

INTERNATIONAL
AMMUNITION TECHNICAL
GUIDELINE

IATG
01.40

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**Glossary of terms, definitions and
abbreviations**



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Warning

The International Ammunition Technical Guidelines (IATG) are subject to regular review and revision. This document is current with effect from the date shown on the cover page. To verify its status, users should consult the UN SaferGuard IATG project through the United Nations Office for Disarmament Affairs (UNODA) website at:

www.un.org/disarmament/un-safeguard.

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Foreword

Ageing, unstable and excess ammunition stockpiles pose the dual hazards of illicit proliferation and accidental explosion, which have caused destabilization and humanitarian disaster in all regions of the world.

Crucial for adequate stockpile management is the identification of surpluses – that is, the portion of weapons and ammunition that does not constitute an operational need. When surpluses are not recognized, the entirety of the stockpile may continue to be seen as of operational value. Although not used, weapons and ammunition surpluses thus continue to fill warehouses and can thus pose a significant risk to safety and security.

Defective stockpile management has been assessed as the norm rather than the exception in many countries. Often it is not only surplus stocks that should be the focus of attention, but the lack of appropriate policy for stockpile management. Governments remain unaware of surpluses; their national stockpiles remain a risk to public safety; and diversion from warehouses feed into crime and armed violence.

In 2011, the United Nations developed the International Ammunition Technical Guidelines (IATG) to ensure that the United Nations as a whole consistently delivers high-quality advice and support in ammunition management. Many stakeholders, including international organizations, non-governmental entities and national authorities, use these guidelines.

The IATG, along with other conventional ammunition issues, are managed through the United Nations SaferGuard programme.

Taking into account the diversity in capacity of States, three levels of ascending comprehensiveness are offered in the IATG, referred to as “risk-reduction process levels” (RRPLs). These are indicated within each IATG as either LEVEL 1 (basic), LEVEL 2 (intermediate) or LEVEL 3 (advanced).

The aim of implementing partners should be to maintain stockpile management processes at RRPL 1 as a minimum. This will often reduce risk significantly. Ongoing and gradual improvements could then be made to the stockpile management infrastructure and processes as staff development improves and further resources become available. These additional actions would equate to RRPLs 2 and 3.

The RRPLs are determined by calculating a weighted score of questions about a particular ammunition stockpile. A checklist is available at: <https://www.un.org/disarmament/un-safeguard/risk-reduction-process-levels/>.

The IATG are reviewed on a regular basis to reflect developing ammunition stockpile management norms and practices, and to incorporate changes due to changing international regulations and requirements. The IATG are also available in multiple languages.

The latest version of each guideline, together with practical IATG implementation support tools, can be found at <https://www.un.org/disarmament/un-safeguard/>.

Glossary of terms and definitions

1 Scope

This module of the International Ammunition Technical Guidelines (IATG) compiles the terms and definitions used in all other IATG modules.

2 Informative references

A list of informative references is given at Annex A in the form of a bibliography which lists additional documents that contain other useful information on terms and definitions related to the stockpile management of conventional ammunition. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

3 Terms and definitions

The terms and definitions used throughout IATG have been approached from a top down approach as follows:

- a) ISO terms and definitions have primacy as they have already been agreed by the 140+ participant Member States in the ISO process;
- b) terms and definitions contained within relevant international treaties and agreements, (i.e. the Convention on Certain Weapons (CCW));
- c) the next level is that terms and definitions used in IMAS,¹ IDDRS² and ISACS³ are used, as again these have been endorsed by the UN;
- d) the next level is regional terms and definitions (such as NATO AAP-6, Nairobi Guidelines, SEESAC etc);
- e) by this stage most terms and definitions have been covered, so at this stage appropriate national level terms have been selected; and
- f) finally, any remaining terms and definitions have been developed by the IATG drafting team.

For the purposes of all modules of the International Ammunition Technical Guidelines the following terms and definitions shall apply.

3.1

abandoned explosive ordnance (AXO)

explosive ordnance that has not been used during an armed conflict, that has been left behind or dumped by a party to an armed conflict, and which is no longer under control of the party that left it behind or dumped it. Abandoned explosive ordnance may or may not have been primed, fuzed, armed or otherwise prepared for use.

3.2

above ground storage

storage in **explosive storehouses**, with or without earth cover, or in open stacks, at surface level. An accidental event at such a site may result in blast, fire and projections.

¹ International Mine Action Standards (IMAS).

² International Disarmament, Demobilization and Reintegration Standards (IDDRS).

³ International Small Arms Control Standards (ISACS).

3.3

acceptor charge

charge of explosive receiving a stimulus from another charge.

3.4

access control

a system which enables an authority to control access to areas and resources in a given physical facility.

NOTE 1 An access control system, within the field of physical security, is generally seen as the second layer in the security of a physical structure.

3.5

accident

an undesired event, which results in **harm**.

3.6

accounting

information management systems and associated operating procedures that are designed to record, numerically monitor, verify, issue and receive **ammunition** in organisations and stockpiles.

3.7

all up weight (AUW)

the AUW is the total weight of the **munition**, or munitions, including packaging and palletisation.

3.8

ammunition

a complete device, (e.g. missile, shell, mine, demolition store etc.) charged with explosives, propellants, pyrotechnics, initiating composition or nuclear, biological or chemical material for use in connection with offence, or defence, or training, or non-operational purposes, including those parts of weapons systems containing explosives. (c.f. **munition**).

3.9

ammunition accident

any incident involving ammunition or explosives that results in, or has potential to result in, death or injury to a person(s) and/or damage to equipment and/or property, military or civilian.

3.10

ammunition container

an approved box, cylinder, tin plate liner or receptacle that is designed to contain **explosive articles** or explosives substances. It normally forms part of an ammunition container assembly.

3.11

ammunition depot

an installation devoted primarily to the receipt, storage, issue and maintenance of **ammunition**.

3.12

ammunition process building (APB)

a building or area that contains or is intended to contain one or more of the following activities: maintenance, preparation, inspection, breakdown, renovation, test or repair of **ammunition** and **explosives**.

3.13

ammunition store (unit)

an authorised building containing **ammunition** on unit account.

3.14

anti-static floor

a floor, having a resistance to earth of not less than 5×10^4 ohms and not more than 2×10^6 ohms, which is sufficiently electrically conductive to disperse an accumulated static electrical charge.

3.15

artillery ammunition

medium and large-calibre **ammunition** for weapons, such as mortars, howitzers, missile and rocket launchers, that are primarily designed to fire indirectly at targets. (c.f. **ammunition**).

3.16

attractive to criminals and terrorist organisations (ACTO)

those ammunition items considered to be of immediate value to a terrorist or criminal.

NOTE 1 For example, **detonators**, **bulk explosive**, shoulder launched anti-tank weapons or **MANPADS**.

3.17

ban

a moratorium placed on the issue and use of **ammunition**, usually pending technical investigation.

3.18

bastion (gabion)

a cage within which can be placed various fill materials (e.g. gravel, sand, rock), and which is used for building walls, barricades and protective barriers.

3.19

barricade

a natural ground feature, artificial mound, traverse or wall which, for storage purposes, is capable of preventing direct communication of explosion from one quantity of **explosives** to another although it may be destroyed in the process.

3.20

batch

a discrete quantity of ammunition which is assembled from two or more lotted components (one of which will be the Primary Governing Component,) is as homogeneous as possible and, under similar conditions, may be expected to give uniform performance.

NOTE 1 Within the batch a number of sub-batches may be found.

3.21

batch number

a number allocated to a batch which uniquely identifies that batch.

3.22

batch key identity

a term used to identify a particular lot or batch of ammunition.

3.23

black powder

intimate mixture of sodium nitrate or potassium nitrate with charcoal or other carbon, with or without sulphur.

3.24

bomb

explosive **munition**, not subject to centrifugal forces and with a nearly vertical angle of descent, usually delivered from an aircraft or mortar.

3.25

bonding

the process of connecting together metal parts so that they provide low electrical resistance contact for direct current (DC) and alternating current (AC) frequencies.

3.26

booster

explosive device used as a **donor charge** to amplify the energy to the **acceptor charge**.

3.27

bi-propellant / bi-fuel

a liquid **propellant** in the form of two substances, a fuel and an **oxidizer**; they are stored separately and brought together when their mutual chemical reaction is required to produce thrust.

3.28

blank cartridge

used to simulate a live round. Primarily used for training, containing **propellant** and a wad but no bullet or other projectile. Generally used for training purposes. Not designed for offensive military use.

3.29

blast

a destructive wave of gases or air produced in the surrounding atmosphere by an **explosion**. The blast includes a shock front, high pressure behind the shock front and a rarefaction following the high pressure.

the propagation through the air of a high pressure wave, produced by the deflagration or detonation of an explosive material.

3.30

blind

a prepared **explosive** store which, though initiated, has failed to arm as intended or which has failed to explode after being armed (see **misfire**). Alternatively, an **explosives** item that fails to function correctly after initiation.

3.31

breech explosion

the uncontrolled initiation of a **round** in the breech of a weapon when fired. The round may not have been chambered or only partially chambered.

3.32

breech loading (BL)

originally 'Breech Loading', now the symbol for a system of rear obturation in which the sealing is achieved by means of a pad in the breech mechanism which presses against the surface in the rear of the chamber of the gun.

3.33

brisance

the shattering effect of an **explosive** or **explosion**.

3.34

bulk explosives

service charges of **explosives** which are generally removed from their containers before use, such as Charges Demolition.

explosive which is not cartridge and can be loaded by pouring (under gravity), pumping or other pneumatic means.

3.35

burning

the propagation of an exothermic reaction by conduction, convection and radiation.

3.36

burning ground

an area authorised for the destruction of **ammunition** and **explosives** by burning.

