

# DEPARTMENT OF THE ARMY TECHNICAL BULLETIN HAND PORTABLE FIRE EXTINGUISHERS APPROVED FOR- USERS

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## REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommendation and Blank Forms), to: Commander, U.S. Army Troop support Command, ATTN: AMSTR-MMTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.

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**1. Purpose.** This technical bulletin (TB) lists the latest types of hand-portable fire extinguishers which are approved for use within the Department of the Army, and provides guidance for usage and servicing. This TB will be used as the minimum standard for all facilities engineering activities. It is not to be considered an authorization document for supply actions, but is issued to restrict types and sizes of extinguishers for troop use. Facilities engineering/activities within the purview of AR 420-90 are not limited to the extinguishers listed in the attached table.

**2. DA Approved Types of Extinguishers.** Approved types of fire extinguishers are listed in the attached table. They will be incorporated as appropriate in technical manuals, supply catalogs, and equipment specifications as these publications are updated and revised. Army users will continue to use existing types of extinguishers, except where specifically indicated otherwise in the table.

**3. Classification of Fires.** The basic types of fires are Classes A, B, C and D as defined below:

**a. Class A.** Fires in ordinary combustible materials such as wood, cloth, paper, and many plastics.

**b. Class B.** Fires in flammable liquids, gases, and greases-.

**c. Class C.** Fires which involve energized electrical equipment where the electrical non-conductivity of the extinguishing agent is of the first importance. (Class C fires are essentially Class A or B fires involving energized electrical wiring and equipment.)

**d. Class D.** Fires in combustible metals, such as magnesium, titanium, zirconium, sodium, and potassium.

### 4. Rating and Classification of Fire Extinguishers

Portable extinguishers are rated and classified with NUMERAL and LETTER designation, based on fire tests conducted by the Underwriters Laboratories, Inc. (UL) or other nationally recognized testing laboratories. The numeral rating indicates the relative extinguishing effectiveness of extinguishers classified for Classes A and B fires only. The Letter classification indicates the class of fire listed in preceding paragraph 3 on which an extinguisher has been found to be effective. Extinguishers found to be effective on more than one Class of fire have multiple Letter classifications.

**Example:** B:C.

b. The number rating of hand-portable fire extinguishers is based on the following:

(1) **Class A fires.** Extinguishers rated and classified 1-A, 2-A, 3-A and 4-A must be capable of consistently extinguishing vertical wood panel fires having an area of 8X8', 10X10', 12X12', and 14X14', respectively.

(2) **Class B fires.** Extinguishers rated and classified 1-B, 2-B, 5-B, 10-B, etc., is an approximate indication of the area in square feet of flammable liquid fire (gasoline) which can be extinguished by an average operator, i.e., a 5-B rating extinguisher has an extinguishing potential of 5 square feet of liquid surface fire area.

(3) **Class C fires.** No numeral rating is used, as only the electrical nonconducting characteristics of the existing extinguishing agent are significant, and no effort is made to indicate the amount of electrical fire or which an extinguisher is suitable.

(4) **Class D fires.** No numeral rating is used as these extinguishers are rated for the amount of extinguishing agent needed to control a particular quantity and type of combustible metal fires. This information is detailed on the extinguisher nameplate.

**6. Usage of Fire Extinguishers.**

a. Many fires are small at origin and maybe extinguished by the use of proper hand-portable fire extinguishers. It is strongly recommended that the\* department be notified as soon as fire is discovered. This alarm should not be delayed awaiting result of application of portable fire extinguishers.

b. Fire extinguishers can represent an important segment of any overall fire protection program. However, their successful functioning depends upon the following conditions having been met:

(1) The extinguisher is properly located and in working order.

(2) The extinguisher is of proper type and for a fire extinguisher which may occur.

(3) The fire is discovered while still small enough for the extinguisher to be effective.

(4) The fire is discovered by a person ready, willing, and able to use the extinguisher.

c. Class A fires can be readily extinguished by quenching-cooling with water or a water-mixture agent. Class B fires are more effectively extinguished by an agent that blankets-smothers the fire through exclusion of oxygen surrounding the fire area. Of those listed in the table, fire extinguishers containing bromochlorodifluoromethane, monobromotrifluoromethane, carbon dioxide or drychemical are generally best suited for extinguishing Class B fires. For Class C fires, the primary consideration in extinguishing this type of fire is the selection of non-conductive extinguishing agent to prevent dangerous electrical shock and possible death to user. Of these listed in the table,

only fire extinguishers containing bromochlorodifluoromethane, monobromotrifluoromethane, carbon dioxide or dry chemical can be used safely on Class C fires.

**WARNING**

**Water or water-mixture type extinguishing agent must not be used under any circumstances on energized electrical equipment (Class C) fires. Whenever possible, electrical equipment and circuits should be deenergized before attacking Class C fire.**

**CAUTION**

**Due to its corrosive nature, dry chemical is not recommended for use on computerized, electronic or other equipment with extensive circuitry.**

Class D fires require special fire extinguishers for specific combustible metal hazards; therefore, extinguishers for Class D fires are not listed in the table.

d. Class B fire extinguishers in the supply system having discontinued numeral ratings of 4-B, 6-B, 8-B, 12-B, or 1&B will remain in use until the extinguisher becomes unserviceable and replacement is required.

