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European foreword

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1 Scope

This European Standard contains terms and definitions for CBRNE (chemical, biological, radiological, nuclear, explosive) applications.

Common understanding and communication is important in the implementation of an effective CBRNE response and this communication will be most effective if there is common understanding of the terms used. Many of the terms and definitions listed here have been widely used for many years, while others are the result of cross-cutting experience of areas of CBRNE. The gradual evolution of our understanding of CBRNE and response measures means that CBRNE terminology will continue to develop.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
A1 and A2
categories to determine the type of packaging for transport of radioactive material, corresponding to the maximum activity, expressed in Becquerel

Note 1 to entry: A1 refers to a non-dispersible solid radioactive material or a sealed capsule containing radioactive material.

Note 2 to entry: A2 refers to the normal occurrence of radioactive material.

Note 3 to entry: The maximum Becquerel values for A1 or A2 differ for various nuclides.

See: ADR.

3.2
abandoned chemical weapons
chemical weapons, including old chemical weapons, abandoned by a state after 1 January 1925 on the territory of another state without the consent of the latter

3.3
accident
unplanned and unintended event that interrupts an activity and sometimes causes injury or damage, including operating errors, equipment failures and other mishaps, the consequences or potential consequences of which are not negligible from the point of view of protection or safety

3.4
active decontamination
employment of chemical, biological or mechanical processes to remove or neutralize chemical, biological or radioactive materials

Note 1 to entry: Active decontamination is conducted when contamination will adversely affect the operational capabilities.

Note 2 to entry: There are three levels of active decontamination employed by operational units: immediate, operational and thorough decontamination.

3.5
Acute Exposure Guideline Level
AEGL
toxicologically substantiated maximum exposure level intended for the protection of the general public against a once-in-a-lifetime exposure

Note 1 to entry: It represents the airborne concentration of a substance at or above which it is predicted that the general population could experience:

1) notable discomfort (AEGL-1);

2) irreversible or other serious, long-lasting effects or an impaired ability to escape (AEGL-2); or

3) life-threatening health effects or death (AEGL-3).

See: Exposure limits for chemicals.

3.6
Acute Hazard Area
potential area where the radiation levels are expected to be sufficiently high to indicate that active measures should be adopted to reduce exposure

Note 1 to entry: Unprotected personnel who remains in this area for a significant period can be anticipated to receive acute hazard doses which are high enough to cause some short-term incapacitation, but full recovery is expected.

Note 2 to entry: Operations within this area are restricted to mission critical tasks only.

Note 3 to entry: See: Acute hazard dose.

3.7
acute hazard dose
potential receive doses, in the Acute Hazard Area, exceeding 75 cGy (but less than 125 cGy) within 24 hours, which is high enough to cause some short-term incapacitation, but full recovery is expected

Note 1 to entry: Note to entry 1: Doses are regulated on national levels.

Note 2 to entry: See: Acute Hazard Area.

3.8
acute infection
rapid onset of disease with a relatively short duration of symptoms and resolution within days (see in comparison: chronic infection)

Note 1 to entry: Acute viral infections are typically observed with pathogens such as influenza virus and rhinovirus, but also with very severe infections like Ebola haemorrhagic fever.

Note 2 to entry: It is important to distinguish viral from bacterial infections, because acute bacterial infections can be treated with antibiotics, while (some) acute viral infections are treated with antiviral drugs.

3.9
European Agreement concerning the International Carriage of Dangerous Goods by Road
ADR
agreement which set requirements for the trans boundary road transport of dangerous goods

See: Dangerous goods.

3.10
ADR classes
classes of dangerous goods
dangerous goods nine level classification system which is based on materials hazardous properties

EXAMPLE Explosives, toxic and infectious substances or radioactive material.

3.11
ADR label
regulations for the transport of dangerous goods (ADR) specified hazard symbol labels dangerous goods

Note 1 to entry: A label is diamond-shaped (i.e. squares set at an angle of 45°), in distinctive colours, and contain a hazard symbol. A label also contains a class number, an UN number, or a word or phrase describing the hazard (e.g. FLAMMABLE).

3.12
aerogenic infection
airborne infection
infection with viruses, bacteria or fungi (or their spores) by inhalation of the organisms

Note 1 to entry: It can be distinguished between droplets (organisms that are suspended in the air on water droplets, > 100 µm) or aerosols (organisms suspended on nuclei of droplets, dust particles or other carrier substances < 10 µm).

3.13
Agent Orange
military term for a mixture of 2,4,5-Trichlorophenoxyacetic acid and 2,4-Dichlorophenoxyacetic acid

Note 1 to entry: It used as a defoliant from 1961 to 1971 during the Vietnam War.

3.14
agroterrorism
deliberate malicious introduction of an animal or plant disease into the food chain with the goal of generating fear, causing economic losses and impaired food security by disruption or damage of a country's agriculture, and/or undermining social stability

3.15
alarm
indication from any source (signal or message from a person or device) that the existence of an emergency or a chemical, biological, radiological and nuclear attack or release other than attack may have occurred and required actions to response

See: Instrumental alarm, warning.

3.16
alarm level
lowest concentration of a substance, which can be detected by a sensor with confidence

Note 1 to entry: Alarm levels can be set by calibration and can be adjustment.

Note 2 to entry: Alarm levels typically are descripted low level, medium level and high level.

Note 3 to entry: Alarm levels are referred to as the detection limit or sensitivity.

3.17
ambient dose equivalent
operational quantity used for assessing effective dose in area monitoring

3.18
ambient monitoring
methods for identifying hazardous substances and determining their amount in air, dust, soil and water or materials in order to test human or animal exposure

3.19
ambient radiation dose
energy from ionising radiation absorbed per unit mass

Note 1 to entry: Expressed in the unit gray (Gy).

3.20
ammunition
generic term related mainly to articles of military application consisting of all kind of bombs, grenades, rockets, mines, projectiles and other similar devices

Note 1 to entry: For civilian purposes ammunition is used for small firearms.

3.21
analysis time
time that a detection instrument needs to detect and identify a threat substance

Note 1 to entry: The analysis time is an important performance indicator for a detection instrument when detection is to be performed in a time sensitive scenario.

3.22
analytical technique
fundamental scientific phenomenon that has proved useful for providing information on the composition of substances

3.23
analytic method
specific application of analytic technique to solve an analytic problem

3.24
Annual Limit of Intake
ALI
radioactivity of a specific radionuclide, which, if inhaled or ingested by a worker or member of the general public, corresponds to the corresponding annual dose limit

3.25
antidote
drug (with a known action mechanism) given to a patient to counteract the toxic effects of a poison by modifying its toxicokinetics or toxicodynamics, and whose administration reliably produces a significant benefit

3.26
antitoxin
antibodies derived from plants, animals or microorganisms that counteract a specific toxin

OR: An antibody with the ability to neutralize a specific toxin.

3.27
As Low As Reasonably Achievable
ALARA
risk management principle that mandates the minimum exposure of personnel to chemical, biological, radiological and nuclear hazards, subject only to the overriding demands of the operational mission

3.28
assembly point
area at the outer cordon for people assembling and awaiting evacuation from the scene

See: Assistance centre, Annex A.

3.29
assessment
process and the result of analysing systematically and evaluating the hazards associated with agents, sources and practices, and associated protection and safety measures

3.30
assistance centre
any facility (whether physical or virtual) set up during response to and recovery from an emergency to provide a range of assistance to different categories of people affected by the emergency

3.31
asymptomatic carrier
healthy carrier
person, animal or other organism which contracted an infectious agent without showing any apparent signs of the disease

Note to entry 1: Carriers are capable of transmitting the agent to others.

3.32
atomic energy
energy produced by atoms that is released in nuclear reactions, more specifically in the fission or fusion of the nucleus

See: Nuclear energy.

3.33
authorised carrier
person or entity which arranges the transport of radioactive material including special fissile material on its own behalf or on behalf of others, in their name or on its own, even if using the means of others responsible for the staff, vehicles and structures which are made available

Note 1 to entry: In some countries, carriers previously approved by the competent authorities can only carry out transportation by land, sea or air of special fissionable material in any quantity of radioactive material.

See: Carrier.

3.34
autoignition temperature
lowest temperature at which substances will spontaneously ignite in a normal atmosphere without an external source of ignition, such as a flame or spark

Note 1 to entry: This temperature falls as the pressure or concentration of oxygen increases.

3.35
avirulent
ability of a bacterium, virus, fungus or parasite to infect an animal and/or human without inducing a clinical disease

Note 1 to entry: Infection can be verified by determining the immune response.

3.36
background radiation
continuously present radiation in the environment and which is emitted from a variety of natural and artificial sources

See: Natural background radiation.

3.37
bacterium
prokaryotic, in most cases a single-cell, self-reproducing microorganism of few micrometres in size, lacking a true nucleus and organelles

Note 1 to entry: It is surrounded by a cytoplasmic membrane and in most cases additionally by a cell wall.

Note 2 to entry: Some of bacterium are capable to induce disease in humans, animals or plants.

3.38
binary device
binary or multicomponent device as a chemical weapon or system containing relatively non-toxic initial substances (precursors or key components)

Note 1 to entry: When the ammunition (bomb, projectile, grenade, etc.) is fired, the initial substances are mixed and allowed to react, producing a chemical warfare agent.

3.39
binary explosive
two component explosive which contains two safe-to-handle compounds

Note 1 to entry: The final explosive is prepared by mixing both compounds before use.

3.40
Biological agent
B
microorganisms (bacteria, viruses, fungi or endoparasites including genetically modified organisms) and biological toxins which may induce an infection, disease or allergy in humans, animals or plants

Note 1 to entry: Biological agents can be misused in criminal acts, bioterrorism or biological warfare.

3.41
biological hazard
biohazard
biological substances like microorganisms or biological toxins that pose a threat to the health of humans, animals or to other living organisms

Note 1 to entry: National and international authorities have categories of various agents and diseases in levels of biohazard.

See: Biological agents.

3.42
biological toxin
biotoxin
toxic substance explicitly derived from living organisms, like non-replicative, non-infectious material but which can be extremely hazardous even in small quantities

Note 1 to entry: Biological toxin can be used for contaminating of food, water supplies and to target specific individuals.

Note 2 to entry: Toxin that have been considered to be used as weapon include ricin, abrin, botulinum, staphylococcal enterotoxin B (SEB) and Tricholthecene Mycotoxins (T2s).

3.43
biological weapon
device, that consist of the biological agent and the dissemination mechanism and releases a biological agent or pathogen such as bacteria or viruses that are harmful to humans or animals and/or vegetation

3.44
Biological Weapons Convention
BWC
arms control agreement, Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction

Note 1 to entry: The BWC was the first multilateral disarmament treaty banning an entire category of weapons.

Note 2 to entry: It opened for signature in 1972, entered into force in 1975, and enjoys almost universal membership today.

3.45
biomarker
measurable characteristic (e.g. substance or alteration), which could be used as an indicator for a biological state like exposure or illness

3.46
biomonitoring
biological monitoring
measures to examine harmful substances or metabolites in exposed individuals body fluids (bound to proteins or nucleic acids) to estimate body burden and potential health risk

3.47
biorisk
combination of the probability of occurrence of a particular harmful event and the severity of the harm when the source of harm is a biological agent

Note 1 to entry: The source of the biological agent can be a natural, unintentional exposure, accidental release or loss, theft, misuse, diversion, unauthorised access or intentional unauthorised release.

3.48
biosafety
development and implementation of administrative policies, work practices, facility design and safety equipment to prevent the transmission of biological agents to laboratory personnel, other persons and the environment

3.49
biosecurity
measures of the protection of high-consequence microbial agents, technologies, materials and toxins as well as critical relevant information against theft or diversion by those who intend to misuse them intentionally

3.50
bioterrorism
threat of or an intentional release or dissemination of biological agents to cause fear, illness or death in humans, animals or plants and/or disrupt social, economic or political stability

3.51
bioterrorism-relevant agent
biological agent with the potential to be used by non-state actors in a terrorist attack (bioterrorism)

3.52
blast
rapid expansion of gases at high pressure and temperature by a result of an explosion

3.53
blasting
process to loosening e.g. rocks and soil by the use of explosives

See: Blasting explosives.

3.54
blasting explosive
term used for explosives in civil use, e.g. in quarrying, road construction, and demolition

See: Civilian explosive.

3.55
blister agents
vesicants
chemical warfare agents that cause blistering of the skin (chemical burns) as well as severe skin, eye and mucosal pain and irritation

Note 1 to entry: Larger doses can cause death. Effects arise from liquid or vapour contact with any exposed skin and mucous membranes (airways, eyes).

EXAMPLE 'mustards': sulphur mustard and nitrogen mustard, 'arsenicals': Lewisite; and phosgene oxime (not a 'true vesicant', but able to create solid lesions).

3.56
blood agent
chemical warfare agent that injures a person by interfering with cell respiration

Note 1 to entry: Is used as an umbrella term or synonym for cyanides.

3.57
boiling point
temperature at which a substance starts to change from the liquid into the gaseous physical state

3.58
bomb
explosive device that is placed, dropped, thrown or projected, designed to explode on impact or when detonated by a timing, proximity, or remote-control device

3.59
bomb suit
protective suit that is used by Explosive Ordnance Disposal (EOD) personnel

Note 1 to entry: It is a heavy suit of body armour, designed to protect against the shock from a blast as well as shrapnel from the bomb.

3.60
booby trap
device (normally improvised) designed to be triggered by an unsuspecting victim

Note 1 to entry: There are numerous common varieties of booby traps designed to trigger an explosive device with the intention to cause severe injury or death.

See: IED.

3.61
booster
part of the explosive train

Note 1 to entry: Part of the explosive train whose function is to transfer and enhance the detonation wave from the initiating explosive to a level sufficient to detonate the next part of the explosive train (other booster or main charge).

3.62
Brisance
DEPRECATED: measure of the work capacity of a high explosive e.g. accelerating matter such as metal fragments

Note 1 to entry: The detonation pressure is the major factor that has influence on brisance.

Note 2 to entry: Brisance is an obsolete term.

3.63
bulk detection
act of finding large (bulk) quantities of explosives

See: Trace detection, explosives detection system.

3.64
burster
bursting charge
small charge of explosive to open projectiles, or other ammunition in order to disperse their contents

3.65
calibration gas
reference gas or gas mixture used as comparative standard in the calibration of analytical instruments

Note 1 to entry: A calibration gas is of a precisely defined nature or composition, like zero gas.

Note 2 to entry: A calibration gas is traceable to a national or international standard. Traceability is the unbroken chain of comparisons to an acceptable international standard.

Note 3 to entry: The calibration gas standard establishes a known analyser response to a certified chemical component concentration.

3.66
calibration, instrument
<measurement instrument> comparison between equipment items, one of which is a measurement standard of known accuracy, to detect, correlate, adjust and report any variation in the accuracy of the items

3.67
canine detection
use of dog for detection of e.g. explosives or drugs

See: EDD.

3.68
cap sensitivity
measure of the minimum energy, pressure, or power required for initiation of a detonation

3.69
capability
demonstrable ability to respond to and recover from a particular threat or hazard

3.70
capability gap
gap between the current ability to provide a response and the actual response assessed to be required for a given threat or hazard

3.71
capability programme
programme to develop a range of capabilities that underpin national resilience to disruptive challenges

3.72
capability status
assessment of the level of capability in place

3.73
capability target
level of capability required by the planning assumptions

3.74
carrier
person, organisation or state administration that carries out the transport of radioactive material

Note 1 to entry: Term includes those entities that operate the transport for hire, assign it under a hire contract, occasionally hire it out for a fee (in some countries: referred to as a public carrier or contract), or which operate the transport privately (in some countries referred to as a private transporter).

See: Authorized carrier.

3.75
carrier gas
purge gas introduced so as to transport a sample through the separation unit of a gas chromatograph for analytical purposes

Note 1 entry: Typical carrier gasses are helium, hydrogen, nitrogen, and argon.

Note 2 to entry: The purity of carrier gas is at least 99,995 %. (IMU).

[SOURCE: EN ISO 14532: 2017, 2.4.4 modified – Notes 1 and 2 to entry have been added.]

3.76
cartridge
casing or shell surrounding a projectile, a propellant and a primer

Note 1 to entry: The purpose of the cartridge is to contain its content but in the case of ammunition cartridges it also seals the firing chamber to allow the projectile to exit to the front of the barrel.

3.77
Case Fatality Rate
CFR
measure of the number of deaths in a population suffering from the same disease or injury (typically expressed in %)

Note 1 to entry: In comparison: mortality rate describes the proportion of deaths in a population.

3.78
casualty
person physically or mentally injured or killed by a CBRNE accident or incident

See: Victim.

3.79
casualty decontamination
neutralisation or removal of chemical, biological or radioactive agents or materials from a casualty, allowing the partial or total removal of individual protective equipment by the casualty and carers, thereby minimising further risks to health and facilitating subsequent treatment

3.80
Chemical Abstracts Service registry number
CAS number
CAS-RN
unique numerical identifier to every chemical substance described in open-access scientific literature

Note 1 to entry: CAS numbers are assigned to groups of substances. A CAS-RN is separated by hyphens into three parts: the first comprises up to seven digits, the second comprises two digits, and the third is a single digit serving as a check digit.

Note 2 to entry: The CAS registry is a collection of disclosed chemical substance information, containing more than 88 million organic and inorganic substances and 65 million protein and DNA sequences.

3.81
casualty evacuation
medical evacuation of casualties controlled process of moving any person who is wounded, injured, or ill to and/or between medical treatment facilities

3.82
casualty management
group of post-incident medical capabilities that are applied to preserve the health of the operators, to deliver optimal care to casualties, and to maximize the rate at which casualties return to normal conditions

3.83
casualty collecting point
location where seriously injured are collected initially

See: Annex A.

3.84
CBRN Sampling and detection module
CBRNDET
certified module and part of the European Civil Protection capabilities

Note 1 to entry: The modules are temporarily self-sufficient and are able to sustain an operation in a contaminated and/or oxygen deficient environment.

Note 2 to entry: The task of modules is to carry out/confirm the initial assessment, including:

— the description of the dangers or the risks,

— the determination of the contaminated area,

— the assessment or confirmation of the protective measures already taken,

— to perform qualified sampling, to mark the contaminated area, to predict and monitor the situation, to do a dynamic assessment of the risks, including recommendations for warning and other measures, to provide support for immediate risk reduction.