3.37

cartridge

a cased quantity of **explosives** (excluding rocket motors) complete with its own means of ignition.

ammunition, ready for firing, wherein the propelling charge(s), its primer, and the projectile with its fuze are assembled in one unit for handling and firing.

3.38

cartridge case

an item which is designed to hold an ammunition primer and propellant and to which a projectile may be affixed; its profile and size conform to the chamber of the weapon in which the round is fired.

3.39

cartridged explosive

explosive contained in a casing (usually cylindrical) formed from paper, cardboard, plastics or other material and used in this form.

3.40

categories of buildings and areas

buildings and areas containing, or likely to contain, military **explosives** are divided into categories according to the nature of the explosives therein:

NOTE 1 Category A. Buildings containing, or liable to contain, explosives which produce flammable vapours, but not explosives dust.

NOTE 2 Category A, Zone 0. An area in a Category A building in which a flammable gas or vapour and air mixture is continuously present, or is present for long periods.

NOTE 3 Category A, Zone 1. An area in a Category A building in which a flammable gas or vapour and air mixture is likely to occur during normal working.

NOTE 4 Category A, Zone 2. An area in a Category A building in which a flammable gas or vapour and air mixture is not likely to occur in normal operation and, if it occurs, it will exist for only a short time.

NOTE 5 Category B. Buildings containing or likely to contain exposed explosives or explosives which may give rise to an atmosphere of explosives dust, but not flammable vapour.

NOTE 6 Category C. Buildings containing or likely to contain explosives which do not give rise to flammable vapours or explosives dust.

NOTE 7 Category D. These are buildings, usually small Unit Stores, containing or likely to contain packaged explosives that do not give rise to flammable vapours or explosives dust but limited to certain natures and quantities of ammunition.

NOTE 8 For buildings/areas to qualify for use within these categories, electrical equipment and installations and MHE must strictly comply with prescribed specifications.

3.41

CEN (Committee European Normalisation)

CEN is the European Committee for Standardization.

NOTE 1 A CEN standard has the same authority within the EU as an ISO standard.

3.42

characterization

the determination of attributes of a materiel or a substance which define the capability of a materiel or a substance to fulfil particular requirements.

3.43

charge

a bagged, wrapped or cased quantity of **explosives** without its own integral means of ignition. Secondary means of ignition may or may not be incorporated.

3.44

charge (demolition)

a charge made up from **bulk explosive** for the express purpose of destruction by **blast** or **brisance**.

3.45

charge (expelling)

a charge of generally low or deflagrating **explosive** designed to eject the payload from a parent munitions dispenser by gas pressure without damage to the **sub-munitions**.

3.46

charge (propelling)

articles consisting of a **propellant** charge in any physical form, with or without a casing, for use in artillery, mortars, rockets, or as a component of **rocket motors**.

3.47

chemical stability of propellants

resistance to deterioration by chemical reaction.

3.48

classification of explosives

the allocation of a UN **Hazard Division**, **Compatibility Group** and Serial Number to an **explosive**, according to its general properties and characteristics and to those of its packaging, during storage and transport.

3.49

cluster munitions

containers designed to disperse or release multiple **sub-munitions**.

3.50

compatibility

absence of reactions between explosives and other component within a munition, leading to unacceptable changes in physical properties, sensitiveness or sensitivity of explosives in the munition.

3.51

compatibility group (CG)

grouping identified by a letter which, when referenced to a compatibility table, shows those **explosives** which may be stored or transported together without significantly increasing the probability of an **accident** or, for a given quantity, the magnitude of the effects of such an accident. Codes are used to indicate which **natures** may be safely stored together.

3.52

commercial off the shelf (CoTS)

an **equipment** that is available direct from the manufacturer and requires no further development prior to introduction into service apart from minor modifications.

3.53

conducting floor

a floor having a resistance to earth of not more than 5×10^4 ohms.

3.54

confinement

the characteristics of the casing of a charge, which restrict the expansion of the decomposition products when the explosive substance reacts.

3.55

constraint

the imposition of a limitation or restriction in the use, transportation, carriage, issue, storage or inspection of a **munition**.

3.56

contraband / controlled articles / prohibited articles

articles normally prohibited in an **explosives area**, store or vehicle carrying **explosives** unless in an authorised container. Items included are matches, lighters, smoking material and articles, tobacco in any form, alcoholic beverages etc. Additional items as so defined in local orders.

3.57

contractor

a person or persons, company or any other organisation entering into a business agreement for the performance of works services or the supply of goods, with the agreement being legally enforceable.

3.58

conventional ammunition

a complete device, (e.g. missile, shell, mine, demolition store etc.) charged with explosives, propellants, pyrotechnics or initiating composition for use in connection with offence, or defence, or training, or non-operational purposes, including those parts of weapons systems containing explosives. (c.f. **munition**).

3.59

'cooking-off'

the premature **detonation** or **deflagration** of **ammunition** due to the influence of heat from the surrounding environment.

the premature ignition of an energetic material due to external heat.

3.60

cost benefit analysis (CBA)

a process that involves, whether explicitly or implicitly, weighing the total expected costs against the total expected benefits of one or more actions in order to choose the best, most cost effective or most profitable option.

a technique designed to determine the feasibility of a project or plan by quantifying its costs and benefits.

3.61

cost effectiveness

an assessment of the balance between a system's performance and its whole life costs.

3.62

critical detonation diameter

minimum diameter of a cylindrical explosive charge at which stable propagation of a stable detonation is ensured. This diameter is dependent on the confinement of the charge.

3.63

danger area

(c.f. **explosion danger area**).

3.64

dangerous goods

items classified under the United Nations (UN) system within Classes 1 to 9 in accordance with the UN Transport of Dangerous Goods Regulations (Orange Book).

3.65

debris

any portion of the natural ground or of a structure or material (not part of the functioning **explosive**) that is propelled from the site of an **explosion**. Also known as projections.

3.66

decomposition

chemical reaction of a substance which is not a detonation or deflagration, resulting in significant change in properties.

3.67

deflagration

reaction of combustion through a substance at sub-sonic velocity in the reacting substance.

the conversion of **explosives** into gaseous products by chemical reactions at or near the surface of the explosive.

a rapid chemical reaction in which the output of heat is sufficient to enable the reaction to proceed and be accelerated without input of heat from another source.

NOTE 1 Deflagration is a surface phenomenon with the reaction products flowing away from the unreacted material normal to the surface at subsonic velocity. The effect of a deflagration under confinement is an **explosion**. Confinement of the reaction increases the pressure rate of reaction and temperature and may cause transition into a **detonation**.

3.68

deflagration to detonation transition (DDT)

the transition to detonation from an initial burning reaction.

3.69

demilitarization

the complete range of processes that render weapons, **ammunition** and **explosives** unfit for their originally intended purpose.

NOTE 1 Demilitarization not only involves the final destruction process, but also includes all of the other transport, storage, accounting and pre-processing operations that are equally critical to achieving the final result.

3.70

demolition

the destruction of structures, facilities or materiel by the use of fire, water, explosives, mechanical or other means.

3.71

destruction

the process of final conversion of weapons, **ammunition** and **explosives** into an inert state so that the item can no longer function as designed.

3.72

destruction (in situ)

the destruction of any item of **explosive ordnance** by **explosives** without moving the item from where it was found - normally by placing an **explosive** charge alongside.

3.73

detonating cord

article consisting of a core of detonating **explosive** (usually **PETN**) surrounded by a flexible outer covering or clad by a soft metal tube.

3.74

detonation

reaction which moves through an **explosive** material at supersonic velocity in the reacting material.

the rapid conversion of **explosives** into gaseous products by means of a shock wave passing through the explosive.

an exothermic reaction wave which follows, and also maintains, a supersonic shock front in an **explosive**.

decomposition reaction in which the zone of chemical reaction propagates through the initial medium at a supersonic velocity behind a shock front.

NOTE 1 Typically, the velocity of such a shock wave is more than two orders of magnitude higher than a fast **deflagration**).

3.75

detonation velocity

velocity at which the **detonation** travels through the **explosive** charge or column in m/s.

3.76

detonator

a device containing a sensitive **explosive** intended to produce a **detonation** wave.

article consisting of a small metal or plastics tube containing a **primary explosives** charge, such as lead azide, and a **secondary explosives** charge, such as **PETN**, or other combinations of explosives normally not exceeding a mass of 2g.

3.77

detonator (delay)

detonator assembly in which a time delay between initiation and detonation is included.

NOTE 1 Delay detonators can be electric, electronic or non-electric.

3.78

detonator (electric)

detonator assembly activated by means of an electric current.

NOTE 1 Electric detonators include direct current (DC) and alternating current (AC) (magnetically coupled) systems.

3.79

detonator (electronic)

detonator assembly in which the time delay is achieved by means of an electronic chip activated by an electric or non-electric stimuli.

3.80

detonator (instantaneous)

detonator with no nominal time delay.

3.81

detonator (non-electric)

detonator assembly initiated by means of shock tube or other means not involving electrical stimuli as the primary mode of initiation.

3.82

detonator (plain)

instantaneous detonator supplied without means of initiation.

NOTE 1 Plain detonators are usually initiated by means of detonating cord, safety fuze, pyrotechnic igniter or shock tube.

3.83

diurnal cycling

the exposure of **ammunition** and **explosives** to the temperature changes induced by day, night and change of season.

3.84

disposal (logistic)

the removal of **ammunition** and **explosives** from a **stockpile** by the utilisation of a variety of methods, (that may not necessarily involve destruction). Logistic disposal may or may not require the use of **render safe procedures**.

NOTE 1 There are six traditional methods of disposal used by armed forces around the world: 1) sale; 2) gift; 3) use for training; 4) deep sea dumping; 5) land fill; and 6) destruction or demilitarization.⁴

3.85

disposal site

an area authorised for the destruction of **ammunition** and **explosives** by **detonation** and burning.

