

NATO UNCLASSIFIED
NORTH ATLANTIC TREATY ORGANIZATION
ORGANISATION DU TRAITE DE L'ATLANTIQUE NORD

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MAS/138-PCS/4123
3 May 1995

To : See MAS Distribution List No. 2

Subject : STANAG 4123 PCS (EDITION 3) - DETERMINATION OF THE CLASSIFICATION OF MILITARY AMMUNITION AND EXPLOSIVES

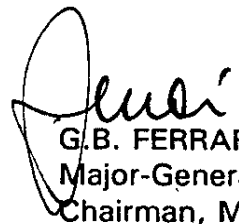
References : a. MAS(78)554 dated 27 October 1978 (Edition 2)
b. AC/258-D/441 dated 13 May 1993 (Edition 3) (1st Draft)

Enclosure : STANAG 4123 (Edition 3)

1. The enclosed NATO Standardization Agreement which has been ratified by nations as reflected in page iii is promulgated herewith.
2. The references listed above are to be destroyed in accordance with local document destruction procedures.
3. AAP-4 should be amended to reflect the latest status of the STANAG.

ACTION BY NATIONAL STAFFS

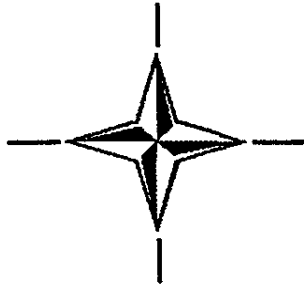
4. National staffs are requested to examine page iii of the STANAG and if they have not already done so, to advise the Defence Support Division, IS, through their national delegation as appropriate of their intention regarding its ratification and implementation.


G.B. FERRARI
Major-General, ITAF
Chairman, MAS

NATO UNCLASSIFIED

STANAG No. 4123
(Edition 3)

**NORTH ATLANTIC TREATY ORGANIZATION
(NATO)**

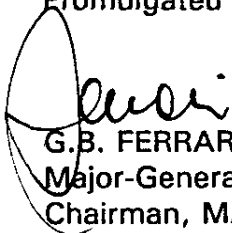


**MILITARY AGENCY FOR STANDARDIZATION
(MAS)**

**STANDARDIZATION AGREEMENT
(STANAG)**

SUBJECT: DETERMINATION OF THE CLASSIFICATION OF MILITARY
AMMUNITION AND EXPLOSIVES

Promulgated on 3 May 1995


G.B. FERRARI
Major-General, ITAF
Chairman, MAS

NATO UNCLASSIFIED

RECORD OF AMENDMENTS

No.	Reference/date of amendment	Date entered	Signature

EXPLANATORY NOTES

AGREEMENT

1. This NATO Standardization Agreement (STANAG) is promulgated by the Chairman MAS under the authority vested in him by the NATO Military Committee.
2. No departure may be made from the agreement without consultation with the tasking authority. Nations may propose changes at any time to the tasking authority where they will be processed in the same manner as the original agreement.
3. Ratifying nations have agreed that national orders, manuals and instructions implementing this STANAG will include a reference to the STANAG number for purposes of identification.

DEFINITIONS

4. Ratification is "The declaration by which a nation formally accepts the content of this Standardization Agreement".
5. Implementation is "The fulfilment by a nation of its obligations under this Standardization Agreement".
6. Reservation is "The stated qualification by a nation which describes that part of this Standardization Agreement which it cannot implement or can implement only with limitations".

RATIFICATION, IMPLEMENTATION AND RESERVATIONS

7. Page iii gives the details of ratification and implementation of this agreement. If no details are shown it signifies that the nation has not yet notified the tasking authority of its intentions. Page iv (and subsequent) gives details of reservations and proprietary rights that have been stated.

NATO STANDARDIZATION AGREEMENT
(STANAG)

NAVY/ARMY/AIR

DETERMINATION OF THE CLASSIFICATION
OF MILITARY AMMUNITION AND EXPLOSIVES

ANNEX A: Definitions of terms

RELATED DOCUMENTS:

1. Draft STANAG 4440 (1st edition)
"Safety of the storage of military ammunition and explosives".
2. AASTP-1
"Manual of NATO safety principles for the storage of military ammunition and explosives".
3. Draft STANAG 4441 (1st edition)
"Safety of the transport of military ammunition and explosives".
4. AASTP-2
"Manual of NATO safety principles for the transport of military ammunition and explosives".
5. STANAG 2322
"Minimum markings for the identification of ammunition (and its packaging)".
6. STANAG 2316
"Marking of ammunition and its packaging of a calibre below 20 mm".
7. U.N. Recommendations on the transport of dangerous goods. 7th revised Edition, 1992.
8. U.N. Recommendations on the transport of dangerous goods. Tests and criteria. 2nd Edition, 1990.

AIM

1. The aim of this Agreement is to specify the minimum standards which are to be observed when determining the classification of military ammunition and explosives for storage and transport purposes.
2. Consequently the risk of an error in classification which could result in the loss of substantial stocks and possible devastation in the surrounding area will be reduced.
3. The aim is also to promote confidence in the validity of classification by national authorities, thus obviating the need for duplication of the cost and effort involved in testing.

