Glossary of terms, definitions and abbreviations
Warning

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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-saferguard/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-saferguard/.
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.

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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 $5 \times 10^4$ ohms and not more than $2 \times 10^6$ 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 cartridged 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 $5 \times 10^4$ 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.

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.

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
A 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 lighting 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 phosphorus, 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 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 ALARP\(^6\) 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**

A 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 transhipment 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) *(In Formula)*
\( \theta \) Launch Angle (Radians) *(In Formula)*
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
ASRT0  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) \((In \ Formula)\)
C_{\text{exp}}  Charge Mass of Explosive (kg) \((In \ Formula)\)
C_r  Reflection Coefficient, Pressure \((In \ Formula)\)
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 \((g/cm^3)\) \((In \ Formula)\)
D_{\text{air}}  Density of Air \((kg/m^3)\) \((In \ Formula)\)
D_{\text{cd}}  Chamber Interval Distance (underground storage)
D_{\text{sf}}  Density of Air behind Shock Front \((kg/m^3)\) \((In \ Formula)\)
DAC  Dangerous Air Cargo
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>DAER</td>
<td>Daily Ammunition Expenditure Rate</td>
</tr>
<tr>
<td>DC</td>
<td>Direct Current</td>
</tr>
<tr>
<td>DG</td>
<td>Dangerous Goods</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations</td>
</tr>
<tr>
<td>DU</td>
<td>Depleted Uranium</td>
</tr>
<tr>
<td>$E_{\text{d}}^{\text{exp}}$</td>
<td>Detonation Energy, Specific of Explosive (J/kg) (In Formula)</td>
</tr>
<tr>
<td>$E_{\text{d}}^{\text{TNT}}$</td>
<td>Detonation Energy, Specific of TNT (J/kg) (In Formula)</td>
</tr>
<tr>
<td>EASW</td>
<td>Explosive Area Support Worker</td>
</tr>
<tr>
<td>EBP</td>
<td>Equipotential Bonding</td>
</tr>
<tr>
<td>EBW</td>
<td>Exploding Bridge Wire</td>
</tr>
<tr>
<td>EC</td>
<td>European Commission</td>
</tr>
<tr>
<td>ECA</td>
<td>Explosion Consequence Analysis</td>
</tr>
<tr>
<td>ECMD</td>
<td>Earth Covered Magazine Distance</td>
</tr>
<tr>
<td>ECVET</td>
<td>European Credit system for Vocational Education and Training</td>
</tr>
<tr>
<td>EED</td>
<td>Electro-Explosive Device</td>
</tr>
<tr>
<td>EFI</td>
<td>Exploding Foil Initiator</td>
</tr>
<tr>
<td>EIDS</td>
<td>Extremely Insensitive Detonating Substance</td>
</tr>
<tr>
<td>ELL</td>
<td>Explosive Limit License</td>
</tr>
<tr>
<td>EM</td>
<td>Electro-Magnetic</td>
</tr>
<tr>
<td>EMC</td>
<td>Electro-Magnetic Compatibility</td>
</tr>
<tr>
<td>EMV</td>
<td>Expected Monetary Value</td>
</tr>
<tr>
<td>EN</td>
<td>European Normalization (CEN Standard)</td>
</tr>
<tr>
<td>EO</td>
<td>Explosive Ordnance</td>
</tr>
<tr>
<td>EOD</td>
<td>Explosive Ordnance Disposal</td>
</tr>
<tr>
<td>EPA</td>
<td>Electrostatic Discharge Protected Area</td>
</tr>
<tr>
<td>EPB</td>
<td>Equipotential Bonding</td>
</tr>
<tr>
<td>ERP</td>
<td>Effective Radiated Power</td>
</tr>
<tr>
<td>ES</td>
<td>Exposed Site</td>
</tr>
<tr>
<td>ESA</td>
<td>Explosive Storage Area</td>
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<tr>
<td>ESA</td>
<td>Explosive Substances and Articles</td>
</tr>
<tr>
<td>ESD</td>
<td>Electrostatic Discharge</td>
</tr>
<tr>
<td>ESE</td>
<td>Early Streamer Emission</td>
</tr>
<tr>
<td>ESH</td>
<td>Explosive Storehouse</td>
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<tr>
<td>ESM</td>
<td>Explosives Safeguarding Map</td>
</tr>
<tr>
<td>ESO</td>
<td>Explosives Safety Officer</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>EUExcert</td>