3.86

diversion

the shifting of weapons, ammunition or explosives from the legal market or owner to an illegal market or owner as a result of losses, theft, leakage or proliferation from a stockpile or other source.

3.87

donor

all sources of funding, including by the host nation government.

3.88

donor charge

charge of explosive supplying a stimulus to another charge.

3.89

donor explosive

serviceable **explosive** used in demolitions to initiate and destroy unserviceable **ammunition** and **explosives** during Explosive Ordnance Disposal (**EOD**) operations.

3.90

drill

an inert replica of **ammunition** specifically manufactured for drill, display or instructional purposes.

3.91

ECVET

European Credit system for Vocational Education and Training.

⁴ This is an obvious area where confusion can be caused due to the use of incorrect terminology or translation. One party may assume that when the other mentions disposal they are really talking about destruction. This may not be the case.

3.92

electrical category

the standard of electrical installations and equipment required in an **explosive** building. The electrical category is the same as the category allocated to the building or area. (See also **categories of buildings and areas**).

3.93

electro-explosive device (EED)

a one-shot **explosive** or **pyrotechnic** device used as the initiating element in an **explosive** or mechanical train and which is activated by the application of electrical energy.

3.94

equipment

a physical, mechanical, electrical and/or electronic system which is used to enhance human activities, procedures and practices.

3.95

equivalence (TNT)

when **explosives** having a significantly more or less powerful effect than **TNT** are being considered, a TNT equivalent may be used to determine the appropriate **quantity distance(s)**.

3.96

error in drill

an Error in Drill is an incident where the authorised and/or laid down drills are found to be at fault and require to be revised.

3.97

error of drill

an Error of Drill is an incident where the authorised and/or laid down drills have not been followed correctly.

3.98

EUExcert

European Union Explosives Certification project.

3.99

evaluation

the analysis of a result or a series of results to establish the quantitative and qualitative effectiveness and worth of software, a component, **equipment** or system, within the environment in which it will operate.

NOTE 1 Definition when used in context of equipment test and evaluation.

a process that attempts to determine as systematically and objectively as possible the merit or value of an intervention.

NOTE 1 The word "objectively" indicates the need to achieve a balanced analysis, recognising bias and reconciling perspectives of different stakeholders (all those interested in, and affected by programmes, including beneficiaries as primary stakeholders) through use of different sources and methods.

NOTE 2 Evaluation is considered to be a strategic exercise.

3.100

explosion

sudden release of energy producing a **blast** effect with the possible projection of **fragments**.

NOTE 1 The term explosion encompasses fast combustion, deflagration and detonation.

3.101

explosion consequence analysis (ECA)

a structured process, utilising explosives science and explosives engineering, to provide scientific evidence of the potential risk to individuals and property from blast effects and fragmentation in the event of an undesirable explosive event.

3.102

explosion danger area

the area surrounding an explosive facility determined by the distances any blast or fragments may be expected to travel due to the **detonation** of **ammunition**.

3.103

explosive

solid or liquid substance or mixture of substances which, by intrinsic chemical reaction is capable of producing an **explosion**.

a substance or mixture of substances, which, under external influences, is capable of rapidly releasing energy in the form of gases and heat.

3.104

explosive storehouse (ESH)

any building or structure approved for the storage of **explosive** materials. (c.f. **magazine**).

3.105

explosive materials

components or ancillary items which contain some **explosives** or behave in an **explosive** manner, such as **detonators** and **primers**.

3.106

explosive ordnance (EO)

all **munitions** containing **explosives**, nuclear fission or fusion materials and biological and chemical agents. This includes **bombs** and warheads; guided and ballistic **missiles**; artillery, mortar, rocket and small arms ammunition; all mines, torpedoes and depth charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; **electro-explosive devices**; clandestine and **improvised explosive devices**; and all similar or related items or components explosive in nature.

3.107

explosive ordnance disposal (EOD)

the detection, identification, evaluation, render safe, recovery and final disposal of unexploded **explosive ordnance**.

NOTE 1 EOD may also include the rendering safe and/or disposal of such explosive ordnance which have become hazardous by damage or deterioration, when the disposal of such explosive ordnance is beyond the capabilities of those personnel normally assigned the responsibility for routine disposal. The level of EOD response is dictated by the condition of the ammunition, its level of deterioration and the way that the local community handles it.

3.108

explosive remnants of war (ERW)

unexploded ordnance (UXO) and **abandoned explosive ordnance (AXO)** that remain after the end of an armed conflict.

3.109

explosive safeguarding map

a map produced by the appropriate authority to define areas into which **inhabited buildings** should not be allowed to encroach.

3.110

explosives area

an area used for the handling, processing and storing of **ammunition** and **explosives**. Where there is no fence, it is taken as being the area within a radius of 50m from any building or stack containing explosives.

3.111

explosives classification

a division of explosives according to the risk they present when initiated in storage and transport. See also **Hazard Division, Compatibility Group** and **Classification**.

3.112

explosives limit (licence) (ELL)

the permitted amount of explosives at a **potential explosion site**. Also known as Explosives Licence Limit.

3.113

explosives storage area (ESA)

an area used for the storage of **explosives** and within which authorised **ammunition** or **missile** preparation, inspection and rectification operations may also be carried out.

3.114

explosives storehouse

a building designed and erected for the sole purpose of storing **explosives** or a building modified, adopted or appropriated for that purpose and approved by a competent authority.

NOTE 1 Explosives storehouses are described according to their method of construction and use:

NOTE 2 **Above Ground**: A building at natural ground level, the roof and at least one side of which are exposed to the open air.

NOTE 3 **Bunker**: A building at natural ground level, the roof and sides of which are covered by earth, access being provided in one side.

NOTE 4 **Igloo**: A storehouse normally built at ground level, earth covered and constructed in corrugated steel or reinforced concrete, provided with a strong headwall and door(s). Earth covers the roof, the sides and the rear. The storehouse and its earth cover are designed to stringent criteria for resistance to external blast loading and attack by high velocity projections. The cross-section of the igloo may be semicircular, elliptical, rectangular etc.

NOTE 5 **Underground**: A natural or excavated space underground with a ceiling not less than 600mm below the natural ground level, specially adapted for the storage of explosives. Access is by tunnel or lift-shaft.

NOTE 6 **Semi-underground**: A building constructed into a hillside with the front face exposed to the open air.

3.115

exposed site (ES)

a **magazine**, cell, stack, truck or trailer loaded with **ammunition**, explosives workshop, **inhabited building**, assembly place or **public traffic route** which is exposed to the effects of an **explosion** (or fire) at the **potential explosion site** under consideration.

3.116

failure

an event in which any system, **equipment**, component or sub-component does not perform as previously specified.

NOTE 1 Failures may be classified as to cause, degree, relevance, dependence and responsibility.

3.117

fault

any error in the make-up, and/or marking, and/or deterioration in the physical state of the ammunition, explosives, ammunition packages or ammunition containers.

3.118

feasibility study

a study to establish the feasibility of the **statement of tasks and output (STO)** in terms of technology, costs and time.

3.119

fragment

any solid material in contact with **explosive** or surrounding it closely that is propelled from the site of an explosion. It is mainly applied to the metal casing and packaging.

3.120

fragmentation hazard zone

the area that could be reached by **fragmentation** in the case of **detonation** for a given explosive item, **explosive** storage or **UXO** contaminated area.

NOTE 1 Several factors should be considered when determining this zone: the amount of explosive, body construction, type of material, ground conditions etc.

3.121

fuse

a device for protecting a circuit against damage from an excess current by the melting of a fuse element to break the circuit.

3.122

fuze

a device that initiates an **explosive** train.

3.123

gabion (bastion)

a cage within which can be placed various fill materials (e.g. gravel, sand, rock), and which is used for building walls, barricades and protective barriers.

3.124

grenade

munitions that are designed to be thrown by hand or to be launched from a rifle. Excludes rocket-propelled grenades. (c.f. **rocket**).

3.125

guided missiles

guided missiles consist of **propellant**-type motors fitted with warheads containing **high explosive** or other active agent and equipped with electronic guidance devices.

3.126

harm

physical injury or damage to the **health** of people, or damage to property or the environment.

3.127

hazard

potential source of **harm**.

3.128

hazard class

the UN recommended system of nine classes for identifying **dangerous goods**. Class 1 identifies **explosives**.

3.129

hazard classification code (HCC)

an alpha-numeric symbol which denotes the complete HCC for a particular nature. The code consists of two or three digits indicating the **hazard division** followed by a letter corresponding to the **compatibility group**, e.g. 1.3G.

3.130

hazard divisions (HD)

the UN classification system that identifies hazardous substances.

NOTE 1 For example, Class 1 (Explosives) is subdivided into 6 Hazard Divisions.

3.131

health

in relation to work, indicated not merely by the absence of disease or infirmity, it also includes the physical and mental elements affecting health which are directly related to safety and hygiene at work.

3.132

heavy walled building

a building of non-combustible construction used for **explosive** storage with walls of at least 450 mm reinforced concrete (RC), or 700 mm brick, or equivalent penetration resistance of other materials, with or without a **protective roof**. The door is normally strengthened if it faces another **potential explosion site**.

3.133

high explosive (HE)

substance or mixture of substances that can undergo a fast internal **decomposition** reaction leading to a **detonation** in its normal use.

a substance or mixture of substances which, in their application as primary, booster or main charge in **ammunition** is required to detonate.

3.134

high velocity projections

debris or fragments at high velocity as the result of a **detonation / explosion** and that may have sufficient remaining energy to propagate an detonation/explosion to another stack.

3.135

humidity indicator

a device used to show, by change of colour spots or markings, that moisture has invaded a store or container.

