

Glossary

Awareness Level WMD Training



Alternate Light Source

Equipment used to produce visible and invisible light at various wavelengths to enhance or visualize potential items of evidence (fluids, fingerprints, clothing fibers, etc.).

Alpha

A type of radiation depositing a large amount of energy in a short distance of travel. Alpha radiation is an internal hazard only.

Ammonia

A commercially available, non-persistent chemical agent, usually disseminated in liquid or gas form. Has a very sharp, irritating, pungent odor, similar to cat urine.

Anthrax

A bacterial biological agent. It is naturally occurring and can be spread to humans by handling products from infected animals or by breathing in spores from infected animal products.

Bacteria

Single-celled organisms that cause a variety of diseases in animals, plants, and humans. They may also produce extremely potent toxins inside the human body.

Beta

A type of radiation with a range of 10 to 30 feet. Beta radiation is an internal and external hazard; however, one-quarter inch of plastic or aluminum, or thick clothing will provide sufficient shielding.

Biohazard Bag

A container for materials that have been exposed to blood or other biological fluids and have the potential to be contaminated with hepatitis, AIDS, or other viruses.

Biological Agents

One of the following categories — bacteria, viruses, or toxins — used as a weapon.

Biological Fluids

Fluids that have human or animal origin, most commonly encountered at crime scenes (e.g., blood, mucus, perspiration, saliva, semen, vaginal fluid, and urine).

Biological Weapon

Biological agents used to threaten human life (e.g., anthrax, smallpox, or any infectious disease).

Blister Agents

Military agents including mustards, lewisite, phosgene and oxime.

Blood Agents

Commercially available chemical agents, including hydrogen cyanide and cyanogens chloride.

Blood Borne Pathogen

Infectious, disease-causing microorganisms that may be found or transported in biological fluids.

Boundaries

The perimeter or border surrounding potential physical evidence related to the crime.

Chain Of Command

A series of management positions in order of authority.

Chain of Custody

A process used to maintain and document the chronological history of the evidence. (Documents should include name or initials of the individual collecting the evidence, each person or entity subsequently having custody of it, dates the items were collected or transferred, agency and case number, victim's or suspect's name, and a brief description of the item.)

Chemical Agents

A chemical substance used as a weapon. Agents are further classified as Toxic Industrial Chemicals/Materials (TIC/TIM), Blister Agents, Blood Agents, Choking Agents, and Nerve Agents.

Chemical Threat

Compounds that may pose bodily harm if touched, ingested, inhaled, or ignited. These compounds may be encountered at a clandestine laboratory, or through a homemade bomb or tankard leakage (e.g., ether, alcohol, nitroglycerin, ammonium sulfate, red phosphorus, cleaning supplies, gasoline, or unlabeled chemicals).

Chlorine

A commercially available, non-persistent chemical choking agent, usually disseminated in liquid or gas form. Has a strong, offensive bleach smell.

Choking Agents

Military agents including phosgene and chlorine.

Clean/Sanitize

The process of removing biological and/or chemical contaminants from tools and/or equipment (e.g., using a mixture of 10:1 household water and bleach).

Clear Text

The use of plain English in radio communications transmissions. No Ten Codes or agency-specific codes are used when utilizing Clear Text.

Cold Zone

Contains the command post and other support functions deemed necessary to control the incident.

Collect/Collection

The process of detecting, documenting, or retaining physical evidence.

Common Name

Each of the agents has a complex chemical name based on its composition and formula. They also have a common name that needs to be recognized.

Contamination

Term used when radiological material is physically attached to a person's skin or hair, or is ingested, inhaled, or received in a wound.

Control/Blank Sample

Material of a known source that presumably was uncontaminated during the commission of the crime.

Control Zones

The designation of the areas at the hazardous materials incident based on safety and the degree of hazard.

Cross-Contamination

The unwanted transfer of material between two or more sources of physical evidence.

Density

The mass per unit of volume of a substance under specified or standard conditions of temperature or pressure.

Dissemination

How an agent is dispersed.

Documentation

Written notes, audio/videotapes, printed forms, sketches, and/or photographs that form a detailed record of the scene, evidence recovered, and actions taken during the search of the crime scene.

Domestic Terrorism

The unlawful or threatened use of force or violence by a group or individual based and operating entirely within the United States and/or Puerto Rico, without foreign direction, and whose acts are directed at elements of the US Government and/or its population, in the furtherance of political or social goals.

