

CHAPTER I

SECTION 10

**EXPLOSIVES SAFETY FOR WARTIME
OPERATIONS**

I.10.A EXPLOSIVES SAFETY FOR WARTIME OPERATIONS
> See Chapter 15, DA PAM 385-64.

I.10.A.01 This Section provides guidance for the safe handling, transportation, and storage of ammunition during wartime and contingency operations. This guidance provides options, based on the acceptance of ever increasing degrees of risk, to the commander faced with various and fluctuating battlefield hazards. It may be used in developing battle doctrine and integrated into contingency and combat operations planning.

I.10.A.02 The provisions of this section apply in:

a. A recognized war zone.

(1) An area where hostilities are imminent and approval to implement this chapter has been given in writing by the combatant commander.

(2) Several fundamental concepts govern the relaxation of peacetime explosives safety standards during combat and contingency operations and the acceptance of added risks:

(a) Whenever and wherever possible, the peacetime explosives safety standards enumerated in DA PAM 385-64 should be followed. Only after assessing the risks of relaxation against the mission-imposed parameters should the less restrictive guidance of this chapter be implemented. DA PAM 385-64, Chapter 15 provides operational flexibility not available in other parts of that pamphlet. The use of asset preservation criteria contained in that chapter is intended to maintain mission capability; however, those

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reduced levels of protection may impair or delay mission capability in the event of an explosives accident. That chapter's explosives safety quantity distance (QD) standards include the following two levels of protection:

(i) Asset preservation distance. The distance that prevents propagation or reaction between potential explosion sites (PESs). (Assets at the exposed site are expected to be usable following an incident.) > **See Table I.10-1.**

(ii) Where QD considerations must be relaxed, preventing propagation and preserving personnel, military equipment, and ammunition should be paramount. In some situations that do not meet the specific requirement, equivalent protection can be provided by the use of protective construction or by restructuring the operation. Situations where equivalent protection is provided must be supported by analysis and approved by the appropriate level of command. Equivalent protection that meets the regulatory requirements are not considered a waiver or exemption.

(b) Tactical situations that are not covered by explosives safety regulations should be managed using the Army composite risk management (CRM, DA PAM 385-30) process. Commanders should identify the hazards associated with the operation, assess these hazards, develop controls and make a decisions based on the analysis and lastly, supervise and evaluate the operation and controls.

(c) The third factor in QD explosives safety calculations is time. The degree to which standards are relaxed should be directly related to the duration of the exposure. Relaxation of standards for 24 hours involves less risk than relaxation for 48 hours.

(i) The acceptance of a high degree of explosives safety risk depends on the competing hazards of the battlefield. The risk of an explosives accident may be far outbalanced by more imminent battlefield hazards as ammunition approaches the forward line of own troops (FLOT).

(ii) Ammunition logistical considerations and war fighting requirements should take precedence over compatibility in the mixing and grouping of ammunition items.

I.10.A.03 Hazard Class/Division 1.2 ammunition should be treated as HD 1.1. When it becomes impractical to manage ammunition by hazard class, all ammunition, except identifiable HD 1.4, should be treated as HD 1.1. All captured ammunition, mixed ammunition, and unserviceable or unknown ammunition will be treated as HD 1.1.

I.10.A.04 When handling ammunition in the field, the following general principles apply:

- a. Soldiers controlling or supervising the handling of ammunition must observe safety precautions. Every effort will be made to ensure that skilled and knowledgeable personnel are in charge of ammunition operations.
- b. In field storage, ammunition should be distributed in such a way that an incident will not cause the total stock of any one type of ammunition to be lost.
- c. Ammunition will be dispersed to minimize loss in the event of fire, accidental explosion, or enemy action.
- d. Fire fighting precautions must be taken and firefighting equipment must be serviceable. All fires will be fought immediately without special order.
- e. Ammunition of unknown origin and captured ammunition will be examined, evaluated, and classified by qualified personnel and stored in a designated collection point.
- f. The existing infrastructure and terrain features (for example, buildings, barns, forests, barriers, and so forth) will be used to prevent propagation and to protect personnel and material from the

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effects of an explosion. Dry water courses will not be used during anticipated periods of heavy rain.

g. Ammunition containing WP will be stored and transported in an upright position if ammunition surface temperatures are expected to exceed 111 degrees F.

I.10.A.05 In any given field situation, all measures must be taken, to minimize the risk to personnel, material, and ammunition.

I.10.A.06 Provisions must be made to evaluate and, if necessary, segregate damaged ammunition.

I.10.A.07 Provisions should be made, particularly for contingency operations of expected short duration, to save and segregate packing material to be reused to turn in safely and transport unused ammunition.

**Table I.10-1: HD 1.1 Quantity Distance Requirements using
Minimum Separation and Asset Preservation Criteria**

NEW in lbs.	Minimum Separation Distance	Asset Preservation Distance		NEW in lbs.	Minimum Separation Distance	Asset Preservation Distance
50	41	88		55000	418	913
100	51	111		60000	431	940
150	58	128		65000	442	965
200	64	140		70000	453	989
250	69	151		75000	464	1012
300	74	161		80000	474	1034
350	78	169		85000	484	1055
400	81	177		90000	493	1076
500	87	190		95000	502	1095
600	93	202		100000	511	1114
700	98	213		105000	519	1132
800	102	223		110000	527	1150
900	106	232		115000	535	1167
1000	110	240		120000	543	1184
1250	118	259		125000	550	1200
1500	126	275		130000	557	1216
2000	139	302		135000	564	1231
2500	149	326		140000	571	1246
3000	159	346		145000	578	1261
3500	167	364		150000	584	1275
4000	175	381		155000	591	1289
4500	182	396		160000	597	1303
5000	188	410		165000	603	1316
6000	200	436		170000	609	1330
7000	210	459		175000	615	1342
8000	220	480		180000	621	1355
9000	229	499		185000	627	1368
10000	237	517		190000	632	1380
12500	255	557		195000	638	1392
15000	271	592		200000	643	1404
17500	286	623		205000	649	1415
20000	299	651		210000	654	1427
22500	311	678		220000	664	1449
25000	322	702		225000	669	1460
30000	342	746		230000	674	1470
35000	360	785		235000	679	1481
40000	376	821		240000	684	1491
45000	391	854		245000	688	1502
50000	405	884		250000	693	1512

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