3.136

hypergolic reaction

the spontaneous ignition of two components - particularly relevant in the case of **liquid bipropellants**.

3.137

igloo

a **magazine**, normally built at ground level, with earth-covered roof, sides and rear, and constructed in corrugated steel or reinforced concrete.

NOTE 1 The front wall may/may not be protected by a barricade, which can provide significant protection to an igloo's contents from an explosion at an adjacent explosive location.

3.138

ignition

the initial heating of a deflagrating **explosive** or **pyrotechnic** composition, by flame or other source of heat, up to its point of inflammation. Means of ignition may include **propellant**, **primers**, igniters, squibs, fuze lighters, etc.

3.139

illuminating munition

ammunition designed to produce a single source of intense light for lighting-up an area. The term includes illuminating cartridges, grenades and projectiles; and illuminating and target identification bombs.

3.140

improvised explosive device (IED)

a device placed or fabricated in an improvised manner incorporating **explosive** material, destructive, lethal, noxious, incendiary, **pyrotechnic** materials or chemicals designed to destroy, disfigure, distract or harass. They may incorporate military stores, but are normally devised from non-military components.

3.141

incendiary munition

ammunition, containing an incendiary substance, which may be a solid, liquid or gel including **white phosphorus**.

3.142

incident

a generic term that includes all accidents, performance failures and faults involving ammunition or where ammunition is present.

3.143

incident involving explosives

a generic term that includes all **accidents**, faults and **performance failures** involving explosives, or where **explosives** are present.

3.144

inert

an item of **ammunition** that contains no **explosive**, **pyrotechnic**, **lachrymatory**, radioactive, chemical, biological or other toxic components or substances.

NOTE 1 An inert munition differs from a drill munition in that it has not necessarily been specifically manufactured for instructional purposes. The inert state of the munition may have resulted from a render safe procedure or other process to remove all dangerous components and substances. It also refers to the state of the munition during manufacture prior to the filling or fitting of explosive or hazardous components and substances. (c.f. **drill**; c.f. **lachrymatory ammunition**; c.f. **pyrotechnic**).

3.145

inhabited building

a building or structure occupied in whole or in part by people (usually civilian). Used synonymously with **occupied building**.

3.146

inhabited building distance (IBD)

the minimum permissible distance between **potential explosive sites** (PES) and non-associated **exposed sites** (ES) that requires a high degree of protection from an explosion.

NOTE 1 The IBD is a form of Outside Quantity Distance (OQD).

3.147

inside quantity distance (IQD)

the minimum permissible distance between a **potential explosion site (PES)** and an **exposed site (ES)** inside the **explosives area**.

3.148

inter-magazine distance (IMD)

the distance between a building or stack containing explosives to other such buildings or stacks which will prevent the direct propagation of explosions or fire from one to the other by missile, flame or blast.

NOTE 1 The IMD is a form of Inside Quantity Distance (IQD).

NOTE 2 Subsequent reactions (fire or detonation) may still occur at adjacent explosive locations that meet IMD, as a result of burning debris, high angle fragment impacts, building collapse, etc.

3.149

International Organization for Standardization (ISO)

NOTE 1 A worldwide federation of national bodies from over 130 countries. Its work results in international agreements which are published as ISO **standards** and **guides**. ISO is a NGO and the standards it develops are voluntary, although some (mainly those concerned with **health, safety** and environmental aspects) have been adopted by many countries as part of their regulatory framework. ISO deals with the full spectrum of human activities and many of the tasks and processes which contribute to **conventional ammunition stockpile management** have a relevant standard. A list of ISO standards and guides is given in the ISO Catalogue [www.iso.ch/infoe/catinfo/html].

NOTE 2 The International Ammunition Technical Guidelines have been developed to be compatible with ISO standards and guides. Adopting the ISO format and language provides some significant advantages including consistency of layout, use of internationally recognised terminology, and a greater acceptance by international, national and regional organisations that are accustomed to the ISO series of standards and guides.

3.150

intrusion detection system (IDS)

a security alarm system consisting of various types of alarms to detect the unauthorised intrusion into a room, structure, facility or area.

3.151

inventory management

the systems and processes that identify stockpile requirements, the condition of the stockpile, provide replenishment techniques and report actual and projected inventory status.

3.152

isolated storage

the storage of **explosives** in an unsafe or possibly unsafe condition in separate licensed accommodation away from all other explosives.

3.153

lachrymatory ammunition

ammunition containing chemical compounds that are designed to incapacitate by causing short-term tears or inflammation of the eyes.

3.154

level 1, 2 or 3

see risk reduction process level (RRPL).

3.155

light weapon

any man-portable lethal weapon designed for use by two or three persons serving as a crew (although some may be carried and used by a single person) that expels or launches, is designed

to expel or launch, or may be readily converted to expel or launch a shot, bullet or projectile by the action of an explosive.

NOTE 1 Includes, inter alia, heavy machine guns, hand-held under-barrel and mounted grenade launchers, portable anti-aircraft guns, portable anti-tank guns, recoilless rifles, portable launchers of anti-tank missile and rocket systems, portable launchers of anti-aircraft missile systems, and mortars of a calibre of less than 100 millimetres, as well as their parts, components and ammunition.

3.156
lightning protection system (LPS)

a system designed to protect against the effects of lightning discharges by providing a conductive path between the atmosphere above a structure and the general mass of earth so that the discharge can pass to earth with the minimum risk to the structure, its contents and occupants.

3.157
liquid propellant

any liquid that can be used for the chemical generation of gas at controlled rates and used for propulsion purposes.

3.158
lobbed munition

unexploded **ammunition** projected from an exploding building or stack. It may explode on impact.

3.159
logistic disposal

the removal of **ammunition** and **explosives** from a **stockpile** utilising a variety of methods, (that may not necessarily involve **destruction**).

NOTE 1 Logistic disposal may or may not require the use of **render safe procedures**.

3.160
lot

a lot is a predetermined quantity of ammunition or components which is as homogeneous as possible and, under similar conditions, may be expected to give uniform performance.

NOTE 1 A lot would normally be manufactured from the same raw materials, using the same production technique and in the same production run.

3.161
lot number

a number allocated to a lot which uniquely identifies that lot.

3.162
low order detonation

an incomplete and relatively slow **detonation**, being more nearly a combustion than an **explosion**.

3.163
luting

a mouldable substance to seal a space or to secure two components together.

3.164
magazine

any building, structure, or container approved for the storage of **explosive** materials. (c.f. **explosive storehouse (ESH)**).

3.165
making safe
(c.f. **render safe procedure (RSP)**).

3.166

marking

the application of marks - including colours, descriptive text and symbols - to **munitions**, parts and components thereof, and associated packaging, for the purposes of identifying, among other things, their role, operational features, and age; and the potential **hazards** posed by those munitions.

3.167

marshalling yard

groups of railway sidings in which freight trains are formed/reformed, or areas where road convoys are assembled.

3.168

mass explosion

an **explosion** which affects, practically instantaneously, virtually the entire quantity of explosives under consideration. The term usually relates to **detonation** but also applies to **deflagration** when the practical effects are similar (e.g. the mass deflagration of **propellant** under strong confinement so as to produce a bursting effect and a serious **hazard** from **debris**).

3.169

mass fire

a **deflagration** of the entire quantity of **explosives** under consideration under circumstances that avoid a bursting effect and a serious **hazard** from **debris**. A typical mass fire occurs in a few seconds at most, and produces extensive flame, intense radiant heat and minor projection effects.

3.170

maximum credible event / effective risk

in a given situation the greatest quantity of **explosives** which can function virtually at once to provide an explosion effect.

3.171

mine

an **explosive munition** designed to be placed under, on or near the ground or other surface area and to be actuated by the presence, proximity or contact of a person, land vehicle, aircraft or boat, including landing craft.⁵

3.172

misfire

ammunition that, when initiated, fails to fire or launch as intended.

3.173

missile

an armament store designed to be released from an aircraft or discharged from a gun or launcher towards a selected point usually to cause damage at that point.

3.174

moderate fire

a fire, comparable with that involving an ordinary commercial warehouse, which burns comparatively slowly and with a moderate flame radius. Some items may be projected from the fire a short distance.

3.175

mono-propellant

a **liquid propellant** in the form of a single substance requiring no additional chemical component (including oxygen from the air) for the production of thrust.

⁵ NATO (2007).

3.176

munition

a complete device charged with **explosives, propellants, pyrotechnics**, initiating composition, or nuclear, biological or chemical material for use in military operations, including **demolitions**. (c.f. **ammunition**).

3.177

munitions

ammunition, weapons and materials for use in military operations.

3.178

munition life assessment (MLA)

a systems approach to optimising the useful life of ammunition.

3.179

national authority

the government department(s), organisation(s) or institution(s) charged with the regulation, management, co-ordination and operation of conventional ammunition stockpile management activities.

3.180

national stockpile

the full range of **ammunition stockpiles** in a country under the control of separate organisations such as the police, military forces (both active and reserve), border guards, ammunition producing companies, etc. (c.f. **stockpile**).

NOTE 1 It includes all ammunition types, irrespective of classification (i.e. operational, training or awaiting disposal).

3.181

nature

the specific types of **ammunition**.

a means of categorising **ammunition** or **munitions** by their function (e.g. anti-tank ammunition, or riot control ammunition).

3.182

near miss

an occurrence, or potential occurrence, involving an **explosive**, or an occurrence potentially involving an explosive, which could have caused: 1) damage to the explosives; 2) damage to, or contamination of, military or civilian equipment, property or the environment; 3) injury to, or illness of, military personnel, Ministry of Defence (MoD) civilian personnel or members of the public; or 4) threat to the structural integrity of, or to cause damage to, military or civilian equipment, property or the environment.