Emergency Management Coordinator/Director

The individual within each political subdivision that has coordination responsibility for jurisdictional emergency management.

Emergency Medical Technician (EMT)

A health-care specialist with particular skills and knowledge in pre-hospital emergency medicine.

Emergency Operations Center (EOC)

A pre-designated facility established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency.

Emergency Response Guidebook (ERG)

A guide to aid individuals in quickly identifying hazards of the materials involved in an incident.

Evidence Identifiers

Tape, labels, containers, and string tags used to identify the evidence, the person collecting the evidence, the date the evidence was gathered, basic criminal offense information, and a brief description of the pertinent evidence.

Explosives

Also referred to as high explosives, explosives are designed to yield a near-instantaneous release of energy.

Exposure

Term used when radiation, but not radioactive material, reaches a person. The source of the radiation (radioactive material) is not on or inside the person.

First Responder

The initial responding public safety official or service provider arriving at the scene.

Gamma

A type of radiation with a range of hundreds of feet. Gamma radiation is an internal and external hazard, and shielding must be by very dense material.

General Signs and Symptoms

An indicator of a disease, disorder, or exposure and how quickly one might detect these signs and symptoms.

History

Demonstrated terrorist activity over time or have a recorded, violent criminal history.

Hot Zone

The area immediately surrounding a hazardous materials incident, which extends far enough to prevent adverse effects from hazardous materials releases to personnel outside the zone.

Hydrogen Cyanide

A commercially available, non-persistent chemical blood agent, usually disseminated in liquid or gas form. Has a bitter almond scent.

Incident

An occurrence, caused by either human action or natural phenomena, that requires action by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources.

Initial Action

The actions taken by the first resources to arrive at an incident.

Initial Responding Officer

The first law enforcement officer to arrive at the scene.

Intentions

Credible advocacy/threats of force or violence, or acts, or preparations to act, evidencing the intent to create a WMD, or to carry out a plan to release a WMD, or to participate in a WMD incident.

International Terrorism

The unlawful use of force or violence committed by a group or individual who has some connection to a foreign power, or whose activities transcend national boundaries against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives.

Investigator In Charge

The official responsible for the crime scene investigation.

Jane's Chem-Bio Handbook

A spiral-bound handbook that includes quick-reference tabs to easily look up and identify chemical and biological agents, delivery mechanisms, their effects, and how to respond.

Latent Print

A print impression not readily visible, made by contact of the hands or feet with a surface resulting in the transfer of materials from the skin to that surface.

Life Safety

The joint consideration of both the life and physical well being of individuals.

Measurement Scale

An object showing standard units of length, such as a ruler, used in photographic documentation of an item of evidence.

Military Designation/Symbol

Each agent has a symbol; it is not a chemical symbol or formula, but rather a shorthand way of designating the agent. Learn these symbols.

Mobilization

The process and procedures used by all organizations—federal, state, and local—for activating, assembling, and transporting all resources that have been requested to respond to or support an incident.

Mobilization Center

An off-incident location at which emergency service personnel and equipment are temporarily located pending assignment, release, or reassignment.

Multiple Scenes

Two or more physical locations of evidence associated with a crime (e.g., in a crime of personal violence, evidence may be found at the location of the assault and also on the person and clothing of the victim/assailant, the victim's/assailant's vehicle, and locations the victim/assailant frequents and resides).

Nerve Agents

Military agents including tabun, sarin, soman, and VX.

Nonporous Container

Packaging through which liquids or vapors cannot pass (e.g., glass jars or metal cans).

Neutron

A type of radiation with a range of hundreds of feet. Neutron radiation is an internal and external hazard, requiring several feet of dirt or water, or a foot of concrete, for adequate shielding.

Other Responders

Individuals involved in an aspect of the crime scene, such as perimeter security, traffic control, media management, scene processing, and technical support, as well as prosecutors, medical personnel, medical examiners, coroners, forensic examiners, evidence technicians, and fire and rescue officers.

Overpack

(1): A package used to contain one or more packages to facilitate handling and protection of the inner packages; (2): a term used to describe the placement of damaged or leaking packages in a recovery drum or an overpack; (3): the outer packaging for radioactive materials.

Patient

A victim (see victim) who is awaiting or is under medical care or treatment.