3.85
CBRN agent
generic term used for CBRN substances in solid, liquid, aerosolized or gaseous forms that are designed to incapacitate or kill a person

3.86
CBRN incident
situation that might be, or could lead to, a disruption, loss, emergency or crisis, resulting from the use of CBRN weapons or devices; the emergence of secondary hazards arising from counter-force targeting; or the release of toxic industrial material into the environment, involving the emergence of CBRN hazards or effects

Note 1 to entry: CBRN incidents are either `suspected´ or `confirmed´ as appropriate to the situation.

[SOURCE: ISO 22300:2018, 3.111, modified – CBRN incident characteristic have been added]

3.87
CBRN mobile laboratory
laboratory system that provides rapid on scene evidential results to be generated routinely and to reduce the logistics and transportation burden

Note 1 to entry: The recommendation is to use a single laboratory system specific for C, B, RN or forensic capacity.

Note 2 to entry: The structure if laboratory can be light fieldable tent for short-term missions to heavier and long-term operation based on single C/B or mixed C/B/RN integrated laboratory systems on wheel, in container or in trailer.

Note 3 to entry: It is designed to be operated by a rapidly deployable staff.

Note 4 to entry: It provides flexible and affordable working area for integrated or hybrid equipment and systems that combine the advantages of current and emerging technologies.

3.88
CBRN reconnaissance vehicle
vehicle–mounted integrated system to reconnaissance platform can detect chemical, biological agents and radiation either point detection and or stand-off detection and which is operated in CBRN contaminated environment

Note 1 to entry: Vehicle operator perform operations in an environmentally controlled space that protect from all known CB agents and nuclear particles.

Note 2 to entry: Vehicle have capability to analyse and identify samples.

Note 3 to entry: Information received from the sensors is automatically prepared for electronic transmission through the CBRN warning and reporting system.

3.89
CBRN substances
chemical, biological, radiological agents and nuclear material

See: Chemical agents, biological agents, radiological and nuclear material.

3.90
CBRN system
system dedicated to provide indication (detection) and warning of emergency situations involving hazardous material or CBRNE substances and which incorporates various sensor integrations, data communications, databases, system services a control panel with user interface

See: DIM, detector.

3.91
CBRN terrorism
threat of or an intentional release or dissemination of chemical, biological or radioactive material/ agents to cause fear, illness or death in humans, animals or plants and/or disrupt social, economic or political stability

EXAMPLES

RN terrorism involving nuclear and radioactive material.

Bio terrorism involving biological agents.

CWA terrorism involving chemical weapons agents and/or toxic industrial chemicals.

Agroterrorism involving biological agents.

3.92
CBRNE
chemical, biological, radiological, nuclear and explosive

3.93
CBRNE database
large collection of CBRNE related data organised especially for rapid search and retrieval

3.94
CBRNE resilience
ability to absorb and adapt the impact of CBRNE incidents in a changing environment

[SOURCE: ISO 22300:2018 modified – CBRNE have been added]

3.95
cell culture
growth of cells under controlled conditions, generally outside of their natural environment

3.96
chain of custody
<sampling> chronological documentation which is showing the sample collection, custody of sample(s), legal significance leaving a sampling site, transfer, receipt in analysing laboratory, analysis by prober protocols, storage proper manners, and disposal of the sample

Note 1 to entry: This ensures that any results in report relate beyond all reasonable doubt to a particular individual. The sample container(s) seals will show a sample has been disturbed.

3.97
Chemical agent
C
substance which is intended for use to kill, seriously injure, or incapacitate humans through their physiological impact

Note 1 to entry: Chemical agent can affect different physiological systems by entering the human body through ingestion, skin or eye absorption, and inhalation.

Note 2 to entry: They are categorized according to their physiological effects: nerve; blood and choking; and blistering agents.

Note 3 to entry: A second useful operational classification of chemical agent is in terms of their persistency.

3.98
chemical decontaminant
substance to neutralise CBRN contaminant

Note 1 to entry: Most of the current decontaminants used in the detoxification of CBRN contaminants can be considered reactive chemicals, or chemicals that readily react with another chemical without the need for stirring, heating, or shaking.

Note 2 to entry: Typical types of chemical decontaminants are oxidizing agents, strong bases, and microemulsions.

3.99
Chemical Weapons Agent
Chemical Warfare Agent
CWA
toxic substance developed for military use intended to cause death or serious injury

Note 1 to entry:

1) pulmonary agents (lung-damaging agents, also called choking agents),

2) 'blood' agents (cyanides),

3) blistering agents (vesicants), and

4) nerve agents.

Note 2 to entry: In addition to the above, there is a group of 'incapacitating agents' or 'non-lethal agents' which are intended to cause incapacitation (a temporary inability to perform one's duties). The most important examples are BZ (causing hallucinations) and fentanyl derivatives (causing unconsciousness).

Note 3 to entry: Riot-control agents, like 'tear gases', 'pepper spray' or vomiting agents, are not recognized as incapacitating agents or CWA if they are used by law enforcement.

Note 4 to entry: Most chemical weapons agents are liquids (except for riot-control agents and BZ, which are solids at temperatures and pressures normally encountered).

3.100
Chemical Weapons Convention
CWC
Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction
arms control agreement which was signed in 1993, it entered into force in 1997 and regulates:

1) state party obligations (art. I: never to develop, produce, otherwise acquire, stockpile, or retain chemical weapons and to destroy all chemical weapons stockpiles as well as all production facilities),

2) the destruction of chemical weapons (art. IV), and

3 the shutdown of production facilities (art. V)

Note 1 to entry: For preventing the spread of precursors and toxic chemicals that may be used as weapons, their development, production, acquisition, retaining, transfer and use are subject to limits (art.VI) and inspections. Implementation of the Convention is monitored by the OPCW – Organization for the Prohibition of Chemical Weapons.

3.101
chemical effects
See: health effects of chemicals

3.102
chemical weapon
weapon specifically designed to cause death or other harm through the toxic properties of chemicals

Note 1 to entry: It consists of a substance or agent (CWA) and of some form of carrier or container (e.g. ammunition).

3.103
chemical weapons mobile destruction facility
mobile destruction facility consists of container-size units that can load equipment on a trailer bed

Note 1 to entry: It can be assembled and disassembled repeatedly and can travel around the country to conduct CWA destruction operations. The facility is set up in an appropriate location close to the temporary storehouse, with due attention to safety and the environment.

3.104
chemical weapons precursor
chemical which is useful in the manufacture of chemical weapons

3.105
chocking agent
see pulmonary agent

3.106
chronic infection
slowly developing infection which duration is in the order of weeks or months

Note 1 to entry: The agent is detectable in the chronic phase and might be eliminated by the immune system or an adequate treatment (for example hepatitis B, herpes).

Note 2 to entry: An acute infection can become a chronic infection.

3.107
civil resilience
resilience concerning civilian population and property, which is built up through governmental efforts

3.108
civil shelter
blast protected, gastight and overpressurized space with filtration unit inside

Note 1 to entry: Shelters can be designed for many different purposes.

Note 2 to entry: Civil shelters can be fully operational status continuously and/or can be dual-used in daily life (warehouse, metro station, underground car park, etc.).

3.109
civilian explosive
explosive that is commercially produced for non-military use

EXAMPLE Dynamite, ANFO (ammonium nitrate/fuel oil), and emulsion explosives, see also blasting explosives.

3.110
clean area
clean zone
contamination free area beyond the hot and warm zones where access is restricted for emergency response operations

Note 1 to entry: The command post and support functions are located in the clean area.

See: Cold zone, Annex A.

3.111
clearance decontamination
decontamination of equipment and/or personnel on temporary or permanent removal from an operation to a standard sufficient to allow unrestricted transportation, maintenance, employment and disposal

3.112
CLP Regulation
European Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures) which adopts the United Nations' Globally Harmonized System on the Classification and Labelling of Chemicals (GHS) across all European Union countries

Note 1 to entry: CLP Regulation is adopted through a suitable national or regional legal mechanism to ensure it becomes legally binding.

Note 2 to entry: It is expected to facilitate global trade and the harmonized communication of chemical hazard information and to promote regulatory efficiency. It complements the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) Regulation (EC No 190) and replaces previous system within the Dangerous Substances Directive (67/548/EEC) and the Dangerous Preparations Directive (1999/45/EC).

Note 3 to entry: The CLP Regulation incorporates the classification criteria and labelling rules agreed at UN level, the so-called Globally Harmonized System of Classification and Labelling of Chemicals (GHS). It introduces new classification criteria, hazard symbols (pictograms), hazard statements and precautionary statements, while taking account of elements, which are part of the current EU legislation.

3.113
CMR Substance
substance which producing carcinogenic, mutagenic and/or reprotoxic effects

See: Health effects of chemicals, CLP Regulation.

3.114
cold line
border line between cold zone and outer zone/area

Note 1 to entry: Cold line is same as outer cordon line.

See: Cordon, Annex A.

3.115
cold zone
contamination free area beyond the hot and warm zones where access is restricted for emergency response operations

Note 1 to entry: The command post and support functions are located in the area.

Note 2 to entry: This is also referred to as the green zone or support zone.

See: Clean area, Annex A.

3.116
Collective Protection
COLPRO
afforded by facilities or system equipped with air filtration devices and air locks which provide personnel with a CBRN hazard-free environment for performing critical work and obtaining rest and relief in order to sustain combat operation

See: fixed COLPRO, Mobile COLPRO, Transportable COLPRO, Hybrid COLPRO

3.117
combustible
<CBRNE> for material with a flashpoint above 37,8 °C, ability to burn

Note 1 to entry: Combustible materials are less easily ignited than flammable materials as their flashpoint is above 37,8 °C.

See: Flammable.

3.118
command
exercise of authority that is associated with a role or rank within an organisation, to give direction in order to achieve defined objectives

3.119
command levels
hierarchical framework of command structure for command and control of major incident, disaster and crises management

3.120
command protocol
established procedure(s) defining lines of command and responsibility in the response to an incident or emergency

3.121
commander
person who exercises authority within their organization, to give direction in order to achieve defined objectives

See: Incident Commander.

3.122
committed effective dose
measure of radiation risks resulting from the intake of radionuclides in the human body

Note 1 to entry: Its assessment is very complex, requiring specialized equipment to measure a person directly (with a whole body counter) or an assessment of the radioactivity content in excreta (an indirect method using radiotoxicology).

Note 2 to entry: Committed effective dose calculations are made over a lifetime – i.e. 70 years for infants, 50 years for adults.

3.123
common operating picture
single display of information collected from and shared by more than one agency or organisation that contributes to a common understanding of a situation and its associated hazards and risks along with the position of resources and other overlays of information that support individual and collective decision making

3.124
communicable disease
See: contagious disease.

3.125
community resilience
ability of the society (or the communities) and/or individuals to absorb and adapt in a changing environment

3.126
compliance assurance
<radiological> competent authority's systematic programme which is aimed at ensuring that the requirement of ADR regulation is met for radioactive material

3.127
concentration limits
see exposure limits for chemicals

3.128
Concept of operations
CONOPS
high level description of how a defined system will operate to achieve defined strategic objectives

3.129
confinement system
prevention or control of releases of radioactive material to the environment in operation or in accidents

Note 1 to entry: Set of components and fissile materials specified by the designer and approved by the competent authority to maintain safety on critical issues during the transportation of radioactive material.

See: Containment.

3.130
confinement system for fissile material
system comprises fissile material and packaging components, specified by the designer and approved by the competent authority, which is adequate to maintain critical safety

3.131
confirmed identification
identification confidence level criteria for analysis samples suspected containing biological, chemical or mid-spectrum agent (toxins, synthetic viruses, and genocidal agents as mass-casualty agents having features of both chemical-warfare agent and biological-warfare agent)

Note 1 to entry: Identification confidence levels are provisional identification, confirmed identification and unambiguous identification.

See: Confirmed identification biological agents, confirmed identification chemical agents.

3.132
confirmed identification, biological agents
<biological> identification confidence level criteria for analysis samples suspected containing biological or mid-spectrum agent (toxins, synthetic viruses, and genocidal agents as mass-casualty agents having features of both chemical-warfare agent and biological-warfare agent)

Note 1 to entry: Identification of a mid-spectrum agent is confirmed when any two of the three criteria for provisional identification have been met in the presence of authentic reference standards (positive and negative controls) under identical experimental conditions.

Note 2 to entry: See: Provisional identification, unambiguous identification.

3.133
confirmed identification, chemical agents
<chemical> identification confidence level criteria for analysis samples suspected containing chemical agents

Note 1 to entry: Identification of a chemical agent is confirmed when one of the following criteria has been met:

— A complete spectrum acquired using a single spectrometric technique matches the corresponding reference spectra in a database. If the molecular ion is not present in the mass spectrum, techniques such as chemical ionization is performed to confirm the molecular mass of the compound.

— The chromatographic retention data acquired for the chemical agent during mass spectrometric analysis using selected ion monitoring (minimum of three ions) matches that of an authentic reference standard. The ratio of the three ions falls within 10 % of the values of an authentic reference standard run under identical experimental conditions in consecutive analyses. The ions should have coincident maxima, the same peak width at half height and exhibit a signal to noise ratio greater than three.

See: Provisional identification, unambiguous identification.

3.134
conformity assessment
>CBRNE> activity to determine that a process, product, or service meets relevant technical standards and fulfils relevant requirements placing of explosives for civil use

3.135
confusion matrix
matrix or table containing information about actual and predicted classifications

Note 1 to entry: In the field of security and detection of threat items the predicted classifications are “alarm” and “no alarm” and the actual classifications are “presence” and “no presence” of a threat item.

3.136
consequence management
measures taken to protect public health and safety, restore essential services, and provide emergency assistance to governments, businesses, and individuals affected by the impacts of an emergency

3.137
contagious disease
agent inducing a specific disease which is (easily) transmissible by (direct) physical contact with the person or animal suffering from the disease, or with their secretions (without a vector)

See: Transmissible infection.

3.138
containment system
set of packaging components, specified by the designer which ensures the containment of radioactive material during transport

3.139
contamination
presence or transfer of hazardous chemical, biological or radioactive substances/materials to personnel, structures, areas, mobile and immobile objects, surface, soil or water

Note 1 to entry: In the case of a person, it is usually referred to as 'external' (skin contamination) or 'internal' contamination (due to an intake by breathing and/or ingestion).

3.140
contamination control
measures which ensure contamination is not transferred from an area that is already contaminated to an uncontaminated area through the orderly processing of personnel, equipment, and vehicles entering and leaving the contaminated area

3.141
contaminated area
area in which protective measures are necessary, owing to actual or potential air contamination or surface contamination in excess of a specified level

See: Hot zone, Annex A.

3.142
contamination control line
line established by competent authority identifying the area contaminated to a specific level of the contaminant of interest

See: Hot line, Annex A.

3.143
contamination control point
portion of the contamination control line used by personnel to control entry to and exit from the contaminated area

See Annex A.

3.144
contamination reduction zone
uncontaminated area which contaminate by the movement of contaminated people or vehicles

See: Warm zone, Annex A.

3.145
contingency plan
prepared by a particular agency specifying the response to a potential incident within the agency's area of responsibility

3.146
control of spread
limitation of spread, hazard containment and waste management

3.147
control zones
areas at dangerous substances incidents which based on safety and the degree of hazard

Note 1 to entry: Terms that are used to describe control zones; as the hot zone, exclusion zone, red zone, restricted zone, warm zone, contamination reduction zone, yellow zone, limited access zone, cold zone, support zone, green zone, clean zone.

See: Annex A.

3.148
Convention on Assistance in the Case of Nuclear Accident or Radiological Emergency
sets co-operation among States Parties and IAEA in case of nuclear accidents or radiological emergencies

Note 1 to entry: National points of contacts for requests' exchange, experts, equipment, and methodologies are indicated by States.

3.149
Convention on Early Notification of a Nuclear Accident
notification system of nuclear or radioactive accidents involving facilities or activities

Note 1 to entry: States notifies and reports information about the event. IAEA acts as a hub.

Note 2 to entry: Points of contact are established.

3.150
Convention on Nuclear Safety
regulations for land-based nuclear power facility high level safety

Note 1 to entry: Emergency preparedness plans are set up.

3.151
Convention on mutual assistance and cooperation between customs administrations
prevention, detection, prosecution and punishment of infringements of national and Community customs provisions through enhanced cooperation and mutual assistance between national customs services

Note 1 to entry: The cross-border cooperation includes, amongst others, prevention, investigation and prosecution in cases of illicit traffic of nuclear material or materials or equipment intended for the manufacture of atomic, biological and/or chemical weapons.

3.152
Convention on the Physical Protection of Nuclear Material
international transport regulation, domestic use storage and transport of nuclear material for peaceful purposes

Note 1 to entry: Convention provides for recovery and response in case of unauthorized removal.

3.153
Convention on the Transboundary Effects of Industrial Accidents
regulation for States' response, assistance and exchange of information in industrial accident (not radiological or nuclear)

Note 1 to entry: A notification system (IAN - UN/ECE Industrial Accident Notification System) is in place.

3.154
cordon
border line of an area

See: Inner cordon, outer cordon, Annex A.

[SOURCE: ISO/TS 17575-1:2016, definition 3.8]

3.155
counter terrorism
all measures taken to prevent and combat terrorism before, during and after hostile acts are carried out

3.156
countermeasures
actions to protect the public, buildings, critical infrastructures and private interests

3.157
crater
<explosive> after an explosion can be used by forensically trained personnel to estimate the size of the explosive charge

3.158
critical diameter
minimum diameter of an explosive that allows detonation

Note 1 to entry: The critical diameter can be affected by factors such as confinement.

3.159
critical function
service or operation the continuity of which needs to be ensured, in order to meet business objectives and/or deliver essential services

3.160
critical infrastructure
physical and information technology facilities, networks, services and assets which, if disrupted or destroyed, would have a serious impact on the health, safety, security or economic well-being of citizens or the effective functioning of governments in State

3.161
critical mass
quantity of fissile material required to ensure a self-sustaining nuclear chain reaction

Note 1 to entry: Below this amount, no nuclear reaction can continue spontaneously over time; above this quantity, a nuclear explosion may take place, under specific conditions.

