

# **Energy Saving**

# No. 22

## Fluorescent Lamps

Category No. J-01

#### 1. Scope

This standard applies to products which meet the definition of CNS 14576 for compact fluorescent lamps, or the definition of CNS 14125 for fluorescent lamps with embedded ballasts.

#### 2. Product characteristics

- 2.1 The product's energy efficiency shall meet the Energy Efficiency and Labeling Requirements for Compact Fluorescent Lamps, or the Energy Efficiency and Labeling Requirements for Fluorescent Lamps with Embedded Ballasts of the Energy Labeling Program, Bureau of Energy, Ministry of Economic Affairs.
- 2.2 The product's average Color Rendering Index (CRI) shall be equal to or greater than 80.
- 2.3 The product's 1000-hr lumen maintenance ratio shall be greater than 90%.
- 2.4 The product's content of mercury shall be below the regulatory limit.

#### 3. Materials, accessories and components

- 3.1 The product's plastic parts weighing more than 10 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
    - (c) Chloroparaffins with 10-13 carbon atoms per molecule and chlorine content of greater than 50% by weight.

#### 4. Test methods and regulatory limits

This standard stipulates the following regulated substances and regulatory limits:

Date of Promulgation:	Ministry of Environment	Date of Latest Revision:
January 19, 1995		Feb. 13, 2019

Applicable Part	Regulated Substance	Regulatory Limit	Referenced Test Method
Lamp tube	mercury	<5mg	NIEA M317
			NIEA M318
			US EPA 7471B
			US EPA 7473
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*	US EPA 3540C
			US EPA 8081A
			US EPA 8082A
			US EPA 8270D
Plastic	Polybromodiphenyl ethers (PBDEs)	<10 mg/kg*	US EPA 3540C
			US EPA 8081A
			US EPA 8082A
			US EPA 8270D
Plastic	chloroparaffins with 10-13 carbon atoms per molecule	< 10 mg/kg	US EPA 3540C
			US EPA 8081A
			US EPA 8082A
			US EPA 8270D

<sup>\*:</sup> 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 or packaging shall bear a label reading "Energy Saving" and "Low Pollution".

#### **Revision History:**

First revision: May 30, 2001

Second revision: February 5, 2005 Third revision: September 26, 2013 Fourth revision: February 13, 2019