Personal Protective Equipment (PPE)

Articles such as disposable gloves, masks, and eye protection utilized to provide a barrier to keep biological or chemical hazards from contacting the skin, eyes, and mucous membranes, and to avoid contamination of the crime scene.

Phosgene

A commercially available, non-persistent chemical agent, usually disseminated in liquid or gas form. Has an odor of newly mown hay.

Plague

A bacterial biological agent. It is naturally occurring and can be divided into two types: bubonic and pneumonic. Bubonic plague is not transmissible through human contact.

Potassium Chlorate

A common ingredient in some fireworks, potassium chlorate is an explosive with 83% of the power of TNT.

Potential Threat Element (PTE)

Any group or individual with which there are allegations or information indicating a possibility of the unlawful use of force or violence, specifically the utilization of a Weapon of Mass Destruction, against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of a specific agenda.

Porous Container

Packaging through which liquids or vapors may pass (e.g., paper bags, cloth bags).

Presumptive Test

A non-confirmatory test used to screen for the presence of a substance.

Propellants

Also referred to as low explosives, propellants are designed to provide a controlled release of gas to perform useful work.

Pyrotechnics

Explosive type used to create smoke, light, heat, and sound; not typically used in suicide bombings, but in other types of bombings and arson.

Radiological Threat

The pending exposure to radiation energy. (This energy can be produced by short-wave x-rays or through unstable isotopes.)

Radiological Dispersal Device (RDD)

A conventional explosive or bomb containing radioactive material.

RAIN

Acronym. **R**ecognition, **A**voidance, **I**solation, and **N**otification (RAIN) is used by individuals to quickly gather and process information and to synthesize the information in order to facilitate life safety actions in a WMD incident.

Rate of Action/Onset Time

The period of time that elapses before a victim begins to show or feel the symptoms of a particular agent. With some agents, this time will be just a few seconds, in other cases it could be minutes to hours. Knowing the onset time is important because it indicates how much time is left.

Route of Entry

How the agent gets into the body. Most of the agents will enter through the respiratory (inhalation). Some of the agents can also enter through skin and eyes.

Sarin

A military, non-persistent chemical nerve agent, usually disseminated in liquid or gas form. Has a faintly sweet smell.

Smallpox

A viral biological agent. It is naturally occurring, and passes from person to person most readily during the cool, dry winter months.

Soman

A military, non-persistent chemical nerve agent, usually disseminated in liquid or gas form. Has a camphor smell.

Standard/Reference Sample

Material of a verifiable/documented source which, when compared to evidence of an unknown source, shows an association or linkage between an offender, crime scene, and/or victim.

Symptoms

Each of the agents will cause the victim to exhibit symptoms. In many cases these symptoms can be recognized and provide an indicator of the type of agent.

Tabun

A military, non-persistent chemical nerve agent, usually disseminated in liquid or gas form. Has a slightly fruity smell.

Toxic Industrial Chemicals/Materials (TIC/TIM)

Commercially available chemical agents including ammonia, chlorine, and hydrogen cyanide.

Toxicity

Toxicity is the term used to indicate how much of a substance (in this case, one of the agents) is needed to cause a specified effect such as incapacitation or death. The amount of agent needed to cause an effect is also referred to as a dose.

Respiratory lethality or toxicity is expressed in parts per million (ppm). PPM is an expression of concentration (C) or how many parts of a given substance are mixed in a million parts of air. If an individual is exposed to this concentration over time (t), usually expressed in one minute, then he or she will receive a dosage. The exact ppm concentration required to cause lethality is a variable, depending on breathing rate, health, etc. Taking into consideration these variables, the term LCt_{50} is the expression used to indicate a given ppm concentration expected to be Lethal to 50 percent of those exposed for one minute. ICt_{50} would express the same, except I is the Incapacitating dosage.

Skin lethality is expressed as LD_{50} and will normally be expressed in grams or milligrams per individual.

How Much (Or How Little) is 1 Part Per Million

Example: 1 drop of liquid from an eye dropper is 1 millionth of a tank of gas in an average compact car (13 gallon tank), or 1/8 inch is 1 millionth of a mile.

A milligram is 1/1000 of a gram and there are 28.3 grams in an ounce.

Toxins

Potent poisons produced by almost every known major category of living organism. Fungi, flowering plants, and bacteria produce many of the most deadly toxins.

Trace Evidence

Physical evidence