<td>European Union Explosive Certification</td>
</tr>
<tr>
<td>EUExImp</td>
<td>European Union Explosives sector Implementation of occupational standards</td>
</tr>
<tr>
<td>EWD</td>
<td>Explosives Workshop Distance</td>
</tr>
<tr>
<td>EWI</td>
<td>Explosive Waste Incinerator</td>
</tr>
<tr>
<td>EWS</td>
<td>Emergency Water Supply</td>
</tr>
<tr>
<td>$f_d$</td>
<td>Decoupling Factor</td>
</tr>
<tr>
<td>FB</td>
<td>Film Bridge (detonator)</td>
</tr>
<tr>
<td>FESO</td>
<td>Force Explosives Safety Officer</td>
</tr>
<tr>
<td>FFE</td>
<td>Free From Explosives</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>FSA</td>
<td>Field Storage Area</td>
</tr>
<tr>
<td>FSM</td>
<td>Field Stack Module</td>
</tr>
<tr>
<td>FSP</td>
<td>Fire Safety Plan</td>
</tr>
<tr>
<td>FSSM</td>
<td>Field Storage Site Module</td>
</tr>
<tr>
<td>g</td>
<td>Gravity ($m/s^2$) (In Formula)</td>
</tr>
<tr>
<td>GAAP</td>
<td>Generally Accepted Accounting Principles</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>GM</td>
<td>Guided Missile</td>
</tr>
<tr>
<td>GRP</td>
<td>Glass Reinforced Plastic</td>
</tr>
<tr>
<td>GW</td>
<td>Guided Weapon</td>
</tr>
<tr>
<td>HATPM</td>
<td>Hazardous Area Personal Test Meter</td>
</tr>
<tr>
<td>HCC</td>
<td>Hazard Classification Code (UN)</td>
</tr>
<tr>
<td>H$_D$</td>
<td>Hydraulic Diameter</td>
</tr>
<tr>
<td>HD</td>
<td>Hazard Division (UN)</td>
</tr>
<tr>
<td>HE</td>
<td>High Explosive</td>
</tr>
<tr>
<td>HEI</td>
<td>High Explosive Incendiary</td>
</tr>
<tr>
<td>HESH</td>
<td>High Explosive Squash Head</td>
</tr>
<tr>
<td>HPLC</td>
<td>High Performance Liquid Chromatography</td>
</tr>
<tr>
<td>HRHY</td>
<td>Hot-Rolled High-Yield</td>
</tr>
<tr>
<td>HV</td>
<td>High Velocity (Ballistics) or High Voltage (Electrical)</td>
</tr>
<tr>
<td>$I_s$</td>
<td>Impulse, Side On (kg.m/s) (In Formula)</td>
</tr>
<tr>
<td>$I_{si}$</td>
<td>Impulse, Scaled (kg.m/s) (In Formula)</td>
</tr>
<tr>
<td>I&amp;RI</td>
<td>Inspection and Repair Instruction (Ammunition Processing)</td>
</tr>
<tr>
<td>IACG (CA)</td>
<td>Inter Agency Coordination Group (Conventional Ammunition)</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATG</td>
<td>International Ammunition Technical Guidelines</td>
</tr>
<tr>
<td>IBD</td>
<td>Inhabited Building Distance</td>
</tr>
<tr>
<td>IBIN</td>
<td>INTERPOL Ballistic Identification Network</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organisation</td>
</tr>
<tr>
<td>IDDRS</td>
<td>International Disarmament, Demobilization and Reintegration Standards</td>
</tr>
<tr>
<td>IDP</td>
<td>Internally Displaced Persons</td>
</tr>
<tr>
<td>IDS</td>
<td>Intruder Detection System</td>
</tr>
<tr>
<td>IED</td>
<td>Improvised Explosive Device</td>
</tr>
<tr>
<td>IEDD</td>
<td>Improvised Explosive Device Disposal</td>
</tr>
<tr>
<td>IFFA</td>
<td>Immediate Fire-Fighting Appliances</td>
</tr>
<tr>
<td>IFRT</td>
<td>INTERPOL Firearms Reference Table</td>
</tr>
<tr>
<td>IFTR</td>
<td>INTERPOL Firearms Tracing Request</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>IM</td>
<td>Insensitive Munition(s)</td>
</tr>
<tr>
<td>IMAS</td>
<td>International Mine Action Standards</td>
</tr>
<tr>
<td>IMD</td>
<td>Inter Magazine Distance</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods (Code)</td>
</tr>
<tr>
<td>IOMC</td>
<td>Inter-organization Programme for the Sound Management of Chemicals</td>
</tr>
<tr>
<td>IQD</td>
<td>Inside Quantity Distance</td>
</tr>
<tr>
<td>IR</td>
<td>Individual Risk of Fatality (Annual)</td>
</tr>
<tr>
<td>Acronym</td>
<td>Definition</td>
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<tr>
<td>---------</td>
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<tr>
<td>ISACS</td>
<td>International Small Arms Control Standards</td>
</tr>
<tr>
<td>ISO</td>
<td>International Standards Organization</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>KE</td>
<td>Kinetic Energy</td>
</tr>
<tr>
<td>kPa</td>
<td>Kilo-Pascal</td>
</tr>
<tr>
<td>KR</td>
<td>Key Role</td>
</tr>
<tr>
<td>LAW</td>
<td>Light Anti-Tank Weapon</td>
</tr>
<tr>
<td>LPG</td>
<td>Liquid Petroleum Gas</td>
</tr>
<tr>
<td>LPS</td>
<td>Lightning Protection System</td>
</tr>
<tr>
