium	< 3 mg/kg	NIEA T303 US EPA 3060A US EPA 7196A
Plastic	mercury	< 2 mg/kg*	NIEA M317 NIEA M318 US EPA 7471B US EPA 7473
Plastic	polybromobiphenyls (PBBs)	< 10 mg/kg*	CNS 15050 US EPA 8270D IEC 62321
Plastic	polybromodiphenyl ethers (PBDEs)	< 10 mg/kg*	CNS 15050 US EPA 8270D IEC 62321
Plastic	chloroparaffins with 10-13 carbon atoms per molecule	< 10 mg/kg	US EPA 3540C US EPA 8081A US EPA 8081B US EPA 8082 US EPA 8270C US EPA 8270D IEC 62321

*: The test report shall provide evidence that the employed test methods have detection limits of less than 1/3 of the regulatory limits.

5. Labeling

- 5.1 The name, address and consumer hotline of the Green Mark user shall be clearly printed on the product or packaging.
- 5.2 The product's user instructions/manual or catalog shall indicate the noise level and energy efficiency.
- 5.3 The product or packaging shall bear a label reading "Energy Saving" and "Low Pollution".

Revision History:

First revision: February 13, 2019