**6. Servicing Fire Extinguishers.**

a. **Refilling extinguishers, especially** pressurized types, will be done by personnel with knowledge of and training in this function. It is not only considered hazardous but is highly dangerous for personnel to service fire extinguishers when they are unfamiliar with capacities, pressure limitations, and technical inspection and testing procedures governing replacement cylinders. AR 700-68 provides general guidance on inspection, testing, and refilling compressed gas cylinders, which includes fire extinguishers. **Generally, refilling pressurized types** cylinders can be done at installation level by Fire Department personnel with refilling agents supplied through local procurement.

b. Monobromotrifluoromethane fire extinguishers, NSN 4210-00-555-8837, will not be refilled under any conditions, but will be serviced by discarding the empty cylinder and replacing with charged cylinder requisitioned under NSN 4210-00-708-0031. The empty cylinders are "throw away-items for which recharging is not considered economical or practical; therefore, the empty cylinders will be reclassified as unserviceable.

c. Dry chemical fire extinguisher, NSN 4210-00-775-0127, will be discarded when unserviceable.

*Table of DA Approved Hand Portable Fire Extinguishers for Army Users*

NSN	DESCRIPTION	UL CLASSIFICATION	RECOMMENDED USAGE
4210-00-889-2221	Exftnguisher, Fire, Dry Chemical, Potassium, Bicarbonate Base (purple K), 2 1/2 lb, Disposable, Sealed Pressure Type~. Fed. Spec. A-A-393, TYPE III, Class 2, Size 2 1/2, with mounting bracket.	5-B:C	On general purpose vehicles, material handling equipment, construction equipment; in tents & bunkers where liquid fuel heaters are used; on food preparation equipment in food processing areas.
4210-00-775-0127	Exftnguisher, Fire, Dry Chemical, Potassium Bicarbonate Base (Purple K), 5 lb, Fed. Spec. A-A-393, Type I, Class 2, Size 5, with mounting bracket. (C10-A-A-393)	10-B:C	On food preparation equipment and areas; in vehicles used for transporting five or more passengers, flammable Class A or B explosives, or other hazardous materials which the vehicle to be marked or placarded in accordance with AR 55-355.
421040-257-5343	Exftnguisher, Fire, Dry, Chemical, Potassium Bicarbonate Base (Purple K), 20 lb, carbon dioxide gas cartridge operated. Fed. Spec. A-A-393, Type II, Class 2, Size 20, with bracket.	40-B:C	At fixed locations, for use in areas such as motor pools, POL facilities and air fields.
4210-00-808-4545	Exftnguisher, Fire, Dry Chemical, Potassium Bicarbonate Base (Purple K), 30 lb, carbon dioxide gas cartridge operated. Fed. Spec. A-A-393, Type II, Class 2, Size 30.	80-B:C	&my Nuclear handling operations.
4210-00-889-2492	Exftnguisher, Fire, Dry Chemical, Ammonium Phosphate Base, 20 lb, stored pressure type, Fed. Spec. A-A-393C, Type I, Class 1, Size 20, with wall mounting bracket.	4A:30B:C	Army Nuclear handling operations.
4210-00-889-2491	Exftnguisher, Fire, Dry Chemical, ABC rated 10 lb pressured or cartridge operated.	4A,40 to 80B:C	Vehicles that transport five or more passengers, flammable or explosive and any other placard vehicles. AU motor pools and POL facilities or POL tank vehicles.
4210-00-270-4512	Exftnguisher, Fire, Carbon Dioxide (CO <sub>2</sub> ), 5 lb Fed. Spec. O-E-910, Type I, Size 5 with bracket, non-shatterable.	5-B:C	Small marine vessels and amphibious equipment, precision type equipment, electronic equipment, photo mapping and reproduction equipment, telephone, radio, radar, electric generators, railway guard cars and lubricated surface where a residual powder is undesirable.

