

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

HAND PORTABLE FIRE EXTINGUISHERS APPROVED FOR ARMY USERS

Headquarters, Department of the Army, Washington, D. C.

16 January 1981

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 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U. S. Army Troop Support & Aviation Materiel Readiness Command, ATTN: DRSTS-MTT, 4300 Goodfellow Boulevard, St. Louis, MO 63120. A reply will be furnished directly to you.

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1. **Purpose.** This technical bulletin 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. 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.** **a.** Portable fire extinguishers are rated and classified with NUMERAL and LETTER designations, based on fire tests conducted by the Underwriters Laboratories, Inc. (UL) or other nationally recognized testing laboratories. The numerical 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.

*This publication supersedes TB 5-4200-200-10, 29 April 1977.

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 8 x 8', 10 x 10', 12 x 12', and 14 x 14', respectfully.

(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 extinguishing agent are significant, and no effort is made to indicate the amount of electrical fire for 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.

5. Usage of Fire Extinguisher. a. Many fires are small at origin and may be extinguished by the use of proper hand-portable fire extinguishers. It is strongly recommended that the fire 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 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 dry chemical, monobromotrifluoromethane (CF₃, BR) and carbon dioxide 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 nonconductive extinguishing agent to prevent dangerous electrical shock and possible death to user. Of those listed in the table, only fire extinguishers containing dry chemical monobromotrifluoromethane, and carbon dioxide 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 a Class C fire.

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 16-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 type 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	Extinguisher, Fire Dry Chemical, Potassium Bicarbonate Base (Purple K), 2½ lb., Disposable, Sealed Pressure Type. Fed. Spec. O-E-915, Type III, Class 2, Size 2½, with mounting bracket.	5-B:C	On each of the following: general purpose vehicles, material handling equipment, construction equipment, in tents & bunkers where liquid fuel heaters are used. (For use where a residual powder is not objectionable)
4210-00-775-0127	Extinguisher, Fire Dry Chemical, Potassium Bicarbonate Base (Purple K), 5lb., Fed. Spec. O-E-915, Type I, Class 2, Size 5, with mounting bracket.	10-B:C	On vehicles when used for transporting 7 or more passengers or flammable Class A or B explosives, or other hazardous materials which require the vehicle to be marked or placarded in accordance with AR 55-355.
4210-00-257-5343	Extinguisher, Fire Dry Chemical, Potassium Bicarbonate Base (Purple K), 20lb., carbon dioxide gas cartridge operated. Fed. Spec. O-E-915, 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	Extinguisher, Fire Dry Chemical, Potassium Bicarbonate Base (Purple K), 30 lb. Carbon dioxide gas cartridge operated. Fed. Spec. O-E-915, Type II, Class 2, Size 30.	60-B:C	Army Nuclear handling operations.
4210-00-270-4512	Extinguisher, Fire Carbon Dioxide (CO ₂), 5 lb. Fed. Spec. O-E-910, Type I, Size 5 with bracket, non-shatterable.	2-B:C	On food preparation equipment and areas, 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 surfaces where a residual powder is undesirable.

NSN	DESCRIPTION	UL CLASSIFICATION	RECOMMENDED USAGE
4210-00-202-7858	Extinguisher, Fire Carbon Dioxide (CO ₂), 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 when a large smothering gas type extinguisher is required.
4210-00-555-8837	Extinguisher, Fire Monobromotrifluoromethane (CB-F3), 2 3/4 lb., Disposable Cylinder, Sealed Pressure Type. MIL-E-52031 with bracket.	2-B:C	On precision type equipment, electronic equipment, photo mapping and reproduction equipment, telephone radio, radar, electric generators, and mechanical 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>		
4210-01-003-7710	Extinguisher, Fire Bromochlorodifluoromethane (Halon1211), 16 lb.	2-A:20-B:C	Forward area rearming and refueling point.
4210-01-003-7709	Extinguisher, Fire Bromochlorodifluoromethane (Halon1211), 22 lb.	2-A:60-B:C	Forward area refueling equipment.
4210-00-720-1815	Extinguisher, Fire Water, Stored Pressure, 2½ gal. capacity. Class B fire rated when mixed with Aqueous Film Forming Foam.	2-A:5B	Army nuclear handling operations.

NSN	DESCRIPTION	UL CLASSIFICATION	RECOMMENDED USAGE
4210-00-251-7903	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.
4210-00-241-8343	Extinguisher, Fire Water, 5 gal. capacity, Back Pack Type, discharged by pumping action, galvanized steel container with 2 carrying straps. MILSPEC MIL-E-212.	4-A	By troops fighting brush fires.

By Order of the Secretary of the Army:

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