3.183

neutralize

to alter the state of a piece of **ammunition** or **munition** so that it cannot explode, for example by replacing safety devices such as pins or rods into an **explosive** item to prevent the **fuze** or **igniter** from functioning.

NOTE 1 Neutralization does not make an item completely safe as removal of the safety devices will immediately make the item active again.

3.184

net explosive quantity (NEQ)

the total **explosive** content present in a container, **ammunition**, building etc, unless it has been determined that the effective quantity is significantly different from the actual quantity. It does not include such substances as **white phosphorous**, smoke or incendiary compositions unless these substances contribute significantly to the dominant **hazard** of the **hazard division** concerned.

NOTE 1 Sometimes referred to as Net Explosive Content (NEC), Net Explosive Mass (NEM) or Net Explosive Weight (NEW).

3.185

non-sparking material

material that will not produce a spark when struck with other tools, rocks, or hard surfaces.

NOTE 1 In ammunition depots, hand tools are usually made of non-ferrous, wood or brass materials.

3.186

open burning and open detonation (OBOD)

ammunition destruction methods using burning, **deflagration** and **detonation** techniques.

3.187

outside quantity distance (OQD)

the minimum permissible distance between a **potential explosion site (PES)** and an **exposed site (ES)** outside the **explosives area**.

3.188

over-pressure

the pressure resulting from the **blast** wave of an **explosion**. It is referred to as 'positive' when it exceeds atmospheric pressure and 'negative' when during the passage of the wave the resulting pressures are less than the atmospheric pressure.

3.189

oxidant / oxidiser / oxidising agent

a substance that is combined with a fuel to produce an energetic material.

3.190

pallet

a portable item of equipment affording a platform upon which goods may be placed to form a unit load for lifting by means of rigid forks or blades.

3.191

performance failure

a performance failure is the failure of the **ammunition** or any of its constituent parts, including the **explosives**, to function as designed.

3.192

perimeter intrusion detection system (PIDS)

a security alarm system consisting of various types of alarms to detect the unauthorised intrusion into a facility or area.

3.193

personal protective equipment (PPE)

all **equipment** and clothing designed to provide protection, which is intended to be worn or held by an employee at work and which protects him/her against one or more **risks** to his/her **safety** or **health**.

3.194

phosphorous

a flare / smoke producing incendiary weapon, or smoke-screening agent, made from a common allotrope of the chemical element phosphorus.

3.195

potential explosion site (PES)

the location of a quantity of **explosives** that will create a **blast**, **fragment**, thermal or **debris** hazard in the event of an **explosion** of its content.

3.196

primary explosive

an **explosive** substance which is sensitive to spark, friction, impact or flame and is capable of promoting initiation in an unconfined state.

an **explosive** that is extremely sensitive to stimuli such as heat, friction and/or shock and requires special care in handling. Generally, primary explosives are synonymous with initiating explosives.

3.197

**primary governing component
(c.f. batching component)**

the component in a batch which is considered to be of major importance to the correct functioning of the round.

NOTE 1 This component governs the size, homogeneity and identity of a batch. An ammunition batch contains only one lot of the primary governing component.

3.198

primer

a self-contained **munition** which is fitted into a cartridge case or firing mechanism and provides the means of igniting the **propellant** charge.

3.199

process building distance (PBD)

the minimum permissible distance from a building or stack containing explosives to a Process Building, or from a Process Building to another Process Building, which will provide a reasonable degree of immunity for the operatives within the Process Building(s), and a high degree of protection against immediate or subsequent propagation of explosions.

NOTE 1 The PBD is a form of Inside Quantity Distance (IQD).

3.200

processing

the activities undertaken in a process facility that involve building, repair, refurbishment, breakdown, test and inspection of **explosives articles** and their components.

3.201

procurement

the process of research, development and production or purchase which leads to **ammunition** or an **equipment** being accepted as suitable for use, and continues with the provision of spares and post design services throughout the life of the ammunition or equipment.

3.202

projectile

An object capable of being propelled by a force normally from a gun, and continuing in motion by virtue of its kinetic energy.

3.203

proliferation

the increase or spread of weapons and ammunition to users.

3.204

proof

the functional testing or firing of **ammunition** and **explosives** to ensure **safety** and **stability** in storage and intended use.

3.205

propagation of detonation

ability to maintain a **detonation** front throughout the whole mass of an **explosive**.

3.206

propellant

deflagrating **explosive** used for propulsion.

a substance that is used to move an object by applying a motive force. This may or may not involve some form of chemical reaction. It may be a gas, liquid, or, before the chemical reaction, a solid. Chemical propellants are most usually used to project **ammunition warheads**.

a substance on its own or in a mixture with other substances that can be used for the chemical generation of gases at the controlled rates required for propulsive purposes.

NOTE 1 Propellants can also be used as components of gas generators or other items.

3.207

propellant stabiliser

a substance added to single or double base propellants to retard decomposition.

3.208

propellant surveillance

the periodical testing of propellants, e.g. by determination of stabiliser content, in order to monitor deterioration. This is mainly applicable to double and **single base** propellants which contain nitrate esters.

3.209

protected roof

a roof of a nominal minimum of 150 mm reinforced concrete (RC), or its equivalent, designed to protect the contents of a **storehouse** from projections and **lobbed** items. The roof should not collapse if the walls are damaged.

3.210

protective measures

means used to reduce **risk**.

3.211

public traffic route (PTR)

a road used for general public traffic; a railway outside the **explosives area** which is used for public passenger traffic; a waterway, such as a river having tidal water and a canal, used by passenger vessels.

3.212

public traffic route distance (PTRD)

the minimum permissible distance between a potential explosion site (PES) and public traffic routes which is such that the ignition or explosion of explosives at the PES will not cause intolerable danger to the occupants of vehicles at an exposed site (ES).

NOTE 1 The PTRD is a form of Outside Quantity Distance (OQD).

3.213

purple line

a continuous line drawn on a map or plan of an **explosives** storage location which encompasses the **explosives area** and defines the minimum permissible distance between a **potential explosion site** and **inhabited buildings** which are by definition of vulnerable construction. It is usually at twice the yellow line or normal **inhabited building distance** determined by **blast** considerations. Additionally, the construction of new inhabited buildings of curtain-wall construction or high rise buildings is restricted. The area within the Purple Line is known as the Purple Zone.

3.214

pyrophoric

a substance capable of spontaneous ignition when exposed to air, such as **white phosphorous**.

3.215

pyrotechnic

a device or material that can be ignited to produce light, smoke, or noise.

3.216

qualitative risk assessment

qualitative risk assessments are descriptive versus measurable.

NOTE 1 This is by far the most widely used approach to risk analysis. Probability data is not required and only estimated potential loss is used.

3.217

quality

degree to which a set of inherent characteristics fulfils requirements.

3.218

quality assurance (QA)

part of **quality management** focused on providing confidence that **quality** requirements will be met.

3.219

quality control (QC)

part of **quality management** focused on fulfilling **quality** requirements.

3.220

quality management

coordinated activities to direct and control an organisation with regard to **quality**.

3.221

quantitative risk assessment

a method of estimating and compounding the approximate probability of an accidental **explosion** with that of fatalities and other losses. This enables professional judgement to be applied as to whether or not the risk meets the ALARP⁶ principal.

3.222

quantity distance

the minimum permissible distance required between a **potential explosion site** (PES) and an **exposed site** (ES).

3.223

quick firing (QF)

originally 'Quick-Firing', now the symbol for a system of rear obturation in which sealing is achieved by a **cartridge case** which expands against the chamber of a gun. Ignition of the **propellant** is by means of a **primer** in the base of the cartridge case. With QF 'fixed' **ammunition**, the cartridge case is firmly attached to the projectile. With QF 'separate' ammunition, the cartridge case is separate from the projectile, whilst with QF semi-fixed the shell is a free fit in the cartridge case.

3.224

RDX (1, 3, 5-triazacyclohexane)

a military **explosive** which is used extensively as an explosive in many **munitions** formulations, especially in artillery shells.

⁶ As Low As Reasonably Practicable.

NOTE 1 RDX is relatively insensitive; it has a high chemical stability, although lower than that of **TNT**. RDX is never handled pure and dry because of the danger of accidental **explosion**. It is used as a component in explosive mixtures, especially plastic explosives.

3.225

render safe procedure (RSP)

the application of special **explosive ordnance disposal** methods and tools to provide for the interruption of functions or separation of essential components to prevent an unacceptable **detonation**.

3.226

reserve stock

the quantity of stockpiled **explosive ordnance** used to cover additional replacement or repair needs. This does not include **explosive ordnance** that is stored awaiting issue to reserve unit personnel. In peacetime, the reserve stock is only used in order to replace explosive ordnance of active units or reserve units that has been used or is in need of repair, is confirmed to have been lost, has been taken out of service due to irreparable damage, or is in transit to or from manufacturers or under civilian maintenance. In wartime or during a period of crisis, the reserve stock serves to replace explosive ordnance used in combat.

3.227

restricted area

an area under jurisdiction in which special **security** measures are employed to prevent unauthorised entry or to safeguard property or material.

3.228

residual risk

the remaining potential for **harm** to persons, property or the environment following all possible efforts to reduce predictable **hazards**.

3.229

risk

combination of the probability of occurrence of **harm** and the severity of that harm.

3.230

risk analysis

systematic use of available information to identify **hazards** and to estimate the **risk**.

3.231

risk assessment

the overall process comprising a **risk analysis** and a **risk evaluation**.

the objective evaluation of **risk** in a manner in which assumptions and uncertainties are clearly considered and presented.

the determination of the quantitative or qualitative value of **risk** related to a concrete situation and a recognized threat.

3.232

risk evaluation

the process based on **risk analysis** to determine whether the **tolerable risk** has been achieved.