<td>LSF</td>
<td>Low Smoke and Fume (Cable)</td>
</tr>
<tr>
<td>LV</td>
<td>Low Voltage</td>
</tr>
<tr>
<td>m</td>
<td>Mass (kg) (<em>In Formula</em>)</td>
</tr>
<tr>
<td>$M_{\text{exp}}$</td>
<td>Mass, Explosive TNT (kg) (<em>In Formula</em>)</td>
</tr>
<tr>
<td>$M_{\text{TNTe}}$</td>
<td>Mass, Equivalent TNT (kg) (<em>In Formula</em>)</td>
</tr>
<tr>
<td>MΩ</td>
<td>Mega Ohm</td>
</tr>
<tr>
<td>MANPADS</td>
<td>Man Portable Air Defence Systems</td>
</tr>
<tr>
<td>MCE</td>
<td>Maximum Credible Explosive Event</td>
</tr>
<tr>
<td>MFA</td>
<td>Ministry of Foreign Affairs</td>
</tr>
<tr>
<td>MHE</td>
<td>Mechanical Handling Equipment</td>
</tr>
<tr>
<td>MHz</td>
<td>Mega-Hertz</td>
</tr>
<tr>
<td>MIA</td>
<td>Ministry of Internal Affairs</td>
</tr>
<tr>
<td>MIMC</td>
<td>Mineral Insulated Metal Covered</td>
</tr>
<tr>
<td>MJ</td>
<td>Mega Joule</td>
</tr>
<tr>
<td>MLA</td>
<td>Munition Life Assessment</td>
</tr>
<tr>
<td>MLAD</td>
<td>Munition Life Assessment Database</td>
</tr>
<tr>
<td>MLRS</td>
<td>Multiple Launch Rocket System</td>
</tr>
<tr>
<td>MMA</td>
<td>Main Missile Assemblage</td>
</tr>
<tr>
<td>MOD</td>
<td>Ministry of Defence</td>
</tr>
<tr>
<td>MOI</td>
<td>Ministry of Interior</td>
</tr>
<tr>
<td>MPa</td>
<td>Mega-Pascal</td>
</tr>
<tr>
<td>MSER</td>
<td>Manufacture and Storage of Explosive Regulations 2005 (UK)</td>
</tr>
<tr>
<td>NAMS A</td>
<td>NATO Maintenance and Supply Agency</td>
</tr>
<tr>
<td>NATO</td>
<td>North Atlantic Treaty Organisation</td>
</tr>
<tr>
<td>NC</td>
<td>Nitrocellulose</td>
</tr>
<tr>
<td>NEC</td>
<td>Net Explosive Content</td>
</tr>
<tr>
<td>NEQ</td>
<td>Net Explosive Quantity (alternatively NEC (Net Explosive Content))</td>
</tr>
<tr>
<td>NFT</td>
<td>No-Fire Threshold</td>
</tr>
<tr>
<td>NG</td>
<td>Nitroglycerine</td>
</tr>
<tr>
<td>NGO</td>
<td>Non Governmental Organisation</td>
</tr>
<tr>
<td>NIR</td>
<td>Near Infra-Red</td>
</tr>
<tr>
<td>NOS</td>
<td>National Occupational Standards</td>
</tr>
<tr>
<td>NSA</td>
<td>NATO Standardization Agency</td>
</tr>
<tr>
<td>OBOD</td>
<td>Open Burning and Open Detonation</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OEL</td>
<td>Occupational Exposure Limit</td>
</tr>
</tbody>
</table>
OIC  Officer in Charge
OQD  Outside Quantity Distance
OSCE  Organisation for Security and Cooperation in Europe
$P_0$  Pressure, Ambient (kPa) (*In Formula*)
$P_d$  Pressure, Peak Dynamic (kPa) (*In Formula*)
$P_{det}$  Pressure, Detonation (GPa) (*In Formula*)
$P_r$  Pressure, Peak Reflected (kPa) (*In Formula*)
$P_s$  Pressure, Peak Side On (kPa) (*In Formula*)
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) (*In Formula*)
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
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>RRPL</td>
<td>Risk Reduction Process Level</td>
</tr>
<tr>
<td>RSP</td>
<td>Render Safe Procedure</td>
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<tr>
<td>SAA</td>
<td>Small Arms Ammunition</td>
</tr>
<tr>
<td>SAADS</td>
<td>Small Arms Ammunition Disposal System (Commercial)</td>
</tr>
<tr>
<td>SAGM</td>
<td>Surface to Air Guided Missile</td>
</tr>
<tr>
<td>SAGW</td>
<td>Surface to Air Guided Weapon</td>
</tr>
<tr>
<td>SAM</td>
<td>Surface to Air Missile</td>
</tr>
<tr>
<td>SAP</td>
<td>Semi-Armour Piercing</td>
</tr>
<tr>
<td>SAPI</td>
<td>Semi-Armour Piercing Incendiary</td>
</tr>
<tr>
<td>SAQA</td>
<td>South Africa Qualifications Agency</td>
</tr>
<tr>
<td>SAU</td>
<td>Safety and Arming Unit</td>
</tr>
<tr>
<td>SCBA</td>
<td>Self Contained Breathing Apparatus</td>
</tr>
<tr>
<td>SELV</td>
<td>Separated Extra Low Voltage</td>
</tr>
<tr>
<td>SFO</td>
<td>Senior Fire Officer</td>
</tr>
<tr>
<td>SHA</td>
<td>Small Holding Area</td>
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<tr>
<td>SIMMO</td>
<td>Simulated Ammunition (for logistic supply training)</td>
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<td>Smk</td>
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<tr>
<td>SMS</td>
<td>Safety Management System</td>
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<td>SOLAS</td>
<td>International Convention for the Safety of Life at Sea</td>
</tr>
<tr>
<td>SON</td>
<td>Statement of Operational Need</td>