3.162
Criticality Safety Index
CSI
<radiological> assigned to a package, over pack or container containing radioactive or fissile material

Note 1 to entry: Number used to control the accumulation of packages, over packs or containers containing fissile material. The value can be zero provided that an unlimited number of packages are subcritical.

3.163
critical temperature
temperature above which the substance cannot exist in the liquid state at any pressure

[SOURCE: ISO 10286:2015, 748]

3.164
cross contamination
secondary contamination
process by which contaminated materials are unintentionally transferred from one object to another or another location

3.165
cross sensitivity
sensitivity to one substance that predisposes an individual to sensitivity to other substances that are related in chemical structure

Note 1 to entry: Cross sensitivity with chemical can cause false positive detection.

3.166
Curie
DEPRECATED: unit of (radio)activity corresponding to the activity of 1 g of radium

Note 1 to entry: Corresponds to 37 billion disintegrations per second (i.e. Becquerel, the current unit of activity).

3.167
D-value, biological
<biological> time required to reduce the level (infectious titre) of a given infectious agent by 90 % by a specific inactivation procedure, for example a given dose of irradiation or a specific heat treatment

3.168
D-value, nuclear
<radiological> quantity of radioactive material, which, if uncontrolled, could result in the death of an exposed individual or a permanent injury that decreases that person's quality of life

3.169
damage reduction
consequences minimize actions when the use of a threat substance cannot be prevented

EXAMPLE The use of bomb suits for risky EOD operations, physical protection or increased distance to the explosive threat.

3.170
dangerous goods
goods containing substances and articles, which have been identified as hazardous for transport and present a risk to people, property and the environment

Note 1 to entry: The transport requires an appropriate package.

See: ADR.

3.171
decay
<radiological> spontaneous transformation of one nuclide into a different nuclide

Note 1 to entry: It is accompanied by the emission of alpha particles, beta particles, neutrons and/or gamma rays from the nucleus.

Note 2 to entry: The 'speed' of a decay process is characterized by its half-life (i.e. the time taken for half of the atoms of a radionuclide or radioisotope to undergo decay and disintegrate into another nuclide).

See: Half-life.

3.172
decay chain
<radiological> decay of discrete radioactive decay products as a chained series of transformations

Note 1 to entry: Each nuclide in the sequence or decay chain decays into the next until it forms a stable, end product.

3.173
decommissioning
<radiological> action for administrative, legal and technical process of taking a nuclear or radiological facility out of service by removing its residual radioactivity to a level that permits the radiological release of the property for unrestricted use by the general public

3.174
decontaminant
substance used to encapsulate, remove, neutralise or diminish the toxicity of chemical, biological or radioactive contaminants

3.175
decontamination
process of making personnel, objects or areas safe by absorbing, destroying, neutralizing, making harmless, or removing chemical or biological agents and radioactive material

Note 1 to entry: Decontamination can be passive or active, reflecting the urgency of the operational and/or tactical situation.

Note 2 to entry: In radioactive material decontamination includes administrative and technical actions taken to allow the removal of some or all of the regulatory controls from a facility.

See: Dry decontamination, wet decontamination.

3.176
decontamination shelter
portable (rapid deploying) or fixed facility equipped with material used to support decontamination operations

3.177
decontamination shower
simple single units, or elaborate systems with several lanes for ambulatory personnel who can decontaminate themselves or for casualties on stretchers

Note 1 to entry: Portable decontamination shower systems are designed as stand-alone units or as part of decontamination trailers and/or shelters.

3.178
decontamination station
location or building suitably equipped and organized where personnel and materiel are cleansed of chemical, biological or radiological contaminants

3.179
decontamination zone
area usually located within the warm zone where decontamination is performed

See: Warm zone, Annex A.

3.180
definitive identification
employment of multiple state-of-the-art, independent, established protocols and technologies by scientific experts in a nationally recognized laboratory to determine the unambiguous identity of a chemical, biological, radiological, and/or nuclear hazard with the highest level of confidence and degree of certainty necessary to support strategic-level decisions

Note 1 to entry: Four levels of identification associated with CBRN hazards: presumptive identification, field confirmed identification, laboratory validation identification, definitive identification.

See: Unambiguous identification.

3.181
deflagration
fast reaction of an explosive with rate below the speed of sound in the material

Note 1 to entry: Deflagration propagates by the produced heat and atmospheric oxygen is not needed for propagation of the deflagration.

3.182
defoliant
chemicals used to cause plants to drop their leaves prematurely

See: Agent Orange.

3.183
depleted uranium
uranium metal containing less of the isotope uranium-235 than in the natural uranium (0,72 %)

Note 1 to entry: Depleted uranium delivers very low radiation doses per unit of mass. It has a high chemical toxicity.

See: Uranium-238, Special Nuclear Material.

3.184
deployable detector
instrument(s) system which is carried by an individual(s) in short distances

Note 1 to entry: Typically, mobile stationary sensors, compact-sized to carry, long-term battery operated and deployable either with vehicle or carrying.

3.185
design
<radiological> description of a special form radioactive material, a low dispersible radioactive material, package or packaging, which enables such an item to be fully identified

Note 1 to entry: Design can include specifications, engineering drawings, reports demonstrating compliance with regulatory requirements, or other relevant documentation.

3.186
destruction of chemical weapons
process whereby chemicals are converted in an essentially irreversible way into a form unsuitable for the production of chemical weapons

Note 1 to entry: This irreversible process renders munitions and other devices unusable.

3.187
detection
act of locating CBRNE hazards or discovering or perceiving the presence and in some cases identity of CBRNE threat substances

3.188
Detection, Identification Monitoring
DIM
detects and characterizes CBRN incidents, identifies the agents and hazards, delineates areas of contamination, and monitors the changes

3.189
Detection limit
<Limit of Detection, LOD> smallest amount of agent or radiation that a detection instrument is capable of detecting and differentiate from any background or signal from interferents

3.190
detection principles
procedure of using detection instruments for detection, identification and monitoring taking into account the capacity of instruments and the application

3.191
detection rate
measure of the capability of a measuring instrument to make true positive alarms

Note 1 to entry: A high detection rate is a desirable property of a detection instrument but there is normally also a trade-off between using an instrument sensitive enough to detect true threats (true positives) and the selectivity to reduce the risk of false alarms contributing to the False Alarm Rate.

3.192
detection strategy
action plan for creating and maintaining detection tactics, detection principles and detection capability and capacity

3.193
detection tactics
detection equipment, techniques, and procedures needed to detect incidents in proper and safety way

Note 1 to entry: Detection tactics are made ready and rehearsed at appropriate threat levels so that hazards can be detected at the earliest possible opportunity and timely alerts and/or alarms given.

3.194
detection tube
sealed glass tubes filled with a sorbent which is impregnated with chemical agents

Note 1 to entry: After a specified volume of air flows through the tube, a colour reaction occurs between a substance present in the air and chemicals in the tube. The concentration of a substance is usually indicated by the intensity of the colour in the tube and length of the coloured area.

3.195
detector
detection instruments
device or system, including the observation of living organisms, employed to recognize the emergence, presence or absence of CBRN hazards

Note 1 to entry. Field use detectors are divided into point detector and stand-off detector.

See: Point detector, stand-off detector, remote detector.

3.196
detonating cord
detcord
primer cord
strong flexible plastic tube containing a core of high explosive encased in a textile outer jacket and a plastic coating

3.197
detonation
reaction characterized by a shock wave propagating at a velocity greater than the local speed of sound in the unreacted material

[SOURCE: ISO 13943:2017, 3.81]

3.198
detonation velocity
rate at which a detonation propagates through an explosive

Note1 entry: Depends on the type and density of the explosive. The detonation velocity is greater than the speed of sound in the unreacted explosive and is typically in thousands of meters per second.

3.199
detonator
small cylindrical case containing an explosive

Note 1 to entry: Is used for initiation of secondary explosives.

Note 2 to entry: Part of the explosive train producing the detonation wave. A detonator consists of a metal cylindrical capsule normally containing a primary explosive and a secondary charge.

3.200
diagnosis
process of determining by examination the nature and circumstances of a disease condition

Note 1 to entry: A diagnosis enables medical decisions about treatment and prognosis of a disease or a condition. Diagnostic tests can be performed to aid in the diagnosis or detection of disease.

3.201
dirty bomb
Radioactive Improvised Explosive Device
RIED
type of radiological dispersal device (RDD), which consists of improvised explosive device (IED), combined with radioactive material

Note 1 to entry: Dirty bombs are designed to use explosive force to disperse the radioactive material in order to cause radioactive contamination and to expose as many people as possible to the radiation.

3.202
disarmament
reduction, limitation and abolition of weapons, often referring to nuclear, biological or chemical weapons of mass destruction

3.203
disease
unhealthy condition of the body (or a part of it) or the mind (illness, sickness) presented by symptoms peculiar to it

Note 1 to entry: Chronic diseases are diseases of long duration (3 months or more) and generally slow progression.

See: Nosocomial disease.

3.204
disinfection
chemical or physical methods to render biological agents non-infectious or non-toxic

EXAMPLE Examples for disinfection methods are heat treatment, ultraviolet light, ozone treatment or the use of chemicals.

3.205
dispersion
spread of radioactive particles, chemical substances or biological agents

3.206
disused source
sealed source which is no longer used or intended to be used for the practice for which authorisation was granted but which continues to require safe management

3.207
dose rate
<radiological> radiation dose delivered per unit of time

3.208
dose (radiation)
<radiological> measure used to assess radiation hazards resulting from ionising radiation

3.209
dose (biological)
<biological> information on the amount of a particular infectious agent that is necessary to lead to an infection of a host human or animal

See: Infectious dose 50 % (ID50), Lethal dose and Lethal dose 50 % (LD50).

3.210
downwind
direction in which the wind blows

See: Annex A.

3.211
dry decontamination
use of techniques without water or liquids to decontaminate people or property

3.212
dual-use
research, knowledge, technology and material that is intended for good purposes but could potentially be misused to harm humans, animals or the environment

3.213
ECDC
European Centre for Disease Prevention and Control responsible for identification, assessment and communication of threats to human health by infectious diseases

3.214
ECHA
European Chemicals Agency
EU agency responsible for the implementation of EU chemicals legislation (Regulation concerning the Registration, Evaluation, Authorization and Restriction of Chemicals' (REACH))

3.215
ECURIE
European Community Urgent Radiological Information Exchange
system for early notification and exchange of information in case of radiological or nuclear emergency

Note 1 to entry: Nationally operated by a network of Contact Points (CPs) and Competent Authorities (CAs) via specific software (CoDecS).

3.216
EChemPortal
global Internet portal to information on chemical substances provided by the Organisation for Economic Co-operation and Development (OECD)

Note 1 to entry: Portal allows users to search by chemical identity and, in addition, provides new searches based on certain properties or effects, such as physical chemical properties, environmental fate and behaviour, ecotoxicity and toxicity, in the participating databases which provide for direct searching of end-point data.

3.217
effect monitoring (biological)
<biological> component of biomonitoring is used to detect alterations of biological and biochemical or clinical markers in humans or animals occurring after a (potential) exposure to (unknown) infectious agents or toxins, indicating the presence of an infection, intoxication or disease

3.218
effective dose coefficient
parameter allows units of radioactivity intake to be transformed into effective doses

Note 1 to entry: It takes into account radiation and tissue weighting factors, metabolic and biokinetic information.

Note 2 to entry: It is usually given for an integrated time of 50 years following intake (for adults) and 70 years for children.

3.219
electrostatic decontamination
decontamination process, where the application of a thin layer of biological decontamination solution on a contaminated surface, is followed by exposure to ultraviolet (UV) light, which activates the decontaminant and destroys agent DNA within seconds

3.220
emergency call centre
call centre operating 24/7/365 connecting directly to an expert (CBRNE) who is able to offer immediate expert advice in the caller's language in the event of an incident (CBRNE)

3.221
emergency decontamination
physical process of immediately reducing contamination of individuals in potentially life-threatening situations with or without the formal establishment of a decontamination corridor

See: Immediate decontamination.

3.222
emergency plan
document or collection of documents that sets out the overall framework for the initiation, management, co-ordination and control of personnel and assets to reduce, control or mitigate the effects of an emergency

3.223
emergency response
formalised protocols between industry and competent authorities to response hazardous goods transport emergencies and incidents

Note 1 to entry: National Intervention in Chemical Transport Emergencies scheme applies only to distribution incidents (i.e. those that occur outside manufacturing sites) and is formalized in a protocol between the national chemical industry federation and the national competent authorities. Depending on the capabilities and resources of a chemical industry company, there are three levels of intervention:

— Level 1 Remote product information and general advice by telephone, e-mail or fax.

— Level 2 Advice from an expert at the scene of an incident.

— Level 3 Assistance with personnel/equipment at the scene of an incident.

3.224
Emergency Response Planning Guidelines
ERPG
guidelines on air concentration for the protection of the general public against single exposures to agents

Note 1 to entry: Intended for use as tools to assess the adequacy of accident prevention and emergency-response plans.

3.225
ERPG value
concentration ranges where it is reasonable to anticipate the observation of adverse effects

Note 1 to entry: The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to 1 h, without:

1) experiencing anything other than mild transient adverse health effects or perceiving a clearly defined objectionable odour (ERPG-1);

2) experiencing or developing irreversible or other serious health effects or symptoms that could impair an individual's ability to take protective action (ERPG-2); or

3) experiencing or developing life-threatening health effects (ERPG-3).

Note 2 to entry: ERPG are issued by the American Industrial Hygiene Association (AIHA).

Note 3 to entry: See also: Exposure limits for chemicals.

3.226
Emergency Response and Coordination Centre
ERCC
the European Commission's Humanitarian Aid and Civil Protection department (ECHO) coordinated 24/7/365 contact point to support a coordinated and quicker response to disasters

Note 1 to entry: Centre collects and analyses real-time information on disasters, monitors hazards, prepares plans for the deployment of experts, teams and equipment, and works with EU Member States to map available assets and coordinate the EU's disaster response efforts by matching offers of assistance to the needs of the disaster-stricken country.

3.227
emergency service
public services related to emergency preparedness and response that are provided by government institutions, non-governmental organizations or other agencies or organisations

3.228
emergency temperature
temperature at which emergency procedures will be implemented in the event of a loss of temperature control during the transportation of radioactive material

3.229
emission
<radiological> nuclear process related to the release of one or more types of ionising radiation, such as alpha or beta particles, neutrons and gamma rays

3.230
empty container
used dangerous goods container which is purged and freed of all traces of dangerous goods

Note 1 to entry: The Proper Shipping Name is amended by 'EMPTY UNCLEANED' or 'RESIDUE LAST CONTAINED' before the Proper Shipping Name of the last contents of the empty container of package.

3.231
empty package
packaging, which had previously contained radioactive material and is in good condition and remains securely closed

Note 1 to entry: The outer surface of any packaging for uranium or thorium is covered with an inactive sheath made from metal or another substantial material.

Note 2 to entry: The level of internal non-fixed contamination, when averaged over any area of 300 cm^2, does not exceed 400 Bq/cm^2 for beta and gamma emitters and low-toxicity alpha emitters and 40 Bq/cm^2 for all other alpha emitters and any labels which may have been displayed and are no longer visible.

3.232
emulsion explosive
explosive material containing substantial amounts of oxidizer dissolved in water droplets surrounded by an immiscible fuel or droplets of an immiscible fuel surrounded by water containing substantial amounts of oxidizer

Note 1 to entry: The primary use for emulsion explosives is for civilian use in the mining industry and during road and tunnel construction work.

3.233
endemic
continuous presence of a disease or infectious agent at low levels and with low prevalence in a population (human, animal or plant) or geographic region

3.234
endotoxin
lipopolysaccharide component of the cell wall of Gram-negative bacteria which is heat stable and elicits a variety of inflammatory responses in animals and humans

See: Toxin.

[SOURCE: ISO 13408-1:2008 3.19]

3.235
energetic material
class of compounds, substances and formulations containing a high amount of stored chemical energy, which may be manipulated to be released in a controlled manner including, but is not limited to, materials such as explosives, propellants, pyrotechnics, and their ingredients

3.236
ensuring compliance
systematic programme of measures for radioactive material, which are applied by a competent authority and intended to ensure compliance with the provisions of the ADR

3.237
environmental industrial hazard
EIH
natural or artificial risk or challenge to the well-being of personnel or the authorities that derives from any source other than the presence or use of CBRN agents or analogous devices

Note 1 to entry: EIH can be of a chemical, biological or radiological nature but can also result from the physical form or behaviour of a material or process.

3.238
enzyme
<biological> biologically produced protein catalyst that accelerates the conversion of one compound (or compounds) to another (or others)

[SOURCE: ISO 11074:2015; 6.4.15]

3.239
epidemic
rapid spread of an infectious disease in the population of a geographic area at a given time period which exceeds the expected number of cases

See: Outbreak.

3.240
equilibrium
< chemistry> system status when it the forward and reverse chemical reactions occur at equal rates

3.241
equivalent dose (radiation)
<radiological> quantity to measure and assess radiation damage to a specific tissue or organ resulting from a specific type of radiation

Note 1 to entry: It is calculated by multiplying the absorbed dose by a factor, which is determined by the type of radiation.

3.242
equipment and material protection
protection of operation-essential equipment and materiel from contamination, thus reducing equipment damage, spread of contamination and the need for subsequent decontamination

Note 1 to entry: Operation-essential platforms and equipment, that risk becoming contaminated, are covered and concealed, dispersed, or otherwise protected.

3.243
exemption level
<radiological> radioactivity level established by a regulatory body and expressed in activity concentration, total activity, or dose rate, below which a source of radiation may be granted exemption from regulatory control, i.e. exempted from notification, registration or licensing

3.244
EU CBRN-Action Plan
European Union action on strengthening Chemical, Biological, Radiological and Nuclear Security in the European Union reducing threat and damage from CBRN incidents to the citizens

3.245
EU action plan on enhancing the security of explosives
enhancing the security of explosives to combat the use of explosive devices by terrorists within the EU, thereby protecting society from the threat of attacks using explosive devices while taking full account of the multiple areas of economic activity in which explosives and their precursors are used for the benefit of all

3.246
European Chemical number,
EC number
European Community number
EC No.
EC#
unique seven-digit identifier (with the format xxx-xxx-x) which is assigned to chemical substances for regulatory purposes within the European Union

3.247
Union Civil Protection Team
UCPT
expert team to support on-site assessments and / or coordination actions in major emergency

Note 1 to entry: The Team members are trained by the European Civil Protection Training Programme to provide international expertise on the top of their national expertise.