3.233

risk management

the complete risk-based decision-making process.

3.234

risk reduction

actions taken to lessen the probability, negative consequences or both, associated with a particular **risk**.

3.235

risk reduction process level 1 (RRPL 1)

basic safety precautions are in place to reduce the risk of undesirable explosive events during ammunition storage, but fatalities and injuries to individuals in local civilian communities may still occur.

3.236

risk reduction process level 2 (RRPL 2)

safety precautions, in the form of appropriate Separation and Quantity Distances, have been implemented to reduce the risk of fatalities and injuries to individuals within local communities to a tolerable level.

3.237

risk reduction process level 3 (RRPL 3)

a safe, secure, effective and efficient conventional ammunition stockpile management system is in place that is fully in line with international best practices.

3.238

rocket

munitions consisting of a **rocket motor** and a payload, which may be an **explosive warhead** or other device.

NOTE 1 The term often includes both guided and unguided missiles, although it traditionally referred to unguided missiles.

3.239

rocket motor

articles consisting of a solid, liquid or **hypergolic** fuel contained in a cylinder fitted with one or more nozzles. They are designed to propel a **rocket** or a **guided missile**.

3.240

round

a complete assembly of a projectile (with or without **fuze**), the propelling charge in a **cartridge case**, and the means of igniting the propelling charge. The word is also used in the expression 'supply by complete rounds' meaning that all the components necessary for the **ammunition** to be fired are issued together. For instance, with breech loading (BL) ammunition, the complete round consists of a shell, charge, fuze and **primer**.

3.241

sabotage

destructive or obstructive action designed to hinder capability.

3.242

safe

the absence of **risk**. Normally the term **tolerable risk** is more appropriate and accurate.

3.243

'safe to move'

a technical assessment, by an appropriately qualified technician or technical officer, of the physical condition and stability of **ammunition** and **explosives** prior to any proposed move.

NOTE 1 Should the ammunition and explosives fail a 'Safe to Move' inspection, then they must be destroyed in situ, or as close as is practically possible, by a qualified EOD team acting under the advice and control of the qualified technician or technical officer who conducted the initial Safe to Move inspection.

3.244

safeguarding

a consultative procedure with the appropriate local authority whereby safeguarded areas outside boundary fences are established for each explosives establishment.

NOTE 1 Explosives Safeguarding maps for each establishment are produced depicting a Yellow Line based on inhabited building distance (IBD) and a Purple Line, usually but not always, based on 2 x IBD.

NOTE 2 Copies are provided to the appropriate local authority. It is the aim to restrict the construction of any inhabited building, caravan site, or public traffic routes within the yellow line and the construction of curtain-wall and high rise buildings with large glazed areas, between the yellow and purple lines.

NOTE 3 All new applications for development within safeguarded areas should be notified to the MoD by the appropriate local authority in order that any necessary objections may be lodged.

3.245

safety

the reduction of **risk** to a tolerable level.

degree of freedom from unacceptable **risk**.

3.246

safety fuze

article consisting of a core of fine-grained **black powder** surrounded by a flexible woven fabric with one or more protective coverings.

NOTE 1 A safety fuze burns on ignition at a pre-determined rate without any external explosive effect.

3.247

secondary fragmentation

fragmentation which, in an **explosive** event, was not originally part of the **ammunition**.

3.248

security

the result of measures taken to prevent the theft of **explosive ordnance**, entry by unauthorised persons into **explosive storage areas**, and acts of malfeasance, such as sabotage.

3.249

segregated storage

segregated storage is the storage of **explosives** whose **compatibility groups**, whilst not requiring separate storage, do not permit mixed storage.

NOTE 1 The requirement for segregated storage may be met by any means which is effective in the prevention of propagation between the different groups, e.g. a separate compartment, or an internal traverse or barrier, or by physical distance.

3.250

sensitiveness

a measure of the relative probability of an **explosive** being ignited or initiated by a prescribed stimulus. It is used in the context of accidental ignition or initiation.

3.251

sensitiser

substance used to increase susceptibility to ignition.

3.252

sensitivity

a measure of the stimulus required to cause reliable design mode function of an **explosive**.

3.253

separated storage

storing apart in separate accommodation that ammunition requiring special storage conditions, e.g **Compatibility Group L**.

3.254

separation distance

a generic term for the minimum permissible distance between a potential explosion site (PES) and an exposed site (ES).

NOTE 1 Separation distances may or may not involve the use of the quantity distance system. They can be developed through the use of explosion consequence analysis.

3.255

shelf life / service life

time period for which an **explosive** or device can be stored or maintained under specific conditions before use or disposal without becoming unsafe or failing to meet specified performance criteria.

the length of time an item of **ammunition** may be stored before the performance of that ammunition may degrade.

3.256

shell

a type of projectile, usually filled with high explosive.

3.257

shock tube

tube usually consisting of a dusting of **explosive** charge on the inner wall capable on activation of transmitting a shock wave from one end of the tube to another at constant velocity and having no external explosive effect.

NOTE 1 A shock tube is commonly used as a component of detonator assemblies.

3.258

single base propellant

propellant composition containing nitrocellulose as the sole **explosive** ingredient.

3.259

site safety plan

a map or drawing of an **explosives area** which graphically demonstrates compliance with the **inside quantity distance** (IQD) and **outside quantity distance** (OQD) requirements. The plan is approved by safety authorities of the MoD prior to construction of new facilities or planned increase of the **explosives limit licenses** in an extant explosives area.

3.260

small arm

any man-portable lethal weapon designed for individual use that expels or launches, is designed to expel or launch, or may be readily converted to expel or launch a shot, bullet or projectile by the action of an explosive.

NOTE 1 Includes, inter alia, revolvers and self-loading pistols, rifles and carbines, sub-machine guns, assault rifles and light machine guns, as well as their parts, components and ammunition.

NOTE 2 Excludes antique small arms and their replicas.

3.261

small arms ammunition (SAA)

small arms ammunition (less than 20mm calibre) consists of **cartridges** used in rifles, carbines, revolvers, pistols, submachine guns, and machine guns and shells used in shotguns.

3.262

small unit

any government organization, at the tactical level, where individuals are involved in the storage, handling and use of ammunition and explosives but are not directly managed by ammunition qualified personnel.

NOTE 1 Examples of small units would include police stations, isolated small military units, border guard posts etc.

3.263

smoke ammunition (smk)

ammunition containing a smoke-producing substance.

3.264

stability

the physical and chemical characteristics of **ammunition** and **explosives** that impact on their **safety** in storage, transport and use.

3.265

stabiliser

a substance which stops or reduces auto-catalytic decomposition of explosives.

3.266

standard

a standard is a documented agreement containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics to ensure that materials, products, processes and services are fit for their purpose.

3.267

standing operating procedures (SOPs)

instructions that define the preferred or currently established method of conducting an operational task or activity.

NOTE 1 Their purpose is to promote recognisable and measurable degrees of discipline, uniformity, consistency and commonality within an organisation, with the aim of improving operational effectiveness and safety. SOPs should reflect local requirements and circumstances.

3.268

statement of need (SON)

the document that describes the **user's** operational needs.

NOTE 1 The SON should be prepared by the user who has identified the need, or by a sponsor acting on a user's behalf.

3.269

statement of requirement (SOR)

the document that provides a detailed statement of the characteristics and performance expected of the equipment, based on the preferred solution.

3.270

statement of tasks and outputs (STO)

the document that articulates the **user's** needs in broad terms, giving the tasks of the equipment and the key characteristics, with the emphasis on the output required rather than the means of achieving it, so as to enable full consideration of alternative solutions.

3.271

stock

a given quantity of **explosive ordnance**. (c.f. **Stockpile**).

3.272

stockpile

a large, accumulated stock of **explosive ordnance**. Often used interchangeably with **stock** or to denote the **ammunition** retained in a specific ammunition storage facility or depot. (c.f. **stock**; c.f. **national stockpile**).

3.273

stock check

the process of counting the physical balance of stock at a particular time as part of a system of inventory control.

3.274

stockpile destruction

the physical activities and destructive procedures leading to a reduction of the national stockpile. (c.f. **destruction**; c.f. **demilitarization**; c.f. **disposal (logistic)**; c.f. **stockpile**).

3.275

stockpile management

procedures and activities regarding safe and secure accounting, storage, transportation and handling of **ammunition** and **explosives**.

3.276

stockpile safety

the result of measures taken to ensure minimal risk of **accidents** and **hazards** deriving from **explosive ordnance** to personnel working with arms and munitions as well as adjacent populations.

3.277

stockpile security

the result of measures taken to prevent the theft of **explosive ordnance**, entry by unauthorized persons into **explosive storage areas**, and acts of malfeasance, such as sabotage.

3.278

storage

the deposit of **munitions** in a covered or uncovered enclosure, awaiting transportation to or from operational theatres or direct use.

NOTE 1 Normally, the munition is stacked, in its logistic package, and ideally in a controlled environment.

3.279

storage environment

the total set of all external natural and induced conditions to which a materiel is exposed during its storage life.

3.280

storage life

the time for which an **explosive** item in specified storage may be expected to remain safe and serviceable within the envelope of its **service life**.

3.281

storage temperature limits

the temperature limits to which the **munition** is restricted if it is not to suffer permanent damage or shorten the service life of the **munition** affecting its performance and serviceability.

3.282

structural vulnerability assessment (SVA)

a structured process that uses evidence from the **ECA**, combined with civil or structural engineering experience, to specifically predict effects on structures.

3.283

sub-munitions

any **munition** that, to perform its tasks, separates from a parent munition. (c.f. **cluster munitions**).

3.284

surplus

the quantity of **explosive ordnance** exceeding the requirements of the **national stockpile**.