AGREEMENT

4. Participating nations agree:
 - (a) to observe the minimum standard of testing and the method of assessment specified in AASTP-3, "Manual on NATO principles for the hazard classification of military ammunition and explosives", in order to determine the correct hazard classification code of ammunition and explosives in the form that it is stored or offered for transport in other NATO countries;
 - (b) to apply as a minimum standard the mixing rules as specified in AASTP-3 for Hazard Divisions and Compatibility Groups;
 - (c) to apply the methods of determining the Net Explosive Quantity (NEQ) as specified in AASTP-3;
 - (d) to accept the classification determined by another nation, provided document AASTP-3 has been properly applied;
 - (e) to maintain, as far as possible, the consistency between AASTP-3 and related documents 7 and 8, in which the test and sentencing criteria recommended by the United Nations are fully detailed; these documents should always be referred to;

Any amendment of the related documents 7 and 8 concerning class 1 will be examined by the "Group of Experts on the Safety Aspects of Transportation and Storage of Military Ammunition and Explosives (AC/258)". The Group will agree upon its application to AASTP-3.

- (f) to consider this Agreement as a basis for distribution and revision of AASTP-3 by the "Group of Experts on the Safety Aspects of Transportation and Storage of Military Ammunition and Explosives (AC/258)".

GENERAL

5. Procedures:

- (a) The nation which decides to transport or store particular ammunition and/or explosives in another country will be responsible for providing to the host nation any necessary safety information, including hazard classification code of the ammunition/explosive concerned.
- (b) When a particular item of ammunition is used by more than one NATO country, the nation of origin of the item, or of modification of the item, will be responsible for providing, on request, the necessary information and correct hazard classification code to the requesting NATO country.
- (c) To avoid unnecessary duplication of testing, with a consequent waste of money and effort, the nation which first completes practical tests on ammunition to be used by other countries will, on request, supply the relevant data.

6. Scope:

- (a) This Agreement applies to the determination of the correct hazard classification and NEQ to be used in negotiations between an host nation and a visiting force.
- (b) This Agreement applies to ammunition, components and explosives which are accepted into Class 1.
- (c) This Agreement applies to mixing rules when storing or transporting together ammunition and explosives of different Hazard Divisions or Compatibility Groups.
- (d) This Agreement applies to ammunition and explosives in the condition and form that it is stored and offered for transportation. Usually, this means the packaged item.
- (e) This Agreement does not apply to large fixed and completely assembled weapons systems, such as Inter-Continental Ballistic Missiles, which, because of their complexity and additional protective measures, require individual analyses of the hazard before classification.

IMPLEMENTATION OF THE AGREEMENT

- 7. This Agreement will be considered to have been implemented when the necessary orders/instructions have been issued directing the forces concerned to put the content of this Agreement into effect.
- 8. From the date of implementation, this Agreement will apply to all assessments and practical tests for the determination of hazard classification and NEQ which arise either from a modification to existing ammunition, its packaging, or from the introduction of new ammunition, explosives or packaging.
- 9. It is not intended that this Agreement will necessarily apply retrospectively. However, the responsible country will indicate upon request whether or not the classification of a particular item has been determined in accordance with this Agreement. Where it has not the responsible country may be requested to verify its original classification.

DEFINITIONS OF TERMS

1. HAZARD CLASS

According to the United Nations Dangerous Goods Classification, Class 1 consists of substances and articles which have an explosive character and of which the stability and sensitivity, both chemical and physical, are shown to be acceptable.

Related document No. 8 gives the tests and criteria to be used for this acceptance.

2. HAZARD DIVISIONS

Class 1 is divided into six divisions:

Hazard Division 1.1 Substances and articles which have a mass explosion hazard
(a mass explosion is one which affects almost the entire load virtually instantaneously.)

Hazard Division 1.2 Substances and articles which have a projection hazard but not a mass explosion hazard

Hazard Division 1.3 Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard

This division comprises substances and articles:

- (a) which give rise to considerable radiant heat, or
- (b) which burn one after another, producing minor blast or projection effects or both.

Hazard Division 1.4 Substances and articles which present no significant hazard

This division comprises substances and articles which present only a small hazard in the event of ignition or initiation during transport or storage. The effects are largely confined to the package and no projection of fragments of appreciable size or range are to be expected. An external fire must not cause the simultaneous explosion of the total contents of the package.

NOTE: Substances and articles of this division are in Compatibility Group S if they are so packaged or designed that any hazardous effects arising from accidental functioning are confined within the package unless the package has been degraded by fire, in which case all blast or projection effects are limited to the extent that they do not significantly hinder fire fighting or other emergency response efforts in the immediate vicinity of the package.

Hazard Division 1.5 Very insensitive substances which have a mass explosion hazard

This division comprises substances which have a mass explosion hazard but are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of transport or storage.

NOTE: The probability of transition from burning to detonation is greater when large bulk quantities are either transported or stored.

Hazard Division 1.6 Extremely insensitive articles which do not have a mass explosion hazard

This division comprises articles which contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation.

NOTE: The risk from articles of Division 1.6 is limited to the explosion of a single article.

GENERAL NOTE:

Class 1 is unique in that the type of packaging frequently has a decisive effect on the hazard and therefore on the assignment to a particular division. The correct division is determined by the use of the method outlined in AASTP-3, which is derived from related documents 7 and 8.

3. COMPATIBILITY

Ammunition and explosives are considered to be compatible if they may be stored or transported together without significantly increasing either the probability of an accident, or, for a given quantity, the magnitude of the effects of such an accident.

There are 13 compatibility groups: A, B, C, D, E, F, G, H, J, K, L, N and S.

These groups have been defined so that, with the exception of compatibility group L, all ammunition and explosives in any one group are compatible with one another in storage and in every mode of transport.

4. NET EXPLOSIVE QUANTITY OF A MUNITION OR AN EXPLOSIVE (NEQ)

The Net Explosive Quantity (NEQ) of a munition or an explosive is the amount of explosive Q to be used in the Quantity/Distance tables (Q/D tables) or formulae to determine the safety distances in case of an explosion (detonation, deflagration or combustion).