Note 2 to entry: Depending on the mandate the team size can differ.

3.248
evacuation shelter
building in an area of relative safety providing basic temporary accommodation after an emergency

3.249
evacuee
person removed from a place of actual or potential danger to a place of relative safety

3.250
excepted fissile material
<radiological> transport package with radioactive materials that satisfies one of the provisions for fissile-excepted material and so does not need to be treated as a fissile package

Note 1 to entry: It does not contain more than 15 g of fissile material.

Note 2 to entry: It contains fissile material in a homogeneous hydrogenous solution or mixture in which the ratio of fissile nuclides and hydrogen is less than 5 % by weight.

Note 3 to entry: There are no more than 5 g of fissile material in any 10-l volume.

3.251
excepted package
<radiological> package that contains radioactive material below a certain activity and with a contact dose rate, which is less than 0,005 mSv/h

3.252
exclusion zone
actual contaminated area where the initial release occurs or disperses to and in which protective measures are necessary

See: Contaminated area.

See: Hot zone, Annex A.

3.253
exogenous infection
infection caused by organisms not normally present in the body and derived from the environment

3.254
exotoxin
complex polypeptides or proteins of some living microorganism, especially certain gram-positive or gram-negative bacteria

Note 1 to entry: Exotoxins are often thermolabile molecules and they are not released upon cell death like Endotoxins but secreted or excreted in the surrounding medium by the living cell.

See: Toxin.

3.255
expelling charge
charge which expels the projectile from the barrel without providing continued propulsion after it has left the barrel

3.256
Expert Support Team
EST
operational or technical capability that can be deployed to the field to resolve a potential or actual CBRN security event

See: Reachback.

3.257
explosion
rapid expansion of matter caused by release of mechanical, thermal, chemical or nuclear energy

3.258
explosion danger area
safety area surrounding an explosive (or potentially explosive) device locating

Note 1 to entry: The explosion danger area depends on the amount of explosive.

Note 2 to entry: The danger area needs to take into account the pure blast effects (shock wave) as well as the effects of a fragmenting charge (shrapnel).

Note 3 to entry: The explosion danger area is larger for a larger amount of explosive as well as for a fragmenting charge.

3.259
Explosive
Explosive material
E
reactive chemical compound, mixture or device that contains energy that can produce an explosion when released quickly, usually accompanied by the production of light, heat, sound, and pressure

See: Explosion.

3.260
Explosive Detection Dog
EDD
trained dog for the detection of explosives and which is used as a mobile detector with a unique capability to find the source

3.261
exposure management
measures to exposure control, CBRN hazard data management and assets rotation

3.262
Explosive ordnance disposal
EOD
process by which an explosive device is rendered safe

Note 1 to entry: This is performed by specially trained EOD personnel.

3.263
explosive strength
capability of the explosive to do work

Note 1 to entry: This parameter mostly relates to industrial explosives used for blasting.

3.264
Explosive Trace Detector
ETD
detector which is specifically targeting detection of the small traces of explosive

Note 1 to entry: These traces can be available in the form of vapours or particles.

3.265
explosive train
small explosive impulse into one of sufficient energy to reliably initiate a main charge

3.266
Explosives detection system
EDS
<aviation security> X-ray screening equipment for hold baggage (also called check-in baggage)

3.267
explosives precursor
chemical reactant that takes part in the production of a home-made explosive

3.268
explosives safety
prevention of accidents and, where prevention fails, the containment of their effects

3.269
exposure limit value
concentration limit value
occupation safety limits defined by various worker protection organisations for chemical exposures

Note 1 to entry: Common occupation safety limit values for workers are TVL, PEL, REL, IDLH.

Note 2 to entry: Specific exposure limits for general public protection against accidental releases are AEGL, SPEGL, ERPG and TEEL.

3.270
exposure monitoring
diagnose or rule out an infection or intoxication after a potential exposure to a biological agent

Note 1 to entry: Depending on the infectious agent or toxin, targeted investigations can be applied like determination of genetic material of a pathogen or antibodies, or detection of the toxin.

Note 2 to entry: The aim of exposure monitoring is to intervene much earlier in the progression from exposure to disease. See also incubation period.

Note 3 to entry: Exposure monitoring can be complemented by effect monitoring and biomonitoring.

3.271
fallout
precipitation of radioactive debris or particles that occurs downwind from a nuclear device blast or other radioactive cloud source, potentially contaminating massive geographic areas

3.272
false alarm
detector responds when an agent is not present, false positive, or it fails to respond to an agent that is present, false negative

Note 1 to entry: The alarm levels for a detector are deliberately set low to ensure a minimal number of false negatives, however this means that false positives are more likely.

3.273
False Alarm Rate
FAR
measure of likelihood to make a false positive identification of an innocuous substance, and to see sensitivity of detection instrument for threat substance

3.274
false negative alarm
failure of a detector to alarm to an agent that is present

Note 1 to entry: Alarm can due to any number of reasons including operator error, changing environmental conditions, humidity effects, detector malfunction such as software quirks, and the presence of agents interferents which can mask normal detection capabilities.

3.275
false positive alarm
<detection> failure of a detector to alarm when the targeted compound is in the presence of an interferent, which may be a molecularly similar to an agent, or a substance which may contain elements that are also present in an agent

EXAMPLE Pesticides containing sulfer or phosphorus would generate a false positive chemical agent alarm when an FPD-based detector is used.

3.276
fatality rate
case fatality case
CFR
rate of deaths due to a specific disease or injury scaled to the size of persons who contracted that disease

See: Mortality rate.

3.277
field confirmatory identification
employment of technologies with increased specificity and sensitivity by special units in a field environment to identify chemical, biological, radiological, and/or nuclear hazards with a moderate level of confidence and the degree of certainty necessary to support follow-on tactical decisions

Note 1 to entry: Four levels of identification associated with CBRN hazards: presumptive identification, field confirmed identification, laboratory validation identification, and definitive identification.

3.278
field method
method employed when using mobile, mainly hand-held instruments to operate to enable the identification of unknown compounds

3.279
field sampling
potential contaminants sampling in field condition – on the incident scene

Note 1 to entry: Field sampling requires medical support for invasive medical specimen collection and/or explosive ordnance disposal (EOD) support and also involve the use of deployable analytical laboratories – CBRN mobile laboratory or fixed-based laboratories.

See: Forensic sampling.

3.280
field use
feature of device which containing factors pertaining to mobility, physical system requirements and operational conditions which is enable to operate in a variety of environmental conditions

Note 1 to entry: An ideal field use device would be small and easily transportable, easy to maintain, able to operate in a variety of environmental conditions, and require few manual steps to operate.

3.281
Filtering Facepiece Particle mask
FFP mask
respiratory protection of high quality against dust, solid particles and liquid aerosols, which could contain infectious agents

Note 1 to entry: FFP masks are available in three protective levels (FFP-1, FFP-2, FFP-3), with FFP-3 masks providing the highest level of filtering capability.

3.282
first responder
certified member of an authority with responding first to the scene of an emergency

Note 1 to entry: First responders are members of fire and rescue departments, police departments, other law enforcement agencies, hazardous materials response teams, emergency medical services, and other organizations that have public safety responsibilities and who would respond to rescue and treat victims, and who would protect the public during an incident.

See: Frontline officer.

3.283
fissile material
nuclear material in which nuclear fission can be induced by neutrons, like uranium 233, uranium 235, plutonium 239 and plutonium 241

3.284
fissionable material
nuclear material in which nuclear fission can be induced by neutrons whose energy exceeds specific thresholds, like uranium 234, uranium 238, plutonium 238 and plutonium 240

3.285
Fixed COLPRO
collective protection system integral to static facilities and may be hardened, semi-hardened or unhardened in specially built or adapted facilities

See: COLPRO, Mobile COLPRO, Transportable COLPRO, Hybrid COLPRO

3.286
flammable
inflammable
material which ignites easily and burns rapidly with a flame, or a material with a flash point below an arbitrary temperature limit of 50 °C (122 °F)

3.287
flash cartridge
consist of a casing, a primer and flash powder, all assembled in one piece ready for firing

3.288
flash fire
fire that spreads rapidly through a diffuse fuel-air mixture without the production of damaging pressure

3.289
flash powder
pyrotechnic composition used to produce a strong flash and high sound

Note 1 to entry: It contains an oxidizer and metal powder.

Note 2 to entry: This composition is normally very sensitive to mechanical stimuli and static electricity.

3.290
flashpoint
lowest liquid temperature at which, under certain standardized conditions, a liquid gives off vapours in a quantity such as to be capable of forming an ignitable vapour/air mixture

[SOURCE: IEC 60079-10-1:2015, 3.6.8]

3.291
foodborne intoxication
illness resulting from ingesting toxin-containing food

3.292
forensic sampling
forensically acceptable techniques to identify CBRN hazards and to confirm, by the unequivocal use of CBRN agents by an adversary

Note 1 to entry: As the proof of use of CBRN agents is such that it cannot be refuted, this degree of certainty cannot be achieved by information obtained solely from field sampling or unusual numbers of casualties. In such a case, additional forensic support for securing crime scene evidence is required.

3.293
formulation
<explosive> explosive formulated with other substances like binders and plasticisers to achieve a composition with the appropriate properties for a certain application

Note 1 to entry: Home-made explosives can be formulated which means that the explosive is not necessarily found in its pure form making it harder to recognize.

3.294
forward command post
forward command point
agency's command and control facility nearest the scene of the incident, responsible for immediate direction, deployment and security

Note 1 to entry: This can be either operational or tactical depending on the circumstances of the incident.

3.295
fragment
<explosive> explosion formed item, either from the shell of the explosive or e.g. nails or ball bearings placed in the explosive device

Note 1 to entry: Shrapnel is a kind of fragment.

3.296
freezing point
temperature at which a liquid turn into a solid

See: Melting point.

3.297
frontline officer
member of the responsible authority on the scene to respond to an incident

EXAMPLE Customs officer and Border guard officer.

See: First responder.

3.298
fuel
<nuclear> substance that releases energy either through an oxidation-reduction reaction between fuel and an oxidiser or a nuclear reaction such as fission or fusion

See: Nuclear fuel.

3.299
fumigation
elimination of pets within a transport container, bulk carrier or houses to prevent the spread of diseases and insects

Note 1 to entry: A fumigated road-, rail-, waterway- and air transport cargo unit is flagged with a warning tag as specified in the dangerous goods regulation. This covers road, rail, waterway and air transport.

3.300
generic emergency plan
single emergency plan developed to enable an organisation's response to emergencies arising from a wide range of risks

3.301
Globally Harmonized System of Classification and Labelling of Chemicals
GHS
harmonisation system which classifies chemicals by types of hazard and proposes harmonised hazard communication elements, including labels and safety data sheets

Note 1 to entry: It aims to ensure the availability of information on physical hazards and toxicity from chemicals so as to enhance the protection of human health and the environment during the handling, transport and use of such chemicals.

Note 2 to entry: Provides a basis for the harmonization of rules and regulations on chemicals at national, regional and worldwide level, which is important to facilitate trade, too.

Note 3 to entry: It aims to apply consistent classification criteria, hazard classes and categories, and elements of hazard communication (labels) at a global level.

3.302
GHS label
diamond-shaped hazard label squares with a red margin and containing a hazard symbol

Note 1 to entry: The labels are accompanied by signal words such as 'danger' or 'warning' and hazard statements like 'FLAMMABLE'.

See: Globally Harmonized System of Classification and Labelling of Chemicals.

3.303
green zone
contamination free area beyond the hot and warm zones where access is restricted for emergency response operations

Note 1 to entry: The command post and support are located in the area.

See: Cold zone, Annex A.

3.304
half-life biological
<biological> time in which one half of the amount or titre of a given pathogen (bacteria or virus) or toxin has lost its infectivity or toxicity, respectively

Note 1 to entry: Half-life time is dependent on environmental conditions (like temperature, protein concentration and pH).

3.305
half-life radioactivity
<radiological> time in which one half of the atoms of a particular quantity of radioactive elements decay, measured in time units

3.306
hand-held detector
instrument which is worn or carried by an individual in hands

Note 1 to entry: They are typically, light, compact-sized, battery operated and carried either in clothes or carrying pouch

3.307
hazard assessment
determination of whether hazards for health, equipment, infrastructure or environment are present or are likely to be present

3.308
hazard avoidance
development and adjustment of plans, especially in regard to the deployment and movement of units, calculated to avoid or minimize risks of exposure to chemical, biological or radiological hazards by area marking, movement control, route planning and relocating measures

3.309
hazard control
measure to avoid hazards and the risk of becoming contaminated

3.310
hazard identification
process of identifying, characterizing and validating hazards

3.311
hazard identification number
Kemler number
primary hazard indication number system using two or three-digit number

3.312
hazard management
principles of pre-hazard precautions, hazard control through avoidance, control of hazard spread, control and management of individual exposures, and decontamination to limit the impact of CBRN hazards

3.313
hazard statements
set of standardised phrases about the hazards of chemical substances and mixtures, which can be translated into different languages, based on the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

3.314
hazardous material
HAZMAT
substance or material which could adversely affect the safety of the public, handlers or carriers or the environment during transportation

3.315
Hazchem Emergency Action Code
warning-plate system in the United Kingdom, Australia, Malaysia and New Zealand on vehicles transporting hazardous substances, and for storage facilities

Note 1 to entry: The first line includes an emergency action code (EAC) comprising a single number (1 to 4, representing the type of fire suppressant) and either one or two letters (representing the required type of PPE, containment measures and the possibility of violent reactions). The second line contains the UN number, the third line gives a telephone number for specialist advice, and a warning symbol is also displayed on the plate.

3.316
health effects of chemicals
possible consequences of exposure of humans to chemical substances

EXAMPLEs

1) illness due to interference with biological processes (poisoning).

2) damage due to destruction of body tissue (corrosion/irritation).

3) sensitization of skin or respiratory organs.

4) induction of cancer (carcinogenicity).

5) damage to the genetic information in egg and sperm cells (germ cell mutagenicity);

6) impaired ability to create offspring or damage to the unborn child (reproductive toxicity or 'reprotoxic').

Note 1 to entry: Substances with have one or more of the latter three properties are also grouped as CMR substances.

3.317
high consequence dangerous goods
goods which have the potential for misuse in a terrorist event and which may, as a result, produce serious consequences such as mass casualties, mass destruction or, particularly in the case of radioactive material, mass socio-economic disruption

3.318
High Enriched Uranium
HEU
uranium containing 20 % or more of the isotope U-235 (Uranium)

Note 1 to entry: HEU is considered a special fissionable material and a direct use material.

3.319
High Explosive
HE
detonable energetic material

Note 1 entry: low explosive burns very rapidly (it deflagrates not detonate).

3.320
High-activity Sealed Source
HASS
source containing a radionuclide whose activity at the time of manufacture or – if this is not known – of the first placing on the market exceeds specific thresholds

Note 1 entry: The EU HASS Directive give specific HASS thresholds.

3.321
Home-Made Explosive
HME
explosive that is prepared from many different precursors at home by an actor with use of injuring or killing and which is used in an improvised manner

See: Improvised Explosive Device.

3.322
host
organisms (humans, animals or plants) that can be infected by an infectious agent under natural (as opposed to experimental) conditions

3.323
hot line
border line between hot zone and warm zone

See: Annex A.

3.324
hot spot
attack area
region in a contaminated area in which the level of contamination is considerably greater than in neighbouring regions

See: Annex A.

3.325
hot zone
actual contaminated area where the initial release occurs or disperses to and in which protective measures are necessary

Note 1 to entry: In radiation emergencies, hot zone is defined by the radiation exposure level (>0,1 mSv/h).

See: Contaminated area, Annex A.

3.326
Hybrid COLPRO
internally mounted collective protection system designed to provide augmented filtration and/or airflow to individuals operating or occupying aircraft or vehicles

Note 1 to entry: System is designed to provide either enhanced respiratory protection to individuals by increasing the protection factor or to provide increased airflow to individuals who have been, or are required to sustain moderate to high levels of physical activity.

See: COLPRO, Fixed COLPRO, Mobile COLPRO, Transportable COLPRO

3.327
hydrolysis
reaction of a compound with water whereby decomposition of the substance occurs

Note 1 to entry: New substances (hydrolysis products) form when a compound reacts with water.

3.328
igniter
device, which is used to initiate an explosive reaction

Note 1 to entry: An igniter can be based on non-explosive stimuli like friction, heat or electric spark and initiate the explosive train. The igniter is part of the ignition system.

3.329
igniter cord
fast burning pyrotechnic composition to transmit ignition

3.330
ignition system
system that provides the initiation of an explosive

3.331
illicit trafficking of RN materials
unauthorized receipt, possession, use, transfer or disposal of nuclear materials and other radioactive sources, whether intentional or unintentional and with or without crossing international borders

3.332
immediate decontamination
decontamination carried out by individuals upon becoming contaminated, to save life and minimize casualties

Note 1 to entry: This includes decontamination of some personal clothing and/or equipment.

See: Emergency decontamination.

3.333
Immediately Dangerous to Life or Health
IDLH
highest airborne concentration from which a person could escape within 30 min without any escape-impairing symptoms or any irreversible health effects

Note 1 to entry: Threshold defined by the US National Institute for Occupational Safety and Health (NIOSH).

See: Exposure limits for chemicals.

3.334
Improvised Explosive Device
IED
unique bomb constructed typically from whatever available explosives, an ignition system, a detonator, electronics, power source and a container and are used an improvised manner

See: Home-Made Explosive.

3.335
Improvised Incendiary Device
IID
weapon or device designed to star fire

Note 1 to entry: IIDs often contain flammable liquids, or pyrotechnic or incendiary chemicals.