3.285

surveillance

a systematic method of evaluating the properties, characteristics and performance capabilities of **ammunition** throughout its life cycle in order to assess the reliability, **safety** and operational effectiveness of stocks and to provide data in support of life reassessment.

the constant review of accumulating test results to ensure that the overall quality remains acceptable. The term is also applied to the continuing examination of the stores themselves.

3.286

tampering

an incident caused by altering the make up of or attempted dismantling of an item of ammunition.

NOTE 1 Tampering may be malicious, as a prank or through curiosity and be carried out by either military or civilian personnel.

3.287

through life management (TLM)

an integrated approach to the process, planning and costing activities across the whole service life of a specific ammunition type.

3.288

TNT (2, 4, 6 Trinitrotoluene)

one of the most widely used military high **explosives**. TNT is very stable, non-hygroscopic and relatively insensitive to impact, friction, shock and electrostatic energy. TNT is the most widespread type of explosive used in **ammunition**.

3.289

tolerable risk

risk, which is accepted in a given context based on the current values of society.

3.290

tracer ammunition

ammunition containing **pyrotechnic** substances designed to reveal the trajectory of a projectile.

3.291

tracing

the systematic tracking of illicit **ammunition** from the point of its manufacture or import, through the lines of supply, to the point at which it became illicit.

3.292

transit area

areas where consignments of explosives undergoing movements are assembled/dismantled for transshipment between modes of transport which operate within an explosives facility, and those which operate outside the area.

3.293

underground storage

storage in chambers that are below surface level. In the case of an accidental **explosion** at such a site, the hazard of low angle, high velocity projections is reduced significantly. The other

hazardous effects are similar to those in above ground storage, but are gradually reduced as the cover is increased.

3.294

unexploded ordnance (UXO)

explosive ordnance which has been primed, fuzed, armed or otherwise prepared for action, and which has been dropped, fired, launched, projected, or placed in such a manner as to constitute a **hazard** to operations, installations, personnel or material and remains unexploded either by malfunction or design or for any other cause.

3.295

unit load

the unit formed when packages or unpacked articles are assembled on or in a device that enables them to be mechanically handled as one unit, but which is not a freight container. (Usually **pallets**).

3.296

unit of space (UoS)

for planning purposes, storage space for palletized stores is calculated in units of space (UoS).

NOTE 1 In NATO, each UoS equates to a standard Unit Load of a maximum size of 1080 x 1300 x 1372 mm (i.e. 1.93m³), subject to a maximum floor loading of 16,000 lbs. (7257 kg) for a single stack pallet base area.

NOTE 2 For non-NATO countries it is recommended that a UoS equates to 1m³, with an All Up Weight (AUW) of 1 tonne.

3.297

user

the individual or organisation that will operate the equipment or facility.

3.298

vulnerable building

exposed site deemed to be vulnerable by nature of its construction or function and therefore sited at greater than normal **OQD**.

3.299

vulnerable building distance (VBD)

the minimum permissible distance between a **potential explosion site** (PES) and a **vulnerable building**.

NOTE 1 The VBD is a form of Outside Quantity Distance (OQD).

3.300

warhead

munitions containing detonating **explosives**. They are designed to be fitted to a rocket, missile or torpedo.

the portion of a weapon system which contains the payload which the projectile, rocket, missile or torpedo is to deliver.

NOTE 1 Generally, the payload is explosive, or it may contain telemetric or other components.

3.301

weapon

anything used, designed or intended for use in causing death or injury, or for the purposes of threatening or intimidating any person.

3.302

witness plate

plate, usually of metal (lead, steel or aluminium), used to detect the occurrence of a **detonation** or the impact of fragments or debris from an explosion.

3.303

workplace

all places where employees need to be or to go by reason of their work and which are under the direct or indirect control of the employer.

3.304

works services

the construction, repair or maintenance work done by organisations or staff, usually civilian, who are not integral parts of the ammunition storage unit.

3.305

yellow line

a continuous line drawn on the map or plan of an **explosives area** which encompasses the explosives area and defines the minimum permissible distance between a **potential explosion site** and **inhabited buildings**, caravan sites or assembly places.

a line at **IBD** within which the construction of new inhabited buildings, caravan sights and public traffic routes are restricted. The area within the Yellow Line is known as the Yellow Zone.

4 Abbreviations

For the purposes of all modules of the UN International Ammunition Technical Guidelines the following abbreviations shall apply.

$\sqrt{2E}$	Gurney Constant for a given explosive (m/s) (<i>In Formula</i>)
θ	Launch Angle (Radians) (<i>In Formula</i>)
AAP	Allied Administration Publication (NATO)
AASTP	Allied Ammunition Storage and Transport Publications (NATO)
AC	Alternating Current or Ammunition Container
ACA	Ammunition Container Assembly
ACTO	Attractive to Criminals and Terrorist Organisations
ADAC	Ammunition Descriptive Asset Code
ADF	Ammunition Demilitarization Facility
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AGMD	Above Ground Magazine Distance
ALARP	As Low As Reasonably Practicable
ALM	Air Launched Munitions
AMPS	Ammunition Management Policy Statements
ANE	Ammonium Nitrate Explosives
AOP	Allied Ordnance Publication
AP	Armour Piercing
APB	Ammunition Process Building
APDS	Armour Piercing Discarding Sabot
APE	Ammunition Peculiar Equipment
APFSDS	Armour Piercing Fin Stabilised Discarding Sabot
APSE	Armour Piercing Special Effects

ASA	Ammunition Storage Area
ASF	Anti-Shatter Film
ASO	Ammunition Storage Officer
ASS	Ammunition Storage Sites
ASRTO	Ammunition Surveillance and Repair Task Order
AT	Ammunition technician
ATA	Ammunition Technical Assessment
ATGM	Anti Tank Guided Missile
ATGW	Anti Tank Guided Weapon
ATN	Air Termination Network
ATO	Ammunition Technical Officer
AUR	All Up Rounds (Ammunition)
AUW	All Up Weight (kg)
AVP	Armed Violence Prevention
BAP	Battery Assisted Passive
BATNEEC	Best Available Technology Not Entailing Excessive Costs
BBNC	Bomb Blast Net Curtains
BI	Batch Identity
BL	Breech Loading
BKI	Batch Key Identity
BS	British Standards
c	Speed of Sound (m/s) (<i>In Formula</i>)
C_{exp}	Charge Mass of Explosive (kg) (<i>In Formula</i>)
C_r	Reflection Coefficient, Pressure (<i>In Formula</i>)
CBA	Cost Benefit Analysis
CC	Conducting Composition
CCM	Convention on Cluster Munitions
CCTV	Close-Circuit Television
CEN	Comité Européen de Normalisation
CFFE	Certified Free Form Explosives
CG	Compatibility Group
CG/HCCS	Coordinating Group for the Harmonization of Chemical Classification Systems (IOMC)
CID	Chamber Interval Distance (Underground Storage)
CMD	Conventional Munition Disposal
COSHH	Control of Substances Hazardous to Health
CoTS	Commercial off The Shelf
CRT	Cathode Ray Tube
CS	2-chlorobenzalmalononitrile (also called o-Chlorobenzylidene Malononitrile)
CTA	Chief Technical Advisor
CW	Continuous Wave
D	Density (g/cm^3) (<i>In Formula</i>)
D_{air}	Density of Air (kg/m^3) (<i>In Formula</i>)
D_{cd}	Chamber Interval Distance (underground storage)
D_{sf}	Density of Air behind Shock Front (kg/m^3) (<i>In Formula</i>)
DAC	Dangerous Air Cargo

DAER	Daily Ammunition Expenditure Rate
DC	Direct Current
DG	Dangerous Goods
DGR	Dangerous Goods Regulations
DU	Depleted Uranium
E_{exp}^d	Detonation Energy, Specific of Explosive (J/kg) (<i>In Formula</i>)
E_{TNT}^d	Detonation Energy, Specific of TNT (J/kg) (<i>In Formula</i>)
EASW	Explosive Area Support Worker
EBP	Equipotential Bonding
EBW	Exploding Bridge Wire
EC	European Commission
ECA	Explosion Consequence Analysis
ECMD	Earth Covered Magazine Distance
ECVET	European Credit system for Vocational Education and Training
EED	Electro-Explosive Device
EFI	Exploding Foil Initiator
EIDS	Extremely Insensitive Detonating Substance
ELL	Explosive Limit License
EM	Electro-Magnetic
EMC	Electro-Magnetic Compatibility
EMV	Expected Monetary Value
EN	European Normalization (CEN Standard)
EO	Explosive Ordnance
EOD	Explosive Ordnance Disposal
EPA	Electrostatic Discharge Protected Area
EPB	Equipotential Bonding
ERP	Effective Radiated Power
ES	Exposed Site
ESA	Explosive Storage Area
ESA	Explosive Substances and Articles
ESD	Electrostatic Discharge
ESE	Early Streamer Emission
ESH	Explosive Storehouse
ESM	Explosives Safeguarding Map
ESO	Explosives Safety Officer
EU	European Union
EUExcert	European Union Explosive Certification
EUExImp	European Union Explosives sector Implementation of occupational standards
EWD	Explosives Workshop Distance
EWI	Explosive Waste Incinerator
EWS	Emergency Water Supply
f_d	Decoupling Factor
FB	Film Bridge (detonator)
FESO	Force Explosives Safety Officer
FFE	Free From Explosives

