

## CHAPTER 1

## GENERAL

**1-1. PURPOSE AND COVERAGE.**

a. In view of the complicating factors that may arise in an emergency, it is impossible to establish simple rules of procedures to cover all situations. However, in any emergency, the primary concern must always be the protection of personnel.

b. This bulletin provides guidance for personnel on actions recommended prior to, during, and after notification of an accident involving ammunition and/or armor containing depleted uranium (DU). This guidance is intended for use to minimize ingestion of toxicological material and external contamination. Even though radiation doses resulting from the use and handling of DU are usually far below the regulatory limits, an effective program is necessary to assure they are maintained As Low As Reasonably Achievable, in accordance with Nuclear Regulatory Commission (NRC) direction. Information contained in this bulletin should be incorporated into local emergency procedures where applicable. Local emergency procedures should be preplanned and rehearsed on a regular basis.

c. This bulletin is intended for use with the following Army ammunition items, and any future developed items which contain DU:

CARTRIDGE	25MM	APFSDS-T	XM919	weight of DU = classified
CARTRIDGE	105MM	APFSDS-T	M774	weight of DU = 7.41 lb
CARTRIDGE	105MM	APFSDS-T	M833	weight of DU = 8.08 lb
CARTRIDGE	105MM	APFSDS-T	XM900E1	weight of DU = classified
CARTRIDGE	120MM	APFSDS-T	M827	weight of DU = 6.90 lb
CARTRIDGE	120MM	APFSDS-T	M829	weight of DU = 8.69 lb
CARTRIDGE	120MM	APFSDS-T	M829A1	weight of DU = classified

**1-2. CHEMICAL AND RADIOACTIVE CHARACTERISTICS OF DU:** All uranium extracted from ore is composed of three primary isotopes of uranium. They are 234-Uranium, 235-Uranium, and 238-Uranium, abbreviated U234, U235, U238, respectively. The proportion of each of these isotopes in natural uranium is 0.0057 percent U234, 0.7204 percent U235, and 99.2739 percent U238. The proportions of each of these isotopes in DU is 0.0005 percent U234, 0.25 percent U235, and 99.75 percent U238. DU is a by-product of the uranium enrichment process, during which natural uranium is enriched by increasing the percentage of the U235 isotope. Uranium enriched in the U235 isotope is of use to the nuclear industry as fuel for nuclear reactors. DU, no longer of use to the nuclear industry for recovery of the U235 isotope, is useful for non-nuclear applications. Properties which make DU of interest in military use are its high density and strength; ease and relatively low cost of fabrication; and