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<tr>
<td>SOP</td>
<td>Standing (Standard) Operating Procedure</td>
</tr>
<tr>
<td>SPS</td>
<td>Splinter Proof Shelter</td>
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<tr>
<td>SsD</td>
<td>Storage sub Division</td>
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<tr>
<td>SSGM</td>
<td>Surface to Surface Guided Missile</td>
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<tr>
<td>SSGW</td>
<td>Surface to Surface Guided Weapon</td>
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<tr>
<td>SSOW</td>
<td>Safe Systems of Work</td>
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<tr>
<td>STO</td>
<td>Statement of Tasks and Output</td>
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<td>Safe Working Load</td>
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<td>τ</td>
<td>Thermal Time Constant</td>
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<td>t</td>
<td>Time (s) <em>(In Formula)</em></td>
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<tr>
<td>t</td>
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<td>TD</td>
<td>Temporary Distance</td>
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<td>Test Equipment House</td>
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<td>TPA</td>
<td>Thickened Phosphoric Acid</td>
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<td>TLC</td>
<td>Thin Layer Chromatography</td>
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<td>TLM</td>
<td>Through Life Management</td>
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<tr>
<td>TNT</td>
<td>Trinitrotoluene (Trotyl)</td>
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<tr>
<td>TOIC</td>
<td>Technical Officer in Charge</td>
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<tr>
<td>TOR</td>
<td>Terms of Reference</td>
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<td>TRADS</td>
<td>Transportable Ammunition Demilitarization System</td>
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<td>TRG</td>
<td>Technical Review Group</td>
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<td>ULC</td>
<td>Unit Load Container (Pallets)</td>
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<tr>
<td>ULS</td>
<td>Unit Load Specification</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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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
V₀  Velocity, Initial Fragment (m/s) *(In Formula)*
Vₜ  Velocity of Detonation (m/s) *(In Formula)*
Vₚ  Velocity of Particle (m/s) *(In Formula)*
Vₛₙ  Velocity of Shock Front (m/s) *(In Formula)*
VBD  Vulnerable Building Distance
W  Weight of Explosive (kg) *(In Formula)*
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:


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 references\(^9\) 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-saferguard/. 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.
Amendment record

Management of IATG amendments

The IATG guidelines are subject to formal review on a five-yearly basis, however this does not preclude amendments being made within these five-year periods for reasons of operational safety and efficiency or for editorial purposes.

As amendments are made to this IATG they will be given a number, and the date and general details of the amendment shown in the table below. The amendment will also be shown on the cover page of the IATG by the inclusion under the edition date of the phrase ‘incorporating amendment number(s) 1 etc.’

As the formal reviews of each IATG are completed new editions may be issued. Amendments up to the date of the new edition will be incorporated into the new edition and the amendment record table cleared. Recording of amendments will then start again until a further review is carried out.

The most recently amended, and thus extant, IATG will be the versions that are posted on the UN SaferGuard IATG website at www.un.org/disarmament/un-saferguard/.

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<td>0</td>
<td>01 Feb 15</td>
<td>Release of Edition 2 of IATG.</td>
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