

SAFETY MEMO

November 7th, 2022 – Types of Fire Extinguishers

Did you know?

Portable Fire Extinguishers

Several types of portable fire extinguishers currently exist on the market. These different types of fire extinguishers all have the same objective which is to control a fire and reduce the material damage related to it. Even with this shared goal, a single class of fire extinguisher cannot extinguish all types of fires.

Fire Categories

Fires are grouped into 5 categories (classes) according to the cause and/or fuel:

- **Class A: Ordinary combustible** (paper, wood, fabrics, rubber, and plastics)
- **Class B: Combustible and flammable liquids** (gasoline, oil, gas, paints, solvent)
- **Class C: Live electrical equipment** (electrical panels, motors, electrical wires, electrical appliances, and tools)
- **Class D: Combustible metals** (magnesium, titanium, sodium, and potassium)
- **Class K: Cooking oils** (oils and fats in cooking application, non-cooking application may be class B even with the same kind of oil)

Types of Fire Extinguishers

The main types of fire extinguishers are water, carbon dioxide (CO₂), and chemical powder. These fire extinguisher cover fires of Class A, B and C. The corresponding table summarizes these classes and other commonly used fire extinguishers.

It is very likely that different types of extinguishers will be needed throughout a facility. For example, having water extinguishers in a packaging warehouse and CO₂ extinguishers in electrical rooms.

In any case, never fight a fire if you do not know what is burning, if you do not know what type of fire extinguisher to use, if you have not received training on the use of fire extinguishers, or if the fire extinguisher you have is not appropriate for the situation.



Picture 1: Courtesy of iStock

Extinguishing agent	Class	Scope	Duration of the jet
Water	A	Long	60 sec
CO ₂	B & C	Short	10-20 sec
Dry chemical powder	B & C Some A	Moderate	10-25 sec
Liquid gas	B & C Some A	Short	10 sec
Chemical foam	A & B	Moderate	10-30 sec
Sand bucket / Dry chemical powder	D		
Wetting agent	K		

Table 1: Fire Extinguisher Comparison

References

Canadian Centre for Occupational Health and Safety. Portable fire extinguishers. Sept 9, 2022. Retrieved from https://www.ccohs.ca/oshanswers/safety_haz/fire_extinguishers.html

