

EL765. Fire Extinguishers

[EL765-2006/4/2015-5]



1. Scope

This criteria applies to fire extinguisher, aerosol type fire extinguishing apparatus, automatic diffusion fire extinguisher and automatic powder fire extinguisher used for A, B and C grade fire. However, fire extinguisher using gas fire extinguishing agent and water extinguisher shall be excluded.

2. Definitions

Note) Terms defined in the “National Fire Safety Code of Fire Extinguisher (NFSC 101)” notified by the National Emergency Management Agency shall be applied to this criteria unless otherwise defined separately.

2.1

“A grade fire” refers to the normal combustibles fire such as woods, papers, and fabrics, it leaves ashes after firing.

2.2

“B grade fire” refers to the fire of combustible liquid, gas, and oil.

2.3

“C grade fire” refers to the fire of electric appliance charged with electric current.

2.4

“Aerosol type fire extinguisher” refers to the apparatus that discharge fire extinguishing materials by pressure of manual operation out of the portable fire extinguisher with fire extinguishing materials and have more than one capacity of fire extinguishing to the fire test of a waste basket, a kerosene stove, a curtain, a cushion, a deep fryer, and a car engine room.

2.5

“Water fire extinguisher” refers to the manual fire extinguisher that uses only water as the fire extinguishing material.

2.6

“Charging gas” refers to the substances filled a fire extinguishing container or a pressure gas container for discharge of fire extinguishing materials.

2.7

“Ozone depletion potential(ODP)” refers to the value which indicates the relative effects of ozone depletion materials when the effect of CFC-11 is set 1.

2.8

“Global warming potential (GWP)” refers to the value that indicates the relative effects of greenhouse gases when the effect of CO₂ is set 1.

Note) GWP of 100-year duration shall be applied in accordance with Second Assessment Report: Climate Change(1995) of IPCC(Intergovernmental Panel on Climate Change) in this criteria.

2.9

“Biodegradability” refers to the value expressed the decomposition of organic compounds by microbes numerically.

2.10

“Easy biodegradation” refers to the case that the biodegradability by a test method applied is suited to the following data.

Test method of biodegradation	Culturing days	Biodegradability	Test method of biodegradation	Culturing days	Biodegradability
KS M ISO 9439	28	≥ 60 %	OECD 301 B	28	≥ 60 %
KS M ISO 14593	28	≥ 60 %	OECD 301 C	28	≥ 60 %
ASTM D 5864	28	≥ 60 %	OECD 301 D	28	≥ 60 %
ASTM D 6731	28	≥ 60 %	OECD 301 F	28	≥ 60 %
CEC-L-33-T-82	21	≥ 80 %			

3. Certification criteria

3.1 Environmental criteria

3.1.1

With respect to the use of chemical materials in the manufacturing stage and the discharge of hazardous substances in the disposal steps, it shall satisfy the following requirements.

3.1.1.1

Halogen compounds shall not be used as the charging gas.

3.1.1.2

Alkylphenol ethoxylates (APEOs), perfluorooctane sulfonate (PFOS), perfluorohexanesulfonate (PFHxS), perfluorooctanoate (PFOA) and 8:2 fluorotelomer alcohol (8:2 FTOH) shall not be used as a surfactant of fire extinguishing materials.

3.1.1.3

The harmful substances contained in the materials of powder fire extinguisher shall not use lead, cadmium, mercury, copper, nickel and use zinc less than 10mg/kg.

3.1.2

With respect to the water system and ground pollutant in the disposal steps, it shall satisfy the following requirements.

3.1.2.1

The biodegradability of surfactant for the material of portable fire extinguisher shall be not less than 90%.

3.1.2.2

The products indicated information on biodegradability of fire extinguishing agent shall be 'easy to be biodegraded'.

3.1.3

With respect to the recyclability of products in the disposal stage, it shall satisfy the following requirements.

3.1.3.1

A container and a label attached shall not contain the halogen plastics including polyvinyl chloride (PVC).

3.1.3.2

Applicant shall have established the system to recover disposed product and to provide warranty service (including charging of fire extinguishing agent of product), and have implemented and managed the system.

3.1.3.3

In case of product using powder as fire extinguishing agent, over 40 % of the fire extinguishing agent shall be recycled fire extinguishing agent recovered from disposed fire extinguisher.

3.2 Quality criteria

The quality of products shall satisfy the requirements of type approval and verification technique for the fire extinguishing machines and appliances in accordance with the “Installation, Maintenance and Safety Control of Fire-Fighting Systems Act”.

3.3 Consumer information

3.3.1

Marking that indicates how the product contributes to the certificated reasons (recycling of available resources, reduction of harmful substance and high biodegradability)

3.3.2

Matters on the warranty service of selling products and removal of waste products

3.3.3

Marking that indicates the contents of recycled fire extinguishing agent for the product using powder type fire extinguishing agent.

4. Test methods

Certification criteria		Methods of test and verification
Environmental criteria	3.1.1	3.1.1.1~3.1.1.3 Verification of submitted documents
	3.1.2	3.1.1.4 Test report by an accredited testing laboratory in accordance with KS M 0016(General rules for atomic absorption spectrochemical analysis), KS M 0032(General rules for ICP emission spectrochemical analysis), and Inductively Coupled -Plasma mass spectrometry(ICP-MS)
	3.1.2	3.1.2.1 Test report by an accredited testing laboratory in accordance with KS M 2714(Testing method for

		biodegradability of synthetic detergent)
	3.1.2.2	Test report by an accredited testing laboratory in accordance with KS M ISO 9439, KS M ISO 14593, OECD 301 B, OECD 301 C, OECD 301 D, OECD 301 F, ASTM D 5864, ASTM D 6731 or CEC-L-33-T-82 ^{note1), note2)}
	3.1.3	Verification of submitted documents
Quality criteria		Applicable type approval and certificate in accordance with the technical requirement of product inspection
Consumer information		Verification of submitted documents

Note 1) The name of relevant criteria

- KS M ISO 9439 : Water – Evaluation of ultimate aerobic biodegradability of organic compounds in aqueous medium-carbon dioxide evolution test
- KS I ISO 14593 : Water quality-Evaluation of ultimate aerobic biodegradability of organic compounds in aqueous medium(method by analysis of inorganic carbons in sealed vessels, Co2 headspace test)
- OECD 301 B : CO₂ Evolution test
- OECD 301 C : Modified MITI test(I)
- OECD 301 D : Closed bottle test
- OECD 301 F : Manometric respirometry test
- ASTM D 5864 : Standard test method for determining aerobic aquatic biodegradation of lubricants or their components
- ASTM D 6731 : Standard test method for determining the aerobic biodegradability of lubricants or lubricant components in closed respirometer
- CEC-L-33-T-82 : biodegradability of two-stroke cycle engine oil in aqueous medium

Note 2) In case that the appropriateness is established by the record card of the foreign accredited institution or the equivalent test methods, it shall be considered to be appropriate through the examination of eco-label deliberation commission. However, when the commission requires the record card in conformity of the rules, it shall make an exception in the case.

4.1 General matters

4.1.1

One piece of test sample shall be prepared for each applied product as a general rule. However, more samples shall be prepared if more than one sample is required for particular testing.

4.1.2

Test samples shall be collected at random by eco-label certification body from products in market or those in storage at the production site.

4.1.3

The result of test shall be numerically set according to KS Q 5002 (Statistical interpretation method of the data – Part 1: Statistical description of the data).

5. Reasons for certification

“Recycling of available resources (applicable products only), high biodegradability (applicable product only), reduction of harmful substance”