3.336
Improvised Nuclear Device
IND
device built from components of a stolen weapon or other nuclear material that could produce nuclear explosions, which would produce same physical and medical effects as nuclear weapon

3.337
inactivated vaccine
dead vaccine
vaccine, which contain the killed organism, parts of it or of biological toxins

Note 1 to entry: Inactivated vaccines are administered as suspension, using adjuvants for immune stimulation.

3.338
incapacitating agent
agent which cause temporary disabling conditions which can be either physical or mental and can be viewed normally as non-lethal

Note 1 to entry: Incapacitating agents are not, by legal definition, considered to be chemical agents when used for law enforcement purposes, such as riot control.

3.339
incendiary ammunition
firearm ammunition containing an incendiary substance that burns rapidly and causes fire

3.340
Incident command post
ICP
location at the scene of an emergency where the incident commander is located and where command, coordination, control and communications are centralized

3.341
incident commander
person who exercises authority within their organisation, to provide the overall co-ordination and direction in order to achieve defined objectives at a specific incident

3.342
incubation period
time from the moment of exposure to an infectious agent until the appearance of symptoms and/or clinical signs of the disease

3.343
industrial radioactive material
IND
listed radioactive material, that is used in industry

Note 1 to entry: IND nuclides are Cs-137, Mo-99, Am-241, Bs-133, Ir-192, Co-57, Co-60.

3.344
individual protection
protection provided to an individual in a CBRN environment by protective clothing and/or personal equipment

See: IPE, PPE.

3.345
Individual Protection Equipment
IPE
personal clothing and equipment required to protect an individual from chemical, biological and radiological hazards and some nuclear effects

See: PPE.

3.346
industrial package
transport package to transport low specific activity (LSA) radioactive material LSA and surface contaminated objects (SCO)

Note 1 to entry: There are three types of industrial packaging – Type IP-1, Type IP-2 and Type IP-3 – which are used for shipments of LSA and SCO.

Note 2 to entry: The requirements packaging meets to be classified as industrial packaging are not demanding. In fact, many packages normally used in industry, such as steel drums or barrels, meet those requirements.

3.347
infection
invasion with subsequent growth and reproduction of an infectious agent in a host organism, causing a symptomatic or asymptomatic, but verifiable reaction like immunresponse

Note 1 to entry: Infections can be classified according to the route of infection, the origin of the infection and the course of the infection.

3.348
infection control
procedures and techniques in order to reduce the spread of infection in particular nosocomial infections

Note 1 to entry: The basic principle of infection control is hygiene.

3.349
infectious agent
bacteria, viruses, fungi, prions, protozoa, parasites and biological toxins which are able to infect humans, animals and plants and have the potential to induce disease

Note 1 to entry: Agents might be derived from the environment (e.g. soil or water) or transmitted from infected humans or animals.

3.350
Infectious dose 50 %
ID50%
amount of a pathogen (measured as quantity or concentration) required to cause an infection in half of the (experimentally) exposed hosts

See: Lethal dose 50 %.

3.351
information alert
time sensitive reporting that could indicate a CBRN security event, requiring assessment, and may come from a variety of sources, including operational information, medical surveillance, accounting and consigner/consignee discrepancies, border monitoring, etc

3.352
information taxonomy
<nuclear> hierarchical structure for the classification or organization of different information products used in nuclear security

Note 1 to entry: The structure of information taxonomy consist 1) Raw Data – Time stamped events detected by sensors, 2) Data – Spectra generated from raw data at certain intervals, 3) Information – Messages (metadata, data, raw data, initial analysis results) in compact format, 4) Knowledge – Verified information consisting of nuclide identification, concertation, activity and age estimation, device diagnostics, etc. and 4) Wisdom – Appropriate decision-making based on the attained knowledge. A message which is useful for first responders or frontline officers to interdict.

3.353
inhibitor
<chemical> chemical substance that decreases the rate of, or prevents, a chemical reaction, in the CBRNE context especially one that prevents the use of precursors for the production of home-made explosives or toxic chemicals

3.354
initial assessment
detection concept used by the IAEA referring to the first actions after an instrument alarm or information alert to verify the correctness of the alarm or the alert

3.355
initiating efficiency
ability of primary explosive to initiate detonation in a secondary explosive adjacent to it

3.356
initiation
beginning of a deflagration or detonation of explosives

3.357
inner cordon
inner perimeter
inner safety cordon
inner safety perimeter
surrounds the area where potentially hazardous activity may be safely conducted only by responders wearing appropriate personal protective equipment

Note 1 to entry: It includes the hot and warm zones.

See: Cordon, outer cordon, Annex A.

3.358
instrument alarm
signal from instruments that could indicate a CBRN security event, requiring assessment

Note 1 to entry: An instrument alarm can come from devices that are portable or deployed at fixed locations and operated to augment normal commerce protocols and/or in a law enforcement operation

See: Alarm.

3.359
International Atomic Energy Agency
IAEA
UN organization that seeks to promote the peaceful use of nuclear energy, and to inhibit its use for any military purpose, including nuclear weapons

3.360
International Nuclear and Radiological Event Scale
INES
tool for promptly communicating to the public, by means of consistent terms, the safety significance of reported nuclear and radiological incidents and accidents, excluding naturally occurring phenomena

3.361
inorganic compounds
compound lacking carbon atoms (or, if carbon is present, it is bound in ionic form to other atoms)

3.362
interference
chemical that may interfere with the detection of explosives using a trace detection system giving false positive

3.363
International Chemical Safety Cards
ICSC
not legally binding documents summarising essential health and safety information on identified chemicals based on UN number, CAS numbers and the Registry of Toxic Effects of Chemical Substances (RTECS/NIOSH) numbers

EXAMPLE RTECS is registered trademark of Symyx Technologies. RTECS is originally developed by the US National Institute for Occupational Safety and Health (NIOSH). This information is given for the convenience of the users of this document and does not constitute an endorsement by CEN of this product.

3.364
International Convention for the Suppression of acts of Nuclear Terrorism
UN Convention of 2005 which states are obligation to criminalize a wide range of activities involving nuclear or other radioactive material

Note 1 to entry: UN Convention of 2005/ Article 2.1 establishes as offences the unlawful and intentional possession, use, threat, attempt or participation in acts involving radioactive material (in this convention, radioactive material includes nuclear material) with the intent to cause death, serious bodily injury or property damage. The convention sets up coordination rules for criminal proceedings, evidence exchange, and post crisis management.

3.365
intoxication
poisoning by a toxic substance

3.366
invacuation
sheltering of people and other living creatures inside a building or structure within an area of actual or potential danger to reduce their risk of harm

3.367 3.380
In vivo
biological entity or process being or occurring within a living organism or in a natural setting

3.368
iodine prophylaxis
administration of potassium iodide to protects the thyroid of persons close to a serious nuclear accident caused by emissions of radioactive Iodine-131

3.369
irradiated fuel
nuclear material which has been used in a nuclear reactor and has completed its cycle, thereby becoming highly radioactive

3.370
irradiation
<radiological> transfer of energy from a radiation source or radioactive substance to the human body or another material

3.371
isolation
separation of ill persons or suspects of illness due to a communicable disease from those who are healthy

See: Person likely to be infected.

3.372
Kemler
Kemler Number or Kemler Code

See: Hazard identification number.

3.373
laboratory methods
methods used directly in the laboratory (both stationary and mobile) for precise identification

Note 1 to entry: Methods require intensive instrumentation, and analysis of substances can take several hours.

3.374
laboratory validation identification
employment of multiple independent, established protocols and technologies by scientific experts in the controlled environment of a fixed or mobile/transportable laboratory to characterize a chemical, biological, radiological, and/or nuclear hazard with a high level of confidence and the degree of certainty necessary to support operational level decisions

Note 1 to entry: Four levels of identification associated with CBRN hazards: presumptive identification, field confirmed identification, laboratory validation identification, and definitive identification.

See: Confirmed identification.

3.375
latency
<biological> time delay between exposure and the first sign of symptoms

Note 1 to entry: It is one of the defining factors for any toxic effect: toxicity, latency, persistency and transmissibility of the toxic substance.

Note 2 to entry: In substances with short latency, the effects will be immediately recognizable; examples are fast-acting pulmonary agents (with high water solubility), 'tear gas', nerve agents or cyanides.

Note 3 to entry: In substances with long latency, exposure can take place unknowingly, e.g. in the case of sulphur mustard exposure. After exposure to slow-acting pulmonary agents (with low water solubility) delayed lung oedema can occur.

See: Toxicology, toxicodynamics.

3.376
latent infection
infection that is inactive or dormant and is usually detectable only by serological methods

See: Persistent infection.

3.377
lethal agent
chemical weapon agent, like the nerve agent, blood and choking agent, and blistering agent is likely to cause death

3.378
Lethal Concentration 50 %
LC50
concentration of a gas or vapour in air or substance in water required to cause death in half of the (experimentally) exposed hosts

See: Lethal dose.

3.379
Lethal Concentration time 50 %
LCt50
calculated period of time within which a specific concentration of chemical is expected to cause death in 50 % of an exposed population

Note 1 to entry: It is usually expressed in time (minutes) multiplied by concentration (milligrams per cubic metre): $mg \cdot min/m^3$.

3.380
Lethal Dose
LD
amount or dose that is sufficient to kill a specific percentage of a population within a certain time

Note 1 to entry: It is usually expressed as LD50 = 50 % or LD100 = 100 %.

3.381
Lethal Dose 50 %
LD50
Median lethal dose
amount required to cause death in half of the (experimentally) exposed hosts

Note 1 to entry: It is a standard measurement of acute toxicity and is given in milligrams per kilogram body weight: mg/kg.

3.382
lethality
capability of something (infectious agents; chemical, biological or nuclear weapons) to cause death

Note 1 to entry: The lethality (rate) is given as number of cases of death in relation to the number of cases of a distinct disease (usually expressed in %).

3.383
limited access zone
uncontaminated area which contaminate by the movement of contaminated people or vehicles

See: Warm zone, Annex A.

3.384
Limit of Detection
LOD
Detection Limit
DL
minimum concentration of a substance, which can be observed in a sample with some degree of confidence (level is usually 99 %)

3.385
live vaccine
vaccine, which contain agents, which are able to replicate in the vaccinated human or animal and typically contain an agent related to the disease-causing microorganism, which is an avirulent or attenuated strain of the agent

3.386
Local Emergency Management Agency
LEMA
local emergency management authority, that carries out general management and coordination of all disaster response activities

3.387
Long-Term Hazard Area (potential)
area where unprotected personnel may be expected to receive doses in excess of Long-Term Hazard Dose

Note 1 to entry: Radiation exposure of individuals could constitute an increased risk of ill-health in the long term and the exposure is managed (ALARA) and recorded.

Note 2 to entry: Non-essential personnel is advised to shelter and consideration given to evacuation of the most vulnerable and those who are located in areas where survey measurements indicate the highest dose-rates. Guided by field survey measurements, consideration is given to adoption of protective equipment.

See: Long-Term Hazard dose.

3.388
Long -Term Hazard Dose (potential)
unprotected personnel may be expected to receive doses in the Long-Term Hazard Area in excess of 5 cGy over a period of 5 days

Note to entry 1: Doses are regulated on national levels.

See: Long-Term Hazard Area.

3.389
low dispersible radioactive material
solid radioactive material that has limited dispersibility and is not present in powder form

3.390
low explosive
propellants, black powder or most pyrotechnic mixture explosives that under normal conditions deflagrate

3.391
Low Level Radiation
LLR
radiation resulting from any cause other than a deliberate and successful nuclear weapon detonation, but above natural background radiation

3.392
Low Specific Activity material
LSA
limits of estimation of average specific activity either to radioactive material, which, by nature has a limited concentration of radioactive or to radioactive material

Note 1 to entry: External shielding materials surrounding the LSA material will not be considered in determining the estimated average specific activity.

3.393
Lower Explosive Limit
LEL
minimum concentration of combustible vapour or combustible gas in a mixture of the vapour or gas and gaseous oxidant above which propagation of flame will occur on contact with an ignition source

3.394
main charge
charge, in final part of the explosive train, that provides the main effect of the explosion

3.395
major public event
high profile event that a State has determined to be a potential target to include, for example, sporting, political, and religious gatherings involving large numbers of spectators and participants

3.396
mass decontamination
physical process of rapidly reducing or removing surface contaminants from a large number of victims at the same time, in potentially life-threatening situations to lower the risk of further harm and/or cross contamination

3.397
material out of regulatory control
orphan source
radioactive source, the activity level of which, at the time of its discovery, is above the exemption level, and which is not under regulatory control, either because it has never been or because it has been abandoned, lost, misplaced, stolen or transferred, without proper notification of the competent authority, to a new holder or without informing the recipient

3.398
maximum normal operating pressure
<radiological> maximum normal operating pressure shall mean the maximum pressure above atmospheric pressure at mean sea level that would develop in the containment system in a period of one year under the conditions of temperature and solar radiation corresponding to environmental conditions in the absence of venting, external cooling by an ancillary system, or operational controls during transport

3.399
measurement gas
gas that chemical instrument (detector, analyser etc.) is calibrated and/or manufactured to detect and/or analysing

3.400
measurement range
range from the minimum to the maximum measurable detection and analyte concentrations

Note 1 to entry: The minimum can be taken as zero or detection limit or alarm level. The maximum is determined by the point at which the signal no longer increases with increasing analyte concentration.

3.401
Medical use radioactive material
MED
listed radioactive material, that is used in medical treatment

Note 1 to entry: F-18, Cr-51, Ga-67, Se-75, Tc-99m, In-111, I-123, I-131, Ti-201, Sr-89.

3.402
melting point
temperature at which a solid becomes a liquid at standard atmospheric pressure

3.403
metabolism
umbrella term for all biological reactions in living organisms including absorption, transport, conversion and secretion of substances

3.404
microorganism
small organism which cannot be seen without technical support

Note 1 to entry: In most cases this is a single cell, but can also be a multi-cellular or a non-cellular entity, capable of replication or of transferring genetic material.

EXAMPLE Groups of bacteria, archaea, viruses, protozoa, animals, fungi and microalgae.

3.405
mixture
combination of two or more substances, in any form, including a solution

3.406
Mobile COLPRO
Collective protection system integral to land, maritime or air platforms and which may or may not to be capable of operation on the move or of allowing entry and exit in the face of chemical, biological or radioactive hazards.

See: COLPRO, Fixed COLPRO, Transportable COLPRO, Hybrid COLPRO

3.407
mobile decontamination system
system containing all the necessary components and subsystems for personnel, equipment, and/or infrastructure decontamination

Note 1 to entry: They are available in a variety of configurations but are usually large enough to house everything necessary for decontamination purposes.

3.408
Mobile Expert Support Team
MEST
organised and trained team of frontline officers or first responder to ensure the sustainability of the CBRN detection system and effective response to CBRN incidents

3.409
mobile laboratory
field laboratory
temporary or mobile laboratory facility deployed at the site of an operation to conduct chemical or physical analytics

3.410
model, RN material transport
<radiological> type of radioactive material (special form or not, low dispersible radioactive material or not) as well as the type of packaging

Note 1 to entry: It allows the complete identification of the object.

Note 2 to entry: Can include specifications, engineering drawings, reports demonstrating compliance with regulatory requirements, or other relevant documents.

See: A1 and A2.

3.411
morbidity
incidence of a disease/the number of ill persons due to a specific disease, scaled to the size of that population, in a given time period (typically expressed in ill persons due to a specific disease per individuals per year)

3.412
mortality rate
number of deaths (in general or due to a specific cause) in a population, scaled to the size of that population, in a given time period (typically expressed in deaths per individuals per year)

See: Fatality rate, CFR.

3.413
multi-agency plan
plan for the coordination and integration of the response to an emergency by a number of organisations

3.414
multilateral approval
approval by the relevant competent authority of the country of origin of the design or shipment, as applicable, and by the competent authority of each country through or into which the consignment is to be carried

3.415
naturally occurring radioactive material
NORM
radioactive material containing no significant amounts of radionuclides other than naturally occurring radionuclides

Note 1 to entry: Normal natural (background) radioactive nuclides K-40, Pb-214, Bi-214, Pb-212, BI-212, TI-208, Ac-228.

3.416
Not Otherwise Specified
n.o.s.
substance, mixture, solution or article that is not mentioned by name in the transportation regulation and which exhibit chemical, physical or dangerous properties corresponding to the class, classification code, packing group and the name and description of the n.o.s. entry

3.417
Treaty on the non-proliferation of nuclear weapons
NPT
treaty to limit the spread (proliferation) of nuclear weapons and to recognize nuclear weapon states

Note 1 to entry: Recognized nuclear weapon states are the United States, Russia, the United Kingdom, France and China.

Note 2 to entry: The treaty comprises rules on non-proliferation, disarmament, and the right to peacefully use nuclear technology.

3.418
natural background radiation
continuously present in the environment due to the presence of natural radiation sources, i.e. radium, uranium and thorium in rocks and building materials, cosmic rays, radon gas, etc

See: Background radiation.

3.419
nerve agent
toxic, usually odourless organophosphate that is used as a chemical weapon in gaseous or liquid form, disrupts the transmission of nerve impulses, and may cause breathing difficulties, coughing, vomiting, muscle weakness or paralysis, convulsions, coma, and death

Note 1 to entry: Main nerve agents are tabun (GA), sarin (GB), soman (GD), ethyl sarin (GE), cyclohexyl sarin (GF), and VX.

3.420
neurotoxin
toxin that interferes with or damages the nervous system

3.421
neutralisation
chemical reaction between an acid and a base to form a salt

3.422
non-compliance
failure to meet part of the quality system of a requirement or a deviation from the reference specifications

Note 1 to entry: Non-compliance relates either to the product, the system, a process or a procedure.

3.423
non-lethal weapon
weapon intended to be less likely to kill a living target than conventional weapon

Note 1 to entry: It is understood that accidental casualties are risked wherever force is applied, but non-lethal weapons try to minimize the risk as much as possible.

Note 2 to entry: In the context of security of explosives, non-lethal weapons are important tools to consider e.g. when dealing with a suspected suicide bomber.

3.424
non-persistent agent
agent which is tend to produce only short-term hazard because they are carried away by even a light wind, which may cause a downwind hazard causing little or no surface contamination

Note 1 to entry: Non-persistent agent is delivered as aerosols or liquids and usually are more lethal agent compared to persistent agent.

