



Mangiafuoco®:

The environmentally-safe fire suppressant 13B

The flame suppressant Mangiafuoco® is a manual, portable extinguisher with remarkable extinguishing capability. It is non-toxic and environmentally safe.

Mangiafuoco® is a small, compact, lightweight cylinder that is 33 cm long, 3,5 cm in diameter and 450 cm in weight. The upper part of the device is a metal tube containing the extinguishing charge. The lower part of the device is composed of plastic and serves as a support handle.

When activated, the powerful extinguishing charge produces a potassium (aerosol) jet that lasts more than 100 seconds. This activation time is very long, especially when compared to industry standards. The following shows industry standard minimum charge times for fire extinguishers of different weights:

Less than 3 kg,	6 seconds (less than 6.6 pounds: 6 seconds)
3 – 5 kg,	9 seconds (6.6 pounds – 11 pounds: 9 seconds)
6 – 10 kg,	12 seconds (11 pounds – 22 pounds: 12 seconds)
> 10 kg,	15 seconds (more than 22 pounds: 15 seconds)
Mangiafuoco®	More than 100 seconds

Product specifications

Compared to the new generation of fire extinguishers available on the market today, Mangiafuoco® is not only efficient, economical and environmentally safe but also distinct in its specific use of Potassium powder as the basis of its extinguishing power.

Mangiafuoco® is composed of stable, solid minerals; it does not contain gas and is not pressurized. The aerosol-like jet is only produced when the charger is “scratched” with its base.



While the jet produced resembles gas, it is essentially an inert salt that emits gas that is already present in the atmosphere. Thorough testing has been conducted, and the results regarding the potential impact of the product on the environment and users are excellent:

ODP Ozone Depletion Potential = zero

GWP Global Warming Potential = zero

ATL Atmospheric Life Time = zero

Not dangerous to human health

Does not product any “organic accumulation”

Non-toxic

Environmentally safe

Non-corrosive

Technical specifications

The use of a Potassium powder jet – a unique method among fire extinguishers – involves the vaporization of the powder in the environment followed by the condensation of its extinguishing substance. Mangiafuoco[®] works by interrupting a fire’s chain of reaction (the “auto-catalyst” of the fire). This method allows Mangiafuoco[®] to extinguish all types of fires through a saturation process. Furthermore, its slow bio-degradation in the environment furthers the prevention of subsequent fires.

The extinguishing process involves two different reactions: one is physical and the other one is chemical.

The physical reaction relates to Potassium’s tendency to oxidize rapidly in air. When in contact with air, alkaline salts consume great quantities of oxygen, thus depriving fires of oxygen. The granulometry of Mangiafuoco[®] has been specially conceived to maximize its fire extinguishing capabilities.



The **chemical reaction** is created through the stable link between Potassium particles and the fire's combustion particles.

Effective synthesis of the two reactions

Through the two reactions, a quick oxidation process takes place, immediately transforming the jet from a solid state into a gaseous state which frees the potassium particles. These atoms are able to intercept and interrupt any other free particles produced by the fire's chain reaction combustion process. Potassium has strong inhibitor qualities, due to its weak ionization energies.

Classification

Mangiafuoco[®] is able to extinguish fires of different classes:

Class A: Solid material, ordinary combustibles, such as wood, paper, cloth, etc.

Class B: Flammable liquids, such as gasoline, oil based paints, solvents, alcohol, acetone, etc.

Class C: Gaseous category: Gas, methane, ect.

Electrical: electrical equipment

Safety of use

The two components necessary for the ignition of Mangiafuoco[®] are placed on opposite ends of the device, rendering accidental ignition during transport and storage impossible. The first component, a dry round area, is protected by a lid, and is at the top of the product. The second component, inserted as a cap in the handle is a scratchable head piece made out of phosphorous.



Photo 1

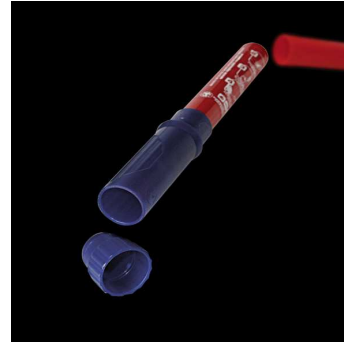


Photo 2



When both parts are scratched, the product is “switched on”

User guide to action

(Photo 1-2) Hold the handle of Mangiafuoco[®] and pull off the black lid at the top.

(Photo 3) Take off the blue cork at the top and rub it against the scratchable piece at the bottom of the device. Hold the device toward the bottom of the fire’s flames and move it in a circular motion.

Technical Data

Dimensions: 330 mm x 35 mm

Weight: 450 grams



Jet emission time:	100 seconds
Activation time:	Immediate
Usability temperature	From minus 60 degrees Celsius to 160 degrees Celsius
Usability humidity:	up to 98% U.R.
Class of fires:	A, B and C
Granulometry:	from 2 to 4 microns
Electric conductibility:	none
Corrosiveness:	none
Electrostatic discharge:	none
Steam:	none
Thermal shock:	none
Residue after use:	negligible

Existing certifications

Italy

- Certified by the Ministero degli Interni as consistent with D.M. 04/04/1973 cl. 557/P.A.S. 7317-XV.J (3766) du 20/07/2004
- Certified by the Ministero delle Infrastrutture e dei Trasporti prov. n. 86/5060 from April 7, 2006 as equivalent to a class 13B fire extinguisher and usable as such according to D.M. 21 January 1994, n. 232.
- Certified by RINA (Registro Italiano Navale): FPE530304CS (-extinguishing capacity Fire class: 13B) “Rina Rules for classification and construction of pleasure vessel”
- Certified by RINA (Registro Italiano Navale): FPE530304CS/1(extinguishing capacity- Fire class: C) “Rina Rules for classification and construction of pleasure vessel”
- D. Lgs 172/04 in realization of the CE directive nr. 2001/95/CE

Germany

- Certified by BAM – Bundesanstalt für Materialforschung und – prüfung: Zulassungszeichen BAM-PT1-1298, Zulassungsbescheid Nr. 3821/05



Reliability and key benefits

Given that the product has an unlimited guarantee, it is not pressurized, it is not dangerous and does not need to be checked or maintained. Its being lightweight and compact makes it very practical and easy to use, by any one in most circumstances. Furthermore, the fact that it does not leave any residue means that it can be used in almost any environment and under any conditions (home, office, automotive, nautical, in door, outdoor etc...).

EP Company Srl Italy

Note:
Mangiafuoco® is a registered trademark of EP Company.