

Ecomark criteria for fire extinguishers

General Requirements

Any fire extinguisher having Bureau of Indian Standards (BIS) standard mark qualifies for consideration for Ecomark. Following are the BIS Standards for portable and mobile fire extinguishers:

The EcoMark criteria is incorporated in the following BIS standards

Indian Standards	Year of Incorporation	Descriptions
IS 940:2003 Reaffirmed 2008	1990	Portable Fire Extinguishers Water Type (Gas Cartridge)
IS 2171:1999	2001	Portable Fire Extinguishers Dry Powder Type (Cartridge)
IS 2878: 2004, Reaffirmed 2010	2005	Fire Extinguishers Carbon Dioxide Type (Portable and Trolley -Mounted)
IS 6234:1986	Inactive	Portable Fire Extinguishers Water Type (Stored Pressure)
IS 10204:1982	Inactive	Portable Fire Extinguishers Mechanical Foam Type
IS 10658:1999	2002	Higher Capacity Dry Powder Fire Extinguishers (Trolley-Mounted)
IS 11833:1986	2002	Dry Powder Fire Extinguishers for Metal Fires
IS 13385:1992	2002	Specifications for Fire Extinguishers 50 litre Wheel-Mounted Water type (Gas Cartridge)
IS 13386:1992	2002	Specifications for Fire Extinguishers 50 litre Mechanical Foam Type
IS 13849:1993	2001	Portable Fire Extinguishers Dry Powder Type (Constant Pressure)

The incorporation of Eco-mark requirements, in the following BIS standard are under process

Indian Standards	Year of Incorporation	Description
IS15397:2003 Reaffirmed 2008	-	Portable Fire Extinguishers Mechanical Foam Type (Stored Pressure)

The product manufacturer must produce the consent clearance as per provision of the Water (Prevention & Control of Pollution) Act, 1974, Water (Prevention & Control of Pollution) Cess Act, 1977 and Air (Prevention & Control of Pollution) Act, 1981, respectively, along with authorisation if required under Environment (Protection) Act, 1986, and the rules made there to the BIS while applying for Ecomark. The product may display in brief the criteria based on which the product has been awarded Ecomark.

The product may be sold along with instructions for proper use so as to maximise product performance with statutory warning, if any, minimise waste and method of safe disposal. The material used for product packaging (excluding refills) shall be recyclable, reusable or biodegradable. The product must display a list of critical ingredients in descending order of quantity present in percent by weight. The list of such critical ingredients shall be identified by the BIS.

Product specific requirements

The fire extinguishers shall not contain any ODS relevant to fire extinguishers industry as identified under the Montreal Protocol (Annexure A). Gas-based extinguishing media once discharged in the atmosphere should not have atmospheric life time of more than a year (Annexure B). Chemicals used should not have Global Warming Potential (Annexure C). The metallic body and other metal parts of the fire extinguishers shall be free of lead or lead alloys. The coatings used for the metallic part shall not be formulated with mercury and mercury compounds or be tinted with pigments of lead, cadmium, chromium VI and their oxides. Excluded are natural impurities or impurities entailed by the production process up to the amount of 0.1% by weight which are contained in the raw material.

Note: CO₂ extinguishers may be permitted till suitable substitutes are available.

Annexure A

List of ODS controlled by Montreal Protocol

Trade Name	Ozone Depleting Potential (ODP)
Halon 1211	3.0
Halon 1301	10.0
Halon 2402	6.0
CFC-11	1.0
CFC 12	1.0
CFC 113	0.8
CFC 114	1.0
CFC 115	0.6
CCI 4	1.1
C 2 H 3 C 13	0.1
CFC-13	1.0
CFC-111	1.0
CFC-112	1.0
CFC-211	1.0
CFC-212	1.0

Annexure B

1	4-Aminodiphenyl
2	Benzidine
3	4-Chloro-o-toluidine
4	2-Naphthylamine
5	p-Chloraniline
6	2,4-Diaminoanisole
7	4, 4-Diaminodiphenylmethane; 3,3-Dichlorobenzidine
8	3,3-Dichlorobenzidine
9	3,3-Dimethoxy-benzidine
10	3,3-Dimethylbenzidine
11	3,3-Dimethyl-4,4-diaminodiphenylmethane
12	p-Cresidin (2-Methoxy 5-methylaniline)
13	4,4-Methylene-bis(2-chloraniline)
14	4,4-Oxydianiline
15	4,4-Thiodianiline
16	o-Toluidine

CFC-213	1.0
CFC-214	1.0
CFC-215	1.0
CFC-216	1.0
CFC-217	1.0
Methyl Bromide	0.6

1 7	2,4-Toluendiamine
1 8	2,4,5-Trimethylaniline

Note: ODP values are relative to CFC-11 which has been assigned arbitrary value of 1.0

Appendix C

List of Substances having Global Warming Potential (GWP)

Trade Name	GWP (100 years) vs CO ₂
Halon 1301	5600
Inergen	-
Argonite	-
Argon	-
CEA 410	5500
FM 200	3300
FE 13	12100
FE 36	8000
FE 241	480
FE 25	3200
NAFS III	1450
CF 31	5

Source: <http://www.cpcb.nic.in/EnvironmetalPlanning/Eco-label/fire.pdf>