

Table TS-23. Comparison table – extinguishing agents for portable fire extinguishers.

Portable systems	Halon 1211 (reference)	HCFC Blend B	HFC-236fa	Carbon Dioxide	Dry Chemical	Water
Substance characteristics						
Radiative efficiency ($\text{W m}^{-2} \text{ppb}^{-1}$)	0.3	Note ^a	0.28	See Ch. 2	-	-
Atmospheric lifetime (yr)	16	Note ^a	240	See Ch. 2	-	-
Direct GWP (100-yr time horizon)						
- This report	1860	<650 ^a	9500	1	-	-
- IPCC (1996)	not given	<730 ^a	6300	1	-	-
Ozone depletion potential	5.3	<0.02 ^a	-	-	-	-
Technical data						
Agent residue after discharge	no	no	no	no	yes	yes
Suitable for Class A fires	yes	yes	yes	no	yes	yes
Suitable for Class B fires	yes	yes	yes	yes	yes	no
Suitable for energized electrical	yes	yes	yes	yes	yes	no
Extinguisher fire rating ^b	2-A:40-B:C	2-A:10-B:C	2-A:10-B:C	10-B:C	3-A:40-B:C	2-A
Agent charge (kg)	6.4	7.0	6.0	4.5	2.3	9.5
Extinguisher charged weight (kg)	9.9	12.5	11.6	15.4	4.15	13.1
Extinguisher height (mm)	489	546	572	591	432	629
Extinguisher width (mm)	229	241	241	276	216	229
Emission rate ^c	4 ± 2%	4 ± 2%	4 ± 2%	4 ± 2%	4 ± 2%	4 ± 2%
Costs						
Investment costs (relative to Halon 1211)	100%	186%	221%	78%	14%	28%
Additional service costs (US\$ kg ⁻¹)	- ^d	- ^d	- ^d	- ^d	- ^d	- ^d
Additional recovery costs at end-of-life (US\$ kg ⁻¹)	- ^d	- ^d	- ^d	0.00	0.00	0.00

Notes:

^a HCFC Blend B is a mixture of HCFC-123, CF₄ and argon. While the ratio of the components is considered proprietary by the manufacturer, two sources report that HCFC-123 represents over 90% of the blend on a weight basis, with CF₄ and argon accounting for the remainder. The atmospheric lifetime of HCFC-123 is 1.3 years; this figure is 50,000 years for CF₄.

^b Fire extinguisher rating in accordance with the requirements of Underwriters Laboratories, Inc. The higher the number, the more effective the extinguisher.

^c This value is the total average in-service-life annual emissions rate, including both intentional discharges for fire and inadvertent discharges.

^d This information is neither in the literature nor available from other sources, as it is considered confidential.