3.425
non-sealed source
unsealed source
radioactive source that does not correspond to the characteristics or requirements of a sealed source

3.426
normal exposure
under the normal operating conditions of a facility or activity (including maintenance, inspection, decommissioning), including minor incidents that can be kept under control, i.e. during normal operation and anticipated operational events

3.427
nosocomial disease
disease acquired in a hospital, especially in reference to an infection

3.428
nuclear attribution
process of tracing the origin of nuclear or radioactive material used in illegal activities, to determine the point of origin and routes of transit involving such material, and ultimately to contribute to the prosecution of those responsible

See: Nuclear forensics.

3.429
nuclear forensics
analysis of intercepted illicit nuclear or radioactive material and any associated material to provide evidence for nuclear attribution

3.430
nuclear fuel
radioactive material used in nuclear power plants to deliver nuclear energy

Note 1 to entry: The main nuclear fuels are uranium and plutonium.

3.431
Nuclear material
N
refers to uranium, plutonium and thorium, in any form

Note 1 to entry: This is differentiated further into “source material”, consisting of natural and depleted uranium, and “special fissionable material”, consisting of enriched uranium (uranium-235), uranium-233 and plutonium-239.

See: Radioactive material.

3.432
nuclear medicine
branch of medicine and medical imaging that uses radionuclides and relies on the process of radioactive decay in the diagnosis and treatment of disease (i.e. radiotherapy)

3.433
nuclear safeguard
system which comprises an extensive set of technical measures to verify the correctness and the completeness of the declarations made by States about their nuclear material and activities and to prevent diversion of nuclear material from peaceful uses to nuclear weapons or other nuclear explosive device

See: IAEA, NPT.

3.434
nuclear security
measures that cover areas of 1) prevention to protect nuclear and other radioactive material and facilities and transports from malicious acts, 2) detection of and response to malicious acts involving nuclear and other radioactive material and 3) information coordination and analysis, which includes evaluation, cooperation with bilateral and multilateral support programs, and information collection to support prevention, detection and response

3.435
off-site analysis
analysis conducted outside the operation site area

3.436
one health approach
integrated concept of human health being connected to animal and plant health

Note 1 to entry: Its aim is to promote animal and human health by addressing risks emerging from this interface through cooperative national and global measures.

3.437
onset
beginning of the impact of an emergency or disaster

3.438
on-site analysis
analysis conducted within the operation site area

3.439
operational decontamination
decontamination carried out by an individual and/or a unit, restricted to specific parts of operationally essential equipment, material and/or working areas, in order to minimize contact and transfer hazards and to sustain operations

Note 1 to entry: This include decontamination of the individual beyond the scope of immediate decontamination, as well as decontamination of mission-essential spares and limited terrain decontamination.

3.440
operational sampling
See: field sampling

3.441
organic compound
compound which is containing carbon that is typically found in living organisms

3.442
Organisation for the Prohibition of Chemical Weapons
OPCW
intergovernmental organisation that implement the provisions of the Chemical Weapons Convention and whose missing is to ensure a credible, transparent regime for verifying the destruction of chemical weapons (both by evaluating declarations by member states and on-site inspections); to prevent their re-emergence in any member state; to provide protection and assistance against chemical weapons; and to encourage international cooperation in the peaceful use of chemistry

3.443
organophosphate
organophosphorous compound
chemical substance which contain the elements phosphorus, carbon and oxygen

Note 1 to entry: Many insecticides and all nerve agents are organophosphates.

Note 2 to entry: Most of them are very toxic if inhaled, ingested or in contact with the skin. Toxicity is caused by the inhibition of acetylcholinesterase.

3.444
outer cordon
designate the controlled area into which unauthorized access is not permitted

Note 1 to entry: It includes the inner cordon, hot zones and warm zones.

Note 2 to entry: Outer perimeter, outer safety cordon, outer safety perimeter

See: Annex A.

3.445
outbreak
occurrence of a disease caused by an agent (e.g. bacterium or virus) not previously recognized in that community or area, which exceeds the expected number of cases

See: Epidemic.

3.446
overpack
casing, box or bag that is used by a single consignor to facilitate, by means of a single handling unit, the delivery of one or more packages, in order to improve the handling, stowage and transportation of radioactive material

3.447
oxidation
loss of at least one electron when two or more substances interact the interaction between oxygen molecules and other substances, ranging from metals to living tissue

3.448
oxidizer
substance that is not necessarily combustible, but may, generally by yielding oxygen, contribute to combustion or an explosion when reacting with a suitable fuel

Note 1 to entry: Typical oxidisers are oxygen, peroxides, nitrates, perchlorates and chlorates.

See: Fuel, explosives, balance.

3.449
oxygen balance
weight percentage excess or deficiency of oxygen required for complete oxidation of all the combustible ingredients (fuels) of an explosive (mostly carbon, hydrogen, aluminium) to produce ideal combustion products (CO_2, H_2O, N_2, Al_2O_3)

3.450
passive decontamination
natural decontamination
weathering
decontamination effected by natural processes of decay, without benefit of human or mechanical intervention

See: Active decontamination, decontamination.

3.451
package, (RN)
<radiological> complete product of the packing operation, consisting of the packaging and its contents (radioactive material) prepared for transport

3.452
packaging, (RN)
<radiological> all the components necessary to enclose the entire contents (radioactive)

Note 1 to entry: It comprises, in particular, one or more receptacles, absorbent materials, spacers, radiation shielding, service equipment for filling, emptying, ventilating and releasing pressure, and devices for cooling, absorbing shocks, facilitating handling and enabling tie-down, and for thermal insulation, and auxiliary devices which are part of the package. The packaging can be a container or tank.

3.453
packaging group
dangerous good transportation packing group according the to the degree of danger

Note 1 to entry: Packing groups are 1) substances presenting high danger, 2) substances presenting medium danger and 3) substances presenting low danger.

3.454
pathogen
pathogenic agent
organism or infectious particle or toxin with the ability to cause disease

3.455
percutaneous
substance's route of entry into the body – i.e. 'through the skin'

See: Routes of exposure.

3.456
perimeter
border or outer boundary of a defined area

See: Inner cordon, outer cordon, Annex A.

3.457
Permissible Exposure Limit
PEL
limit exposure to hazardous substances in workplace air to protect worker health

Note 1 to entry: PEL information based on NISH (National Institute for Occupational Safety and health) and OSHA (Occupational Safety and Health Administration) legally enforceable standards.

See: TLV-TWA, exposure limits for chemicals.

3.458
persistency
continued or prolonged existence of a substance and its ability over time to remain in an active state within the environment (and, in case of CWA, to still pose a threat)

Note 1 to entry: Persistency is a defining factor for any toxic effect: toxicity, latency, persistency and transmissibility of the toxic substance.

Note 2 to entry: It is inversely related to volatility: the more volatile a substance is, the quicker it evaporates and the less it tends to persist as a liquid and to contaminate terrain and material. Chemical degradation (e.g. by sunlight) is another factor which reduces contamination.

See: Toxicology, toxicodynamics.

3.459
persistent agents
<chemical> chemical agents which form of liquid droplets contaminate surfaces and produce a contact hazard that will penetrate ordinary clothing and then the skin

Note 1 to entry: They also evaporate to form a vapour hazard but this is likely to be less concentrated than the vapour formed by a non-persistent agent. The vapour hazard will exist for as long as the liquid remains or absorbent material continues to off-gas.

3.460
persistent infection
<biological> long-lasting infection or life-long latent infection with asymptomatic periods and recurring acute episodes of clinical disease (e.g. caused by herpesviruses like Herpes simplex virus) or onset of severe clinical disease after a long asymptomatic phase (e.g. caused by lentiviruses like HIV)

3.461
person borne improvised explosive device
PBIED
improvised explosive device carried on a person with the intention of attacking people or property by detonating the device while on the person

Note 1 to entry: A person carrying an PBIED is commonly referred to as ‘suicide bomber’.

See: IED, VBIED.

3.462
person likely to be infected
<biological> healthy person who is suspected to have incorporated an infectious disease agent either by direct contact with a sick person, a suspect of illness or a carrier of the agent or by direct contact with body fluids/contaminated objects of those persons

3.463
person likely to be sick
<biological> person who has developed symptoms of a disease which are in agreement with those corresponding to a specific infectious agent

3.464
Personal Protection Equipment
PPE
personal clothing and equipment required to protect an individual from chemical, biological and radiological hazards and some nuclear effects

Note 1 to entry: Personal protective equipment includes items such as gloves, safety glasses and shoes, earplugs, hard hats, respirators, or coveralls, vests and full body suits, according to specific countries existing regulation.

Note 2 to entry: Protection levels are A, B, C, D according the threat and protection level.

See: IPE.

3.465
physical decontaminant
substance to remove CBRN contaminants from surface

Note 1 to entry: Weathering, hot air, water, surfactants, and Fuller's Earth are examples of physical decontaminants.

See: Decontaminants.

3.466
physical protection
<security of explosives> security measures that are designed to mitigate the effects of a threat that could not be prevented, e.g. an IED that detonates outside an important building

Note 1 to entry: Individual protection and collective protection (COLPRO) are required physical protection action to survive CBRN incidents and continue to operate in a CBRN hazard environment.

Note 2 to entry: Physical protection can e.g. be protective barriers, body armour, reinforced concrete walls.

3.467
point detector
detector that react to hazard at the point of interception

3.468
poison centre
intoxication emergency call number
poison information hotline
medical facility, which can provide immediate, expert treatment advice and assistance over the phone in case of exposure to poisonous or hazardous substances

3.469
portability
state or quality of being portable

3.470
portable detector
instrument which is carried by an individual

Note 1 to entry: They are typically, compact-sized, battery operated and carried either with carrying case, stripes or backpack.

3.471
post mortem data
information about a dead person

See: Casualties.

3.472 3.521
potential exposure
not a certainty exposure but may result from an event or sequence of events, which are probabilistic in nature, including equipment failure and operational errors

3.473
precautionary statements
set of standardised phrases giving advice about the correct handling of chemical substances and mixtures (based on GHS)

3.474
precursor
chemical reactant, which takes part in the production of another chemical

See: Explosives precursor, chemical weapons precursor.

3.475
prediction, hazard
estimation about possible area of CBRN substances and what will happen or might happen in the future

3.476
pre-hazard precaution
measures that greatly reduce the possibility of being targeted by CBRN substances and devices and, should CBRN incidents occur, can minimize the effects of CBRN agents

3.477
preparedness phase
on-going phase focused on preparedness for emergencies and disasters

3.478
presumptive identification
employment of technologies with limited specificity and sensitivity by general forces in a field environment to determine the presence of a chemical, biological, radiological, and/or nuclear hazard with a low level of confidence and the degree of certainty necessary to support immediate tactical decisions

Note 1 to entry: Four levels of identification associated with CBRN hazards: presumptive identification, field confirmed identification, laboratory validation identification, definitive identification.

See: Provisional identification.

3.479
prevention measure
act or practices of keeping CBRN incidents from happening and creating the resilience capacity

3.480
primary explosives
substances or mixtures that can easily be detonated by a non-explosive simple initiating impulse such as a flame, impact, friction, heat, electric spark, etc.

See: Detonation, sensitivity of explosives.

3.481
primer
primary initiating device to produce a hot flame and hot combustion products to ignite for instance cartridges for firearms

3.482
propellant
energetic material whose combustion is applied for acceleration and movement of e.g. a projectile or rocket

3.483
propelling charge
charge that projectiles ammunition from its weapon

3.484
protocol
most specific description of the method

See: Analytic method.

3.485
provisional identification
identification confidence level criteria for analysis samples suspected containing biological, chemical or mid-spectrum agents

Note 1 to entry: Identification confidence levels are provisional identification, confirmed identification and unambiguous identification.

See: Provisional identification biological agents, provisional identification chemical agents.

3.486
provisional identification, biological agents
<biological> identification confidence level criteria for analysis samples suspected containing biological agent (toxins, synthetic viruses, and genocidal agents as mass-casualty agents having features of both chemical-warfare agent and biological-warfare agent) when identification criteria have been met

Note 1 to entry: A biological agent can be considered provisionally identified when one of the following criteria has been met:

1) the presence of a unique antigen for the biological agent in question is demonstrated by a positive reaction with a specific antibody in an Immunoassay test; or

2) the presence of a unique nucleic acid sequence for the biological agent in question is demonstrated by a positive reaction with a specific nucleic acid probe (gene probe) in a Polymerase Chain Reaction assay; or

3) a positive response is indicated by *in vitro* culture or multi metabolic assays.

3.487
provisional identification, chemical agents
<chemical> identification confidence level criteria for analysis samples suspected containing chemical agents when identification criteria have been met

Note 1 to entry: A chemical agent can be considered provisionally identified when one of the following criteria has been met:

1) the chromatographic retention data acquired for the chemical agent measured using two columns with different stationary phases matches that of a known chemical agent; or

2) the chromatographic retention data acquired for the chemical agent with a specific detector matches that of a known chemical (weapons) agent.

3.488
public awareness
level of knowledge within the community about risks and preparedness for emergencies, including actions the public authorities will take and actions the public should take

3.489
pulmonary agent
choking agent
chemical weapon agent, which cause physical injury to airways and lungs

Note 1 to entry: Lung-damaging agent is typically heavier than air and hang close to the ground when released.

Note 2 to entry: No antidote therapy is available, and medical treatment is only supportive.

EXAMPLE Chlorine (Cl), phosgene (CG) or diphosgene (DP).

3.490
pyrotechnics
compounds, which are able to produce a desired effect (e.g. light, sound, smoke, flame, release of gas or heat)

See: Energetic material.

3.491
quarantine
separation or restriction of free movement of a healthy person (animal or plant) who may have been exposed to a communicable disease to see if the person becomes ill

3.492
quartering
sampling method which reduces the bulk of a sample (e.g. ores or soil) to obtain a small sample of average composition for analysis

3.493
R-phrases
Risk phrases
nature of special risks attributed to dangerous substances and preparations

Note 1 to entry: The system based on the Dangerous Substances Directive, will continue to be used in parallel with GHS and CLP until 2016.

See: Hazard statement, CLP, GHS.

3.494
Radiation
Radioactive material
R
material, which releases a spontaneous emission of particles (alpha, beta, neutron) or radiation (gamma, K capture), or both at the same time, from the decay of certain nuclides that these particles are, due to an adjustment of their internal structure

Note 1 to entry: There are two basic types of radiation: ionising and non-ionising, depending on their energy.

Note 2 to entry: Ionising radiation – IR, with energy above 5 eV (electron volt), such as alpha particles and X-rays – can ionize atoms, which means it can remove electrons from atomic shells.

Note 3 to entry: Non-ionising radiation – NIR, with energy below 3 eV, like, for example, ultraviolet (UV) light and visible light – cannot ionize atoms.

Note 4 to entry: Material designated in national law or by a regulatory body as being subject to regulatory control because of its radioactivity.

3.495
Radioactive Nuclear
RN
radioactive and nuclear material

Note 1 to entry: For clarification, some entries in this glossary are labelled RN.

3.496
radiation level
<radiological> dose rate expressed in milli Sievert per hour (mSv/h) by the radioactive material transport regulation

3.497
radiation protection programme
systematic set of rules which aims at providing adequate control measures for radiation protection in transporting radioactive material

3.498
radioactive contents
radioactive material together with any contaminated or activated solids, liquids or gases within the packaging

3.499
Radioactive Explosive Device
RED
combination device of explosives and radioactive material that causes dissemination of radioactive material without a nuclear detonation

See: Dirty bomb.

3.500
Radioactive Improvised Explosive Device
RIED
homemade explosive device to scatter radioactive material

See: Dirty bomb.

3.501
radioactive source
natural or artificial manufactured source which releases a spontaneous emission of particles (alpha, beta, neutron) or radiation (gamma, K capture), or both at the same time

Note 1 to entry: A manufactured source of radiation is typically used for industrial, research, or medical applications, i.e. iodine-131 for radioisotope therapy of thyroid cancer, caesium-137 or cobalt-60 for industrial radiography in non-destructive testing and inspecting materials for hidden flaws.

See: Nuclear medicine.

3.502
radioactive waste
radioactive material in solid, liquid or gas form for which no further use is foreseen

Note 1 to entry: These substances, which can no longer be used as such in the production cycle, are subsequently transported for reprocessing or disposal.

3.503
radioactivity
spontaneous emission of energy in the form of radiation, generally alpha or beta particles, is often accompanied by gamma rays from the nucleus of an unstable isotope

3.504
radioisotope
radioactive form of an element, which may be used for therapeutic and diagnostic purposes

Note 1 to entry: The term is mainly used in nuclear medicine.

See: Radionuclide.

3.505
Radiological Dispersion Device
RDD
device that causes the purposeful dissemination of radioactive material without a nuclear detonation

Note 1 to entry: The radioactivity in RDD can be dispersed with explosive method (dirty bomb) or none-explosively, such as through spraying or spreading by hand.

See: Dirty bomb.

3.506
Radiological Exposure Device
RED
type of radiological dispersal device, using partially or fully unshielded radioactive material intended to expose people to significant doses of ionizing radiation without their knowledge (for instance sealed radioactive material hidden in a public place)

Note 1 to entry: This type of device does not cause radioactive contamination.

3.507
radionuclide
unstable isotope of an element that decays or disintegrates spontaneously, thereby emitting radiation

See: Radioisotope.

3.508
radiopharmaceutical
medicine that contains one or more radionuclides that are incorporated for therapeutic and diagnostic use

3.509

3.510 radiotoxicity
potential capacity of radioactive material to cause damage to living tissue due to its radioactive emissions

See: Effective dose coefficient.

3.511
readiness level
assessment of the extent to which a capability meets the agreed capability target

3.512
REACH
Registration, Evaluation, Authorisation and Restriction of chemicals
main EU Regulation on dangerous industrial chemicals setting standards for the registration, evaluation, authorisation and restriction of all already-existing chemicals (phase-in) as well as for new chemical substances (non-phase-in)

Note 1 to entry: In addition, it regulates the storage of Information about the properties of substances in a database (REACH-IT), which is operated by the European Chemical Agency (ECHA).