*Table of DA Approved Hand Portable Fire Extinguishers for Army Users-Continued*

NSN	DESCRIPTION	UL CLASSIFICATION	RECOMMENDED USAGE
4210-00-202-7858	Extinguisher, Fire, Carbon Dioxide (CO <sub>2</sub> ), 15 lb Fed. Spec. O-E-910, Type I, Size 15, with bracket, non-shatterable.	10-B:C	For large radar and communications equipment vans, telephone exchanges, large marine vessels and amphibious equipment, oxygen and nitrogen generating plants, hydrogen and carbon dioxide generating plants, and vehicles transporting and dispensing liquid fuels; wherever a large smothering gas type extinguisher is required.
4210-00-555-8837	Extinguisher, Fire, Monobromotrifluoromethane (Halon 1301), 2 ¾ lb, Disposable Cylinder, Sealed Pressure Type. MIL-E-52031 with bracket.	2-B:C	In enclosed or indoor environments only where low fire hazard exists. On precision type equipment, electronic equipment, photo mapping and reproduction equipment, telephone radio, radar, and equipment with exposed surfaces where a residual powder agent is undesirable. For specified equipment winterized for operation at temperatures below minus 25°F (-32°C) for cockpits of all Army Aircraft for cargo areas of all large aircraft.
	<p style="text-align: center;">NOTE</p> <p>For Charged Replacement Cylinder only use NSN 4210-00-708-0031.</p>		
	<p style="text-align: center;">NOTE</p> <p>Replace cylinder if gross weight has decreased by four ounces. When assembling, lubricate cylinder neck threads with one drop of OE30. Torque for swivel nut is not to exceed 160 inch-pounds maximum.</p>		
4210-01-087-4989	Extinguisher, Fire, Bromochlorodifluoromethane (Halon 1211), 5 lb.	10-B:C	For both outdoor and indoor environments where light to moderate hazard for Class B or C fires exist. On power generation equipment, and any equipment requiring an agent with non-corrosive and easy clean-up characteristics (e.g. computerized and electronic equipment). On vehicles and ground support equipment.
	<p style="text-align: center;">NOTE</p> <p>The mounting bracket used with the 5 lb Halon 1211 extinguisher is assigned NSN4210-00-8994MW3.</p>		
4210-01-088-7580	Extinguisher, Fire, Bromochlorodifluoromethane (Halon 1211), 9 lb.	1-A:10-B:C	For both outdoor and indoor environment. On power generation equipment, and any equipment requiring an agent with noncorrosive and easy clean-up characteristics (e.g. computerized and electronic equipment). on vehicles and ground support equipment.

**Table of DA Approved Hand Portable Fire Extinguishers Army Users-Continued**

<b>NSN</b>	<b>DESCRIPTION</b>	<b>UL CLASSIFICATION</b>	<b>RECOMMENDED USAGE</b>
4210-01-092-3263	Extinguisher, Fire, Bromochlorodifluoromethane (Halon 1211), 16 lb.	2-A:20-B:C	Forward area rearming and refueling point.
4210-01-128-1674	Extinguisher, Fire, Halon (1211) ABC 17 lb.	3A, 80-B:C	Communications and computer equipment vans. Telephone exchanges and amphibious equipment. Forward area rearming and refueling points.
4210-014189-0875	Extinguisher, Fire, Bromochlorodifluoromethane (Halon 1211), 20 lb.	4-A:80-B:C	For both outdoor and indoor environment. On power generation equipment, and any equipment requiring an agent with noncorrosive and easy clean-up characteristics (e.g. computerized and electronic equipment). On vehicles and ground support equipment.
4210-01-092-3263	Extinguisher, Fire, Bromochlorodifluoromethane (Halon 1211) 15 lb.	2-A:60-B:C	Forward area refueling equipment.
421040-720-1815	Extinguisher, Fire, Water, Stored Pressure, 2½ gal. capacity. Fed. Spec. A-A-392A. Class B fire rated when mixed with Aqueous Film Forming Foam.	2-A:40B	Army nuclear handling operation
4210-00-720-1815	Extinguisher, Fire, Water, 4 gal. capacity, discharged by pumping action, galvanized steel container, Fed. Spec. O-E-940.	3-A	At fixed areas in buildings and at supply dumps for use on fires of ordinary combustibles..
4210-01-149-1356	Extinguisher, Fire, Dry Chemical, Potassium Bicarbonate Base (Purple K), 5 lb. Disposable, Commercial Item Description A-A-393, Type 1, Class 2, Size 5, with mounting bracket.	10-B:C	On food preparation equipment food sanitation system and general purpose vehicles.

**HALON 1211 EQUIPMENT AVAILABILITY**

**HALON 1211 PORTABLE FIRE EXTINGUISHERS PROCUREMENT THROUGH THE DLA**  
The following Halon 1211 portable fire extinguishers are stocklisted for procurement from:

Defense Logistics Agency  
Defense Construction Supply Center  
Columbus, OH 43216-5000  
Portables Stocklisted For Ground Use  
(per USAF PD No. WR-ALC/TRA 4210-031C)

<u>NSN</u>	Size	<u>U.L. Rating</u>	<u>Lbs. Halon 1211</u>
4210-01-092-4420	2.5	5BC	2.5
4210-014I87-4989	5.0	10BC	5.0
4210-01-088-7560	10.0	1A10BC	9.0
4210-01-092-3263	15.0	2A60BC	16.0
4210-014I89-0875	20.0	4A80Bc	20.0

Portables Stocklisted for Aircraft Use  
(per USAF PD No. WR-ALC/TRA 4210-099B)  
Designated 'Non Shat' and Painted Lime Yellow

<u>NSN</u>	Size	<u>U.L. Rating</u>	<u>Lbs. Halon 1211</u>
4210-01-128-1673	5.0	10BC	5.0
4210-01-128-1674	17.0	3A80BC	17.0

By Order of the Secretary of the Army:

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