FSA	Field Storage Area
FSM	Field Stack Module
FSP	Fire Safety Plan
FSSM	Field Storage Site Module
g	Gravity (m/s^2) (<i>In Formula</i>)
GAAP	Generally Accepted Accounting Principles
GHS	Globally Harmonized System
GM	Guided Missile
GRP	Glass Reinforced Plastic
GW	Guided Weapon
HATPM	Hazardous Area Personal Test Meter
HCC	Hazard Classification Code (UN)
H _d	Hydraulic Diameter
HD	Hazard Division (UN)
HE	High Explosive
HEI	High Explosive Incendiary
HESH	High Explosive Squash Head
HPLC	High Performance Liquid Chromatography
HRHY	Hot-Rolled High-Yield
HV	High Velocity (<i>Ballistics</i>) or High Voltage (<i>Electrical</i>)
I _s	Impulse, Side On ($kg.m/s$) (<i>In Formula</i>)
I _{si}	Impulse, Scaled ($kg.m/s$) (<i>In Formula</i>)
I&RI	Inspection and Repair Instruction (Ammunition Processing)
IACG (CA)	Inter Agency Coordination Group (Conventional Ammunition)
IATA	International Air Transport Association
IATG	International Ammunition Technical Guidelines
IBD	Inhabited Building Distance
IBIN	INTERPOL Ballistic Identification Network
ICAO	International Civil Aviation Organisation
IDDRS	International Disarmament, Demobilization and Reintegration Standards
IDP	Internally Displaced Persons
IDS	Intruder Detection System
IED	Improvised Explosive Device
IEDD	Improvised Explosive Device Disposal
IFFA	Immediate Fire-Fighting Appliances
IFRT	INTERPOL Firearms Reference Table
IFTR	INTERPOL Firearms Tracing Request
ILO	International Labour Organization
IM	Insensitive Munition(s)
IMAS	International Mine Action Standards
IMD	Inter Magazine Distance
IMDG	International Maritime Dangerous Goods (Code)
IOMC	Inter-organization Programme for the Sound Management of Chemicals
IQD	Inside Quantity Distance
IR	Individual Risk of Fatality (Annual)

ISACS	International Small Arms Control Standards
ISO	International Standards Organization
IT	Information Technology
KE	Kinetic Energy
kPa	Kilo- Pascal
KR	Key Role
LAW	Light Anti-Tank Weapon
LPG	Liquid Petroleum Gas
LPS	Lightning Protection System
LSF	Low Smoke and Fume (Cable)
LV	Low Voltage
m	Mass (kg) (<i>In Formula</i>)
M_{exp}	Mass, Explosive TNT (kg) (<i>In Formula</i>)
M_{TNTe}	Mass, Equivalent TNT (kg) (<i>In Formula</i>)
MΩ	Mega Ohm
MANPADS	Man Portable Air Defence Systems
MCE	Maximum Credible Explosive Event
MFA	Ministry of Foreign Affairs
MHE	Mechanical Handling Equipment
MHz	Mega-Hertz
MIA	Ministry of Internal Affairs
MIMC	Mineral Insulated Metal Covered
MJ	Mega Joule
MLA	Munition Life Assessment
MLAD	Munition Life Assessment Database
MLRS	Multiple Launch Rocket System
MMA	Main Missile Assemblage
MOD	Ministry of Defence
MOI	Ministry of Interior
MPa	Mega-Pascal
MSER	Manufacture and Storage of Explosive Regulations 2005 (UK)
NAMSA	NATO Maintenance and Supply Agency
NATO	North Atlantic Treaty Organisation
NC	Nitrocellulose
NEC	Net Explosive Content
NEQ	Net Explosive Quantity (alternatively NEC (Net Explosive Content))
NFT	No-Fire Threshold
NG	Nitroglycerine
NGO	Non Governmental Organisation
NIR	Near Infra-Red
NOS	National Occupational Standards
NSA	NATO Standardization Agency
OBOD	Open Burning and Open Detonation
OECD	Organization for Economic Cooperation and Development
OEL	Occupational Exposure Limit

OIC	Officer in Charge
OQD	Outside Quantity Distance
OSCE	Organisation for Security and Cooperation in Europe
P_0	Pressure, Ambient (kPa) (<i>In Formula</i>)
P_d	Pressure, Peak Dynamic (kPa) (<i>In Formula</i>)
P_{det}	Pressure, Detonation (GPa) (<i>In Formula</i>)
P_r	Pressure, Peak Reflected (kPa) (<i>In Formula</i>)
P_s	Pressure, Peak Side On (kPa) (<i>In Formula</i>)
PAT	Portable Appliance Test
PB	Process Building
PBD	Process Building Distance
PCP	Polychloroprene
PCS	Pollution Control System
PE	Plastic Explosive
PED	Personal Electronic Devices
PES	Potential Explosion Site
PETN	Pentaerythrite-Tetranitrate
PIDS	Perimeter Intrusion Detection System
PME	Protected Multiple Earths
POL	Petroleum, Oils and Lubricants
PPE	Personal Protective Equipment
PPEC	Personal Protective Equipment and Clothing
PPR	Post Project Review
PTR	Public Traffic Route
PTRD	Public Traffic Route Distance
PTW	Permit to Work
PVC	Poly Vinyl Chloride
PWP	Plasticised White Phosphorus
QA	Quality Assurance
QD	Quantity Distance
QF	Quick Firing
QRA	Quantitative Risk Assessment
R	Range (m) (<i>In Formula</i>)
RADHAZ	Radiation Hazard
RAG	Returned Ammunition Group
RC	Reinforced Concrete
RCD	Residual Current Device
RDX	Research Department Explosive (Cyclonite)
RES	Remaining Effective Stabiliser
RF	Radio Frequency
RFID	Radio Frequency Identification Device
RH	Relative Humidity
RID	International Ordinance on the Transport of Dangerous Goods by Rail
RMS	Root Mean Square
RP	Red Phosphorus

RRPL	Risk Reduction Process Level
RSP	Render Safe Procedure
SAA	Small Arms Ammunition
SAADS	Small Arms Ammunition Disposal System (Commercial)
SAGM	Surface to Air Guided Missile
SAGW	Surface to Air Guided Weapon
SAM	Surface to Air Missile
SAP	Semi-Armour Piercing
SAPI	Semi-Armour Piercing Incendiary
SAQA	South Africa Qualifications Agency
SAU	Safety and Arming Unit
SCBA	Self Contained Breathing Apparatus
SELV	Separated Extra Low Voltage
SFO	Senior Fire Officer
SHA	Small Holding Area
SIMMO	Simulated Ammunition (for logistic supply training)
Smk	Smoke
SMS	Safety Management System
SOLAS	International Convention for the Safety of Life at Sea
SON	Statement of Operational Need
SOP	Standing (Standard) Operating Procedure
SPS	Splinter Proof Shelter
SsD	Storage sub Division
SSGM	Surface to Surface Guided Missile
SSGW	Surface to Surface Guided Weapon
SSOW	Safe Systems of Work
STO	Statement of Tasks and Output
SWL	Safe Working Load
SX	Sheet Explosive
τ	Thermal Time Constant
t	Time (s) (<i>In Formula</i>)
t	Tonnes
TD	Temporary Distance
TEH	Test Equipment House
TPA	Thickened Phosphoric Acid
TLC	Thin Layer Chromatography
TLM	Through Life Management
TNT	Trinitrotoluene (Trotyl)
TOIC	Technical Officer in Charge
TOR	Terms of Reference
TRADS	Transportable Ammunition Demilitarization System
TRG	Technical Review Group
ULC	Unit Load Container (Pallets)
ULS	Unit Load Specification
UN	United Nations

UNCED	United Nations Conference on Environment and Development
UNCETDG/GHS	Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals
UNDP	United Nations Development Programme
UNGA	United Nations General Assembly
UNODA	UN Office for Disarmament Affairs
UNSCETDG	United Nations Economic and Social Council's Sub-Committee of Experts on the Transport of Dangerous Goods
UOS	Unit of Space
UPS	Uninterruptible Power Supply
UXO	Unexploded Ordnance
V_0	Velocity, Initial Fragment (m/s) (<i>In Formula</i>)
V_d	Velocity of Detonation (m/s) (<i>In Formula</i>)
V_p	Velocity of Particle (m/s) (<i>In Formula</i>)
V_{sf}	Velocity of Shock Front (m/s) (<i>In Formula</i>)
VBD	Vulnerable Building Distance
W	Weight of Explosive (kg) (<i>In Formula</i>)
WACR	Weapon Assembly and Check Rooms
WLL	Working Load Limit
WP	White Phosphorus
XLPE	Cross Linked Polyethylene

Annex A (informative) References

The following normative documents contain provisions, which, through reference in this text, constitute provisions of this part of the guide. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of the guide are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO maintain registers of currently valid ISO or EN:

- a) AAP-6 (2012), Version 2 *NATO Glossary of Terms and Definitions*. NATO Standardization Office (NSO). 03 October 2012.
- b) AOP-38 *Glossary of Terms and Definitions concerning the Safety and Suitability for Service of Munitions, Explosives and Related Products*. (3rd Edition). NATO Standardization Office (NSO). April 2002.
- c) CEN 13857-1:2003(E) *Explosives for civil uses – Part 1: Terminology*. CEN. 2003;
- d) ISO Guide 51:2014 *Safety aspects – Guidelines for their inclusion in standards*. ISO. 2014;
- e) ISO 9001:2008(E) *Quality management systems – Requirements*. ISO. 2008;⁷ and
- f) ISO 14001:2004(E) *Environmental management systems – Guidelines*. ISO. 2004.⁸

The latest version/edition of these references should be used. The UN Office for Disarmament Affairs (UN ODA) holds copies of all references⁹ used in this guide. A register of the latest version/edition of the International Ammunition Technical Guidelines is maintained by UN ODA, and can be read on the IATG website: www.un.org/disarmament/un-safeguard/. National authorities, employers and other interested bodies and organisations should obtain copies before commencing conventional ammunition stockpile management programmes.

⁷ To shortly be replaced by ISO 9001:2015.

⁸ To shortly be replaced by ISO 14001:2015.

⁹ Where copyright permits.