3.513
Reachback
Expert support
process of obtaining products, services, sensor data and information with expert analyses, communication between field level and experts, applications, forces, equipment or material from organisations that are not present in the incident scene

Note 1 to entry: In European context "Expert Support" is a synonym to Reachback. Sometimes these two concepts are separated:

— Reachback is a virtual network of subject matter experts to provide advisory, technical, and coordination assistance.

— Expert Support is an operational or technical capability that can be deployed to the field to resolve a potential or actual security event.

3.514
reachback centre
centre providing comprehensive consulting and support services for the CBRN operations

Note 1 to entry: A single point of contact is arranged for CBRN matters. Then information flow is straightforward and the accessibility of necessary information is guaranteed for all relevant end users.

3.515
reachback service
different services, provided by reachback centre, depending on national best practices and concept of operations

Note 1 to entry: The service can be analysis of spectra (or similar sensor data) of interest by experts for first responders, participation in law enforcement field operations, reanalysis of border monitoring data in real time, adviser services to operation centres and other authorities, advanced support to special field operations, in depth reports about the events, and emergency preparedness and readiness planning support.

3.516
ready-time
time detector takes from cold start to be ready for detection

Note 1 to entry: The ready-time of a detector is less crucial as a performance indicator than e.g. analysis time since it is typically only done once per working shift.

3.517
reconnaissance
deliberate mission undertaken to obtain information by visual observation or other methods and/or confirm the presence or absence of CBRN hazards

Note 1 to entry: It includes gathering information on adversary use of CBRN weapons or devices, associated hazards, or meteorological data for CBRN hazard prediction.

3.518
recognised installation
authorised facility in the territory of a European Union Member State for the long-term storage or disposal of sources, or is an installation duly authorised under national law for the interim storage of sources

3.519
Recommended Exposure Limit
REL
hazardous substance exposure limit for worker protection in occupational settings referring to the highest allowable airborne concentration that is not expected to injure a worker

Note 1 to entry: REL expressed as a ceiling limit or time-weighted average (TLV-TWA) for an 8- or 10-h working day.

Note 2 to entry: REL information based on NIOSH (National Institute for Occupational Safety and Health) and OSHA (Occupational Safety and Health Administration) legally enforceable standards

See: Exposure limits for chemicals

3.520
recovery phase
recovery focused on phase after emergency and which is running in tandem with response phase

3.521
recovery time, detection
<detection> time taken for a detector display to return to the baseline 'no response' value after being removed from the detected agent

3.522
red zone
actual contaminated area where the initial release occurs or disperses to and in which protective measures are necessary

See: Contaminated area.

See: Hot zone, Annex A.

3.523
Regulation concerning the International Carriage of Dangerous Goods,
RID
regulation concerning the International Carriage of dangerous goods by rail across mainland Europe

3.524
Relative Vapour Density
RVD
mass of a gas or vapour compared to air, which has an arbitrary value of 1

Note 1 to entry: If the RVD value of a gas is less than 1 then the gas is lighter than air and hence will rise – the lighter the gas the faster it rises.

Note 2 to entry: If the RVD value is greater than 1 then the gas is heavier than air and will sink.

Note 3 to entry: To calculate Relative Vapour Density of gas, RVD = Relative Molecular Mass (RMM) of gas/ Relative Molecular Mass (RMM) or air.

3.525
remote detection
process of detection with the operator being at a safe distance from a potential explosion

3.526
remote detector
point or stand-off detector employed at a distance from the protected location and facility

3.527
rendevouz point
point to which all resources arriving at the outer cordon are directed for logging, briefing, equipment issue and deployment

See: Staging area, Annex A.

3.528
rescue
assisted removal of people unable to remove themselves from an area of greatest danger to a place of relative or complete safety

3.529
reservoir
host or carrier that harbours pathogen in organisms, without injury to itself and serves as a source from which other susceptible hosts can be infected

3.530 3.588
Resolution 1540
United Nations Security Council resolution on the Non-proliferation of weapons of mass destruction where it is decided that all States shall refrain from supporting by any means non-State actors that attempt to acquire, use or transfer nuclear, chemical or biological weapons and their delivery systems

3.531
responder decontamination
planned and organized removal or reduction of hazardous materials from responders when they withdraw from their activities in the hot or warm zone at a CBRN incident

3.532
response phase
phase in which decision making and actions are focused on response to an actual emergency or disaster

3.533
response time, detection
<detection> time it takes for a detector to collect and analyse a sample, determine if an agent is present, and provide feedback

3.534
restricted explosives precursor
listed substance in EU regulations on the marketing and use of explosives precursors

Note 1 to entry: The substances are not to be available to the general public in concentrations higher than the limit value set out in the Regulation.

3.535
restricted zone
actual contaminated area where the initial release occurs or disperses to and in which protective measures are necessary

See: Contaminated area.

See: Hot zone, Annex A.

3.536
Restrictive class
class of dangerous goods which can only be transported if they are specifically mentioned in the ADR regulation

Note 1 to entry: If dangerous goods are not classified as restrictive and are not mentioned in the transport regulation they can be transported without any restrictions.

3.537
risk control
measures to reduce the likelihood of an emergency occurring from a given risk, and/or implement measures to mitigate the impacts if that emergency should arise

3.538
risk priority
relative importance of the treatment(s) required for the management of the risk, based on the risk rating and the additional capabilities required to manage risk

3.539
routes of exposure
way on which a CBRN substance enters the body

Note 1 to entry: Any harmful substance can enter an organism by: 1) Inhalation via the respiratory system (breathing in), 2) Ingestion via the gastrointestinal system (swallowing), 3) Transdermal and through the skin (percutaneous absorption) and transmucosal absorption through mucous membranes (the surface of all body passages in contact with the air), 4) Entry through wounds or otherwise damaged skin, 5) Injection subcutaneously, intramuscularly, intravenously, etc.

See: CBRN substance.

3.540
S-phrases
safety phrases
give safety advice on handling dangerous substances and preparations

See: R-phrases, CLP, GHS.

3.541
safety
relative freedom from danger, risk, or threat of harm, injury, or loss to personnel and/or property, whether caused deliberately or by accident

See: Biosafety, international chemical safety cards, safety data sheet, tremcards.

3.542
safe distance, explosives
<explosive> safe distance from an explosive event is outside the explosive danger area

3.543
Safety Data Sheet
SDS
Material Safety Data Sheet
MSDS
Product Safety Data Sheet
PSDS
documents which provide workers and emergency personnel procedures for handling or working with that substance in a safe manner, including information such as physical data (melting point, boiling point, flash point, etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment and spill-handling procedures

3.544
safety perimeter, explosives
encountered explosive device's safety distance from explosive in relation with current risk and surrounding geography

3.545
sample handling
well-defined process where only authorized personnel can be entrusted with handling and processing of samples

Note 1 to entry: The handling of samples includes storage, transport, handing over and disposal of specimens during their taking and packaging or before storage. Samples are not be left unsupervised and are be locked away for safe keeping.

3.546
sampling
retrieval for analysis of material known or suspected to have been employed in a CBRN incident, or of material suspected to have been contaminated in such an incident

Note 1 to entry: Sampling needs to be conducted by trained personnel with specific equipment to warrant a considered choice of samples, uniformity, viability, safety, and accountability in the sampling procedures.

3.547
Sampling and Identification of Biological, Chemical and Radiological Agents
SIBCRA
process of collection, transportation and identification of suspected Chemical, Biological, Radiological materials within a chain of custody

3.548
sampling technique
method of accomplishing a desired aim of selecting proper sampling procedure for known or suspected material

3.549
scene
point or area of the immediate impact of an incident or emergency

3.550
screening for aerosols
screening for explosives
screening for gels
screening for liquids
application of technical or other means, which are intended to identify and/or detect, prohibited articles

3.551
sealed source
source containing radioactive materials which are securely incorporated in solids and are thus inactive, or are sealed in an inactive container of sufficient strength to prevent, under normal conditions of use, the dispersion of radioactive materials exceeding the values set by the applicable codes of practice

3.552
search and rescue
SAR
use of specialised personnel and equipment to locate people in distress or in danger and remove them from a place of actual or potential danger to a place of relative safety

3.553
selectivity (detection)
<detection> ability of a detector to respond to the targeted chemicals in a sample separating targeted compounds, over a broad range of concentration, from any other substances which may be present in a sample

3.554
sensitivity
Limit of Detection
LOD
lowest concentration of a detected agent that can be detected with confidence

Note 1 to entry: Sensitivity can also be a measure of a detector's ability to discriminate between small differences in the concentration of an analyte.

3.555
sensor
<CBRNE detection> equipment which detects, and may indicate, and/or record objects and activities by means of energy or particles emitted, or chemical formula, or reflected or modified by objects

3.556
secondary device
IED that is placed and intended to be detonated after the primary IED has been detonated and first responders are in place

See: IED.

3.557
secondary explosive
individual explosive compound or formulations that are relatively insensitive to non-explosive stimuli

See: Sensitivity of explosives, fragment.

3.558
secular equilibrium
situation in which the quantity of an intermediate radioactive isotope remains constant because its production rate (e.g. due to decay of a parent isotope) is equal to its decay rate

3.559
security control, explosives
<explosive> application of means by which the introduction of prohibited articles may be prevented

See: Screening for explosives.

3.560
security of explosives
prevention of explosives uses contrary to law and order

3.561
Security Scanner
SSc
Body scanner
device that detects objects on a person's body for security screening purposes, without physically removing clothes or making physical contact

3.562
selectivity of detection equipment
<detection> feature (measurement the probability) of how well equipment can differentiate threats from innocuous materials

Note 1 to entry: The result of a measurement can be either of the following: True positive = correctly identified as a threat; False positive = incorrectly identified as a threat; A false-positive result contributes to the false alarm rate of an instrument; True negative = correctly rejected as a threat; and False negative = incorrectly rejected as a threat.

3.563
severe hazard area (potential)
region in which radiation doses to personnel are expected to exceed severe hazard doses

Note 1 to entry: It can be anticipated that unprotected personnel who remain in this area for significant periods receive doses high enough to cause short-term incapacitation and possibly death.

Note 2 to entry: Immediate evacuation of non-essential personnel and adoption of protective equipment is strongly recommended. Immediate medical evaluation is provided to persons leaving this area.

3.564
severe hazard dose (potential)
radiation dose to personnel are expected to exceed in the severe hazard area within 4 hours (125 cGy)

Note 1 to entry: It can be anticipated that unprotected personnel who remain in this area for significant periods may receive doses high enough to cause short-term incapacitation and possibly death.

Note 2 to entry: Immediate evacuation of non-essential personnel and adoption of protective equipment is strongly recommended. Immediate medical evaluation is provided to persons leaving this area.

Note to entry 3: Doses are regulated on national levels.

3.565
Seveso directives
<chemical> international agreement that defines a number of requirements for operators of industrial sites using a certain amount of dangerous substances, to prevent major-accident hazards involving dangerous substances, and to limit the consequences of such accidents for mankind and for the environment

3.566
shaped charge
explosive charge containing a metal liner forming a cavity facing the target to produce a high velocity cutting or piercing jet

3.567
shielding
external protection designed to reduce the intensity of ionising radiation

3.568
shock tube
nonel
non-electric initiation system which consists of resilient plastic tube internally with a thin layer of explosive

3.569
shock wave
intense compression wave propagating in the material at supersonic speed in respect to the uncompressed material which it compresses, heats and plastically deforms

Note 1 to entry: Shock waves can be generated by several mechanisms; one of them is by detonation of an explosive.

3.570
Short Term Exposure Limit
STEL
concentration which workers can be exposed continuously for a short period of time without suffering from irritation, chronic or irreversible tissue damage or narcosis of sufficient degree to increase the likelihood of accidental injury, impair self-rescue or materially reduce work efficiency

3.571
shrapnel
pre-formed fragments from an explosive device

See: Fragment.

3.572
situational awareness
state of individual and/or collective knowledge relating to past and current events, their implications and potential future developments

3.573
Special Nuclear Material
SNM
radioactive material as plutonium, uranium-233, or uranium enriched in the isotopes uranium-233 or uranium-235, but does not include source material

Note 1 to entry: The definition includes any other material that determined to be special nuclear material.

Note 2 to entry: Special Nuclear Material (Uranium-235, Uranium-238, Plutonium-239, Plutonium-238).

3.574
solid
material that has a well-defined volume and a well-defined shape with melting point or an initial melting point above 20 °C at a pressure of 101,3 kPa (kilopascal)

3.575
solubility
property of a solid, liquid, or gaseous chemical substance called solute to dissolve in a solid, liquid, or gaseous solvent

3.576
Standing Operating Procedures
Standard Operating Procedures
SOP
set of compulsory instructions, systems, procedures or steps which are written so that other operators can follow to complete the action or work safely to ensure its quality

Note 1 to entry: The purpose of a SOP is to carry out the operations correctly and always in same manners (harmonizing and standardizing).

3.577
source container
<radiological> assembly of components which is intended to guarantee the containment of a sealed radioactive source, where it is not an integral part of the source but is meant to shield the source during its transportation and handling

3.578
source localiser
radiation detection instrument or detection system that provides the location of the source, either as X-Y coordinates or as a directional angle (azimuth)

Note 1 to entry: It could also be a camera system that shows the background in black and white and the source of interest in colours above the background image

3.579
special arrangement
provisions that have been approved by the competent authority and under which consignments which do not satisfy all the ADR requirements applicable to radioactive material may be transported

3.580
special fissionable material
radioactive material of plutonium-239, uranium-233, uranium enriched in the isotopes 235 or 233 and any material containing one or more of the foregoing

See: Special Nuclear Material.

3.581
special form
<radiological> solid radioactive material which is not dispersible, or a sealed capsule containing radioactive material

Note 1 to entry: The term is used in regulations on transportation of radioactive sources.

See: Type “A” package.

3.582
special provision
prepared detailed provision for each particular dangerous goods transportation application

3.583
specify
detection instruments ability to correctly identify substances, e.g. explosives

See: Selectivity of detection equipment.

3.584
spore
dormant cell formed by certain organism like bacteria or fungi to survive critical environmental conditions

Note 1 to entry: Spores are surrounded by a thick multilayer cell wall and are highly resistant against extreme conditions of cold, heat and dryness.

Note 2 to entry: Spores of organisms like Bacillus anthracis could be suspected for usage as biological weapons.

3.585
spot test
<chemical> test which is combination of chemicals used to identify a substance by its colour change when subjected to these chemicals

3.586
staging area
locations set up at an incident where resources can be placed while awaiting a tactical assignment

[ISO 16165:2013, 2.12.2.17]

See: Rendezvous point, Annex A.

3.587
standoff detection
ability to detect substances (chemical, biological and explosives) from a distance without contacting the substance

See: Stand-off detector.

3.588
stand-off detector
detector that react to distant incident or hazard to detect substance

3.589
stationary detector
fixed detector
continuously operating designed detection instrument, with communication connection to a sensor management user interface software, to monitoring of public, mostly non-industrial facilities and critical infrastructures

See: CBRN system.

3.590
strain
genetic variant or subtype of a virus or bacterium or fungus

3.591
subclinical infection
infection, following which no clinical signs are observed; the infection can be detected by the production of antibodies against the agent

3.592
subsidiary risk
risk in addition to the primary risk of dangerous goods

3.593
support zone
contamination free area beyond the hot and warm zones where access is restricted for emergency response operations

Note 1 entry: The command post and support functions are located in the area.

See: Cold zone, Annex A.

3.594
Surface Contaminated Object
SCO
solid object which is not in itself radioactive but which presents surface radioactive contamination (i.e. radioactive material is distributed on its surface)

3.595
surface tension
force that causes the surface of a liquid to contract, reducing its surface area to a minimum

EXAMPLE In zero gravity droplets of liquids create ideal spheres (a sphere has a minimal surface in relation to its volume)

3.596
surveillance
systematic observation of aerospace, surface or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means for determining the presence or absence of CBRN hazards

3.597
survivor
person, whether injured or not, who is not killed in an incident or emergency

3.598
survey
directed effort to determine the nature and degree of CBRN hazards in an area of confirmed or suspected contamination, and to delineate the boundaries of the hazard area

Note 1 to entry: This includes monitoring the degree of radiation or the presence of a biological or chemical hazard, and the sampling of items suspected of CBRN contamination.

3.599
survey instrument
device used to locate contamination and/or to confirm decontamination of personnel, equipment, and facilities

Note 1 to entry: Use of a survey instrument or monitor implies hands-on operation where the operator is required to apply judgments to instrumental output (level of contamination, location of contamination, etc.).

3.600
suspect of infection
suspected case of infection meets the clinical case definition

Note 1 to entry: The signs and symptoms of a person are consistent or compatible with a particular disease. Laboratory confirmation or epidemiological link is performed.

See: Person likely to be sick.

3.601
swap
swipe
material used to collect a threat substance from a surface and then used to transfer the collected substances into a trace detector or laboratory analyse

See: Detection, trace detection, explosives, sampling, sample handling.

3.602
systemic infection
general infection
infecting agent is widespread throughout the body, instead of being concentrated in one area

3.603
technical support
advice service provided, usually over the phone, to help first responder who have problems with equipment, and analyses of devices

Note 1 to entry: Technical support can also be provided over the internet via remote control.

Note 2 to entry: Technical support includes advice, equipment support, communication methods, and training and exercise services.

3.604
thermal decontaminant
hot air in use of physical remove CBRN contaminant from surfaces

Note 1 to entry: The effectiveness of hot air decontamination varies with respect to the physical properties of the CBRN agent being decontaminated and, to a lesser extent, the contaminated material.

3.605
thickened
non-persistent
chemical agent that have been mixed with another substance (commonly an acrylate) to increase it persistency

Note 1 to entry: They do not dissolve as quickly in biological fluids, nor are they absorbed as rapidly by tissue as other similar agents.

Note 2 to entry: Though the vapour hazard to surgical personnel is extremely low, contact hazard does remain.

3.606
thorough decontamination
decontamination carried out by a unit, with or without external support, to reduce contamination on personnel, equipment, materiel and/ or working areas to the lowest possible levels, to permit the partial or total removal of individual protective equipment and to maintain operations with minimum degradation

Note 1 to entry: This includes terrain decontamination beyond the scope of operational decontamination.

3.607
Temporary Emergency Exposure Limit
TEEL
concentration levels to which nearly all individuals may be exposed for up to 1 hour

Note 1 to entry: TEEL-levels are: TEEL-1 Without experiencing more than mild, transient adverse health effects or perceiving a clearly defined objectionable odour; TEEL-2 Without experiencing or developing irreversible or other serious health effects; or TEEL-3 Without experiencing or developing life-threatening health effects; TEEL-0 is a threshold concentration below which most people will experience no adverse health effects.

See: Exposure limits for chemicals.

3.608
test gas
gas of sufficient stability and homogeneity whose composition is properly established for use to verify the response of a measuring instrument or to validate a measurement method

See: Calibration gas.

[SOURCE: ISO 17621:2015, 3.9]

3.609
Threshold Limit Value
TLV
chemical exposure limit for worker protection in occupational settings which refers to airborne concentrations of substances and represents conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without any adverse effects

See: Exposure limits for chemicals.

3.610
Time-Weighted Average
TWA
average exposure to a contaminant to which workers may be exposed without adverse effect over a period such as in an 8-hour day or 40-hour week

Note 1 to entry: Usually expressed in units of ppm (volume/volume) or mg/m^3.

See: TLV-TWA, exposure limits for chemicals.

3.611
threat assessment
component of the civil protection risk assessment process in which identified threats are assessed for risk treatment

3.612
toxic
poisonous; able to be harmful or deadly to any form of living organisms as a result of physicochemical, poisonous interaction of the substance with cellular components

3.613
toxic chemical
chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals

Note 1 to entry: This includes all such chemicals, regardless of their origin or of their method of production, and regardless of whether they are produced in facilities, in munitions or elsewhere.

3.614
Toxic Industrial Biological
TIB
biological agent, which is used in industrial operations or research, which, if released, have effects on human health or on the environment

Note 1 to entry: Possible sources of TIB include hospitals and other medical installations and research, production, storage or recycling facilities for the pharmaceutical or agricultural industries.

3.615
Toxic Industrial Chemical
TIC
chemical, which is used in industrial operations or research, which, if released, have adverse effects on human health or on the environment

Note 1 to entry: NATO defines a TIC as a chemical that: (1) is more toxic than ammonia; and (2) is produced in quantities greater than 30 tonnes per year at any given production facility.

Note 2 to entry: Some TICs can be used as CWA, e.g. chlorine or phosgene.

3.616
Toxic Industrial Hazard
TIH
hazard resulting from the release by any means of toxic industrial material resulting in the contamination or irradiation of personnel or the environment, area or any particular object

3.617
Toxic Industrial material
TIM
industry-associated material with the potential to cause harmful effects on humans

See: Toxic industrial biologicals toxic industrial chemical, toxic industrial radiological.

3.618
Toxic Industrial Radiological
TIR
material which is capable of producing radioactive hazards are, like civil nuclear production, research, recycling and storage facilities; waste containment sites; industrial and medical sources; materials and sources in transit; stolen or smuggled nuclear weapons grade material

Note 1 to entry: The characteristics of radioactive hazards produced will depend on the type of radiation and the nuclide involved.

3.619
toxicant
toxic, poisonous substance (the broadest meaning) or poisonous substance not derived from the metabolism of an organism (a narrow sense)

Note 1 to entry: By using this definition, poisonous chemicals can be differentiated from toxins, which are poisonous organic substances produced by living cells (bacteria or fungi, etc.) or organisms (like spiders, snakes and scorpions, etc.).

3.620
toxicity
degree to which a substance like a toxin has an effect on a living organism (human, animal, plant, bacterium, etc.)

Note 1 to entry: Toxicity is generally expressed as a dose–response relationship, involving the quantity of substance to which the organism is exposed and the route of exposure.

Note 2 to entry: Toxicity can refer to the effect on a substructure of the organism, such as a cell (cytotoxicity) or an organ such as the liver (hepatotoxicity).

See: Lethal dose.

3.621
toxicodynamics
study of the cellular and molecular action mechanisms of a poison

See: Toxicology.

3.622
toxicokinetics
study of the absorption, distribution, metabolism and elimination of a poison

See: Toxicology.

3.623
toxicology
study of the nature and effects of poisons, their detection and the treatment of poisoning

3.624
toxidrome
syndrome – a collection of signs and symptoms that is characteristic of a single condition – caused by a specific level of toxins in the body

3.625
toxin
poisonous substance produced by living cells or organisms with the ability to cause a disease by contact with or uptake by the body and interaction with cellular proteins (enzymes or cellular receptors)

Note 1 to entry: Toxins can be small molecules, peptides or proteins.

3.626
toxinology
interdisciplinary scientific branch of toxicology, which focuses exclusively on toxins from plants, animals, fungi and microorganisms like moulds or bacteria and their effects

3.627
trace detection
particle detection
act of finding small quantities of explosives

See: Explosive trace detector, explosives.

3.628
transmissibility
ability to be transferred from person to person

See: Toxicology, toxicodynamics.

3.629
transmissible infection
infection capable of being transmitted from one animal to another, from human to human, from animal to human (zoonosis) or from human to animal

Note 1 to entry: Usually the route of infection is described: sexually transmissible infection, transfusion-transmissible infection, transmission by a vector (vector-borne infection).

See: Contagious disease.

3.630
Transportable COLPRO
stand-alone collective protection system capable of being deployed into an area of operations

Note 1 to entry: System usually is unhardened but can be capable of erection within buildings or other enclosures.

See: COLPRO, Fixed COLPRO, Mobile COLPRO, Hybrid COLPRO

3.631
transport in bulk
carriage of solids or articles not packed in containers or vehicles

3.632
Transport Index
TI
radiation exposure control number, which is assigned to a package, overpack or container, or to unpackaged LSA-I or SCO-I, for the carriage of radioactive material

Note 1 to entry: The transport index for any package or overpack cannot exceed 10. The TI corresponds to the maximum dose rate, expressed in mrem/h (millirem/hour; 1 mrem/h $=10^{-5}$ mSv/h), measured at 1 m.

Note 2 to entry: To obtain the maximum dose rate in mSv/h, which is to be expected in 1 m distance from the surface, the TI is divided through 100.

3.633
transport legislation
see ADR, ADR labels, Classes of dangerous goods, Convention on the Physical Protection of Nuclear Material, Dangerous goods core legislation, Excepted fissile, Industrial package, N.O.S., Package RN, Packing group, Special arrangement, Transport index, Tremcards, Tunnel restriction code, Type “A” package, Type “B” package, Type “C” package

3.634
transportation
transfer of dangerous goods, including the stops required by the conditions of carriage and other dangerous goods vehicles, tanks and containers, according to the traffic situation before, during and after the transfer

3.635
Tremcard
Transport emergency card
safety instruction and information involving accident of dangerous good, are arranged in a present pattern on a transport emergency card and delivered by the employer to the carrier in a language understood by the driver

3.636
triage
sorting
assessment of casualties and allocation of priorities by the medical services at the scene or a receiving hospital

3.637
type 'A' package
<radiological> radionuclides transport package classification and labelling system for transport radionuclides for medical purposes and for some nuclear fuel cycle materials

Note 1 to entry: The package is designed for the transport of relatively small but significant quantities of radioactive material.

Note 2 to entry: The basic packages are required to maintain their integrity during normal transport conditions.

Note 3 to entry: Requirements for Type A, Type B and Type C packages and packages for fissile materials are given in the ADR, 6.4.7 to 6.4.11.

3.638
type ‘B’ package
<radiological> radionuclides transport package classification and labelling system for transport of highly radioactive material, e.g. unencapsulated radioisotopes for medical and research uses, or spent nuclear fuel

Note 1 to entry: The packaging container is designed and constructed to contain specific radionuclides whose levels of radioactivity are greater than A1 or A2 values.

Note 2 to entry: The outermost layer of a Type B(U) and Type B(M) package is fire- and water-resistant.

Note 3 to entry: This outer container will be plainly marked by embossing, stamping or other means with the trefoil symbol.

Note 4 to entry: Requirements for Type A, Type B and Type C packages and packages for fissile materials are given in the ADR, 6.4.7 to 6.4.11.

3.639
type 'C' package
<radiological> radionuclides transport package classification and labelling system for transport of fissile material by air (e.g. plutonium)

Note 1 to entry: The packaging container is designed and constructed to contain specific radionuclides whose levels of radioactivity are greater than A1 or A2 values.

Note 2 to entry: The outermost layer of a Type C package is fire- and water-resistant.

Note 3 to entry: This outer container will be plainly marked by embossing, stamping or other means with the trefoil symbol.

Note 4 to entry: Requirements for Type A, Type B and Type C packages and packages for fissile materials are given in the ADR, 6.4.7 to 6.4.11.

3.640
unambiguous identification
highest level of identification confidence level criteria for analysis samples suspected containing biological, chemical or mid-spectrum agents

Note 1 to entry: Identification confidence levels are provisional identification, confirmed identification and unambiguous identification.

See: Unambiguous identification biological agents, unambiguous identification chemical agents.

3.641
unambiguous identification, biological agents
<biological> identification confidence level criteria for analysis samples suspected containing biological or mid-spectrum agent (toxins, synthetic viruses, and genocidal agents as mass-casualty agents having features of both chemical-warfare agent and biological-warfare agent)

Note 1 to entry: Confirmed identification becomes unambiguous if the following criteria prove true for the biological agent in question in the presence of authentic reference standards (positive and negative controls) under identical experimental conditions:

1) a positive response is obtained by a genetic identification method; and

2) a positive response is obtained by an immunological method; and

3) a positive match is obtained by *in vitro* culture or multi metabolic assay; and

4) the disease properties of the microbial agent are confirmed in an accepted animal model, if such a model exists.

3.642
Unambiguous identification, chemical agents
<chemical> identification confidence level criteria for analysis samples suspected containing chemical or mid-spectrum agents

Note 1 to entry: The identification of a chemical warfare agent is unambiguous when the following criterion has been met:

a) the chromatographic retention data acquired for the chemical warfare agent and spectra acquired using two different spectrometric techniques match those obtained for an authentic reference standard under identical experimental conditions in consecutive analyses. If the molecular ion is not present in the mass spectrum, techniques such as chemical ionization is carried out to confirm the molecular mass of the compound.

3.643
Union Civil Protect Mechanism
UCPM
European Commission civil protection mechanism to support European Union member states and third parties in major emergencies

Note 1 to entry: UCPM includes: European Emergency Response and Coordination Centre (ERCC), expert teams (EUCPT), modules (stand-by emergency response units), the secure Common Emergency Communication and Information System (CECIS), the European Union Civil Protection Training Programme and the financial instrument

3.644
UN number
four-digit number for the labelling of hazardous substances in international transport

Note 1 to entry: Most hazardous substances possess a unique UN number.

Note 2 to entry: Some UN numbers denote groups of substances. The complete list of UN numbers can be found in UN model Regulations or in the ADR/RID Regulation.

3.645
unilateral approval
approval of a package design which is only required from the competent authority in the design's country of origin

3.646
Upper Explosive Limit
UEL
highest concentration of a vapour or gas in air that is able to be ignited by an ignition source

Note 1 to entry: Higher concentrations are 'too rich' to burn.

See: Lower explosive limit.

3.647
Urban Search and Rescue in CBRN conditions module
USARCBRN
certified module and part of the European Civil Protection capabilities

Note 1 to entry: The modules are temporarily self-sufficient and are able to sustain a search and rescue operation in a contaminated environment as well as to decontaminate staff, victims and equipment afterwards.

3.648
Unexploded Ordnance
UXO
explosive ordnance which has been primed, fused, armed or otherwise prepared for use or used

Note 1 to entry: it could have been fired, dropped, launched, projected yet remains unexploded either through malfunction or design or for any other cause.

3.649
vaccination
administration of vaccines in order to yield immunity against a causative biological agent and protection from subsequent disease

3.650
vaccine
biological preparation that induces or improves protective immunity against a particular infection or disease

3.651
vapour pressure
tension of saturated vapour
Pressure exerted by the vapour of a liquid when in equilibrium with the liquid

Note 1 to entry: It is the pressure in a closed space above a substance when no other gas is present.

[SOURCE: ISO 4256: 1996, 3.1 – added note 1 to entry]

3.652
vector
transmitting mechanism of infectious agents, which can be living or dead and act mechanically or biologically

3.653
vehicle
>transport of dangerous goods> articulated road vehicle – i.e. the combination of a tractor and semi-trailer – or a railway wagon

3.654
vehicles
<biological> infectious agents transmitted methods either by organisms (vectors) or by inanimate objects (vehicles or fomites), including contacting materials such as door-handles and money, but also other materials such as dust and water

3.655
Vehicle Borne Improvised Explosive Device
VBIED
improvised explosive device carried by a vehicle with the intention of attacking people or property by detonating the device while in the vehicle

See: PBIED.

3.656
venue
identified location (such as a building, stadium, open area/park, religious place) where a major public event actually takes place

3.657
verified information
confirmed as to accuracy or truth by acceptable evidence, action or verification process

3.658
victim
person, whether injured or not, who is affected psychologically or physically by an incident or emergency

3.659
virus
agent capable of reproducing only in a host cell and spreading diseases by moving from host to host

3.660
volatility
maximum concentration in a closed space
tendency of a solid or liquid substance to pass into the vapour state at a given temperature depending on vapour pressure and varies according to the temperature

3.661
World Health Organisation
WHO
agency of the United Nations (UN), which is the directing and coordination authority for health and the leadership on global health matters and global public health promoting

3.662
warm line
border line between warm and cold zone /area

See: Annex A.

3.663
warm zone
uncontaminated area which contaminate by the movement of contaminated people or vehicles

Note 1 to entry: Area next to hot zone that is considered safe for workers to enter with appropriate personal protective equipment, including areas for decontamination activities.

See: Decontamination zone, Annex A.

3.664
warning
incident command approved statement that a chemical, biological, radiological and nuclear attack or incident has occurred or is presumed to have occurred

3.665
warning and reporting (CBRN)
<CBRN> process by which reports of chemical, biological, radiological and nuclear attacks or incidents are forwarded through the chain of command and units and/or public are warned of the resulting hazards

Note 1 to entry: The process is coordinated by a hierarchical structure of chemical, biological, radiological and nuclear responsible authorities and organisations.

3.666
warning plate (ADR)
Orange plate
<transport of dangerous goods> dangerous goods transportation orange colour UN numbered ADR warning plate at front and rear of vehicle

See: Kemler number.

3.667
waste
substances, solutions, mixtures or items that cannot be used as such but which are transported for reprocessing, disposed of in a landfill, or disposed of by incineration or by another method

3.668
water-borne infection
route of exposure to the infecting agent is by water

See: Vehicles, biological.

3.669
Weapons of Mass Destruction
WMD
nuclear, chemical and biological weapons, including their means of delivery (missiles, rockets and other unmanned systems)

3.670
wet decontamination
application of water (or other liquids) to decontaminate people or property

See: Dry decontamination, mass decontamination.

3.671
wettability
property (ability) of a solid surface to reduce the surface tension of a liquid in contact with it so that it spreads over the surface and wets it

3.672
X-ray machine
device that is able to produce ionising radiation (X-rays), usually by the acceleration of charged particles

Note 1 to entry: These X-rays pass through the human body and an image is formed from the 'shadow' created by the body as it is positioned between the X-ray machine (source of the X-ray beam) and the X-ray detector.

3.673
yellowcake
coarse powder which is insoluble in water, containing 80 % uranium oxide (U_3O_8 mainly) obtained from milling and chemical processing of uranium ore

Note 1 to entry: It is used for the production of reactor nuclear fuel such as uranium oxide (without enrichment) or uranium fluoride (for enrichment).

3.674
yellow zone
uncontaminated by the initial release of a substance, which becomes contaminated by the movement of people or vehicles

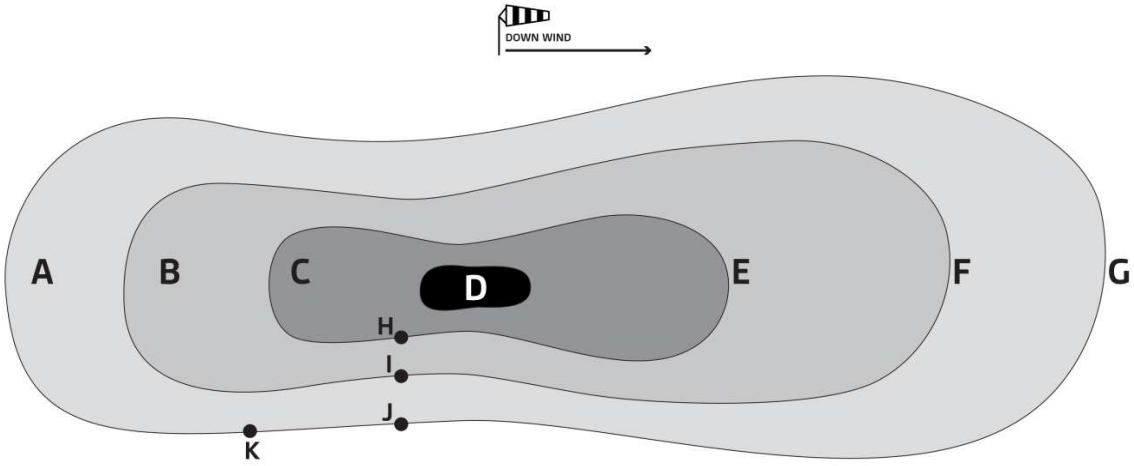
See: Warm zone, Annex A.

3.675
Zoonosis
disease communicable from lower animals to man

3.676
Zoonotic disease
disease that affects both humans and animals

Annex A
(informative)

Control areas and zones



A	B	C	D	E	F	G	H	I	J	K
Clean Area	**Contamination reduction Zone**	**Contaminated Area**	**Hot Spot**	**Hotline**	**Warm Line**	**Cold Line**	**Contamination Control Point**	**Casualty Collection Point**	**Assembly Poinr**	**Rendevouz Point**
Cold Zone	Warm Zone	Hot Zone		Contamination Control Line	Inner Cordon Line	Outer Cordon Line				Staging Area
Clean Zone	Yellow Zone	Red Zone								
Green Zone	Limited Access Zone	Exclusion Zone								
Support Zone	Decontamination Zone	Restricted Zone								

Figure A.1 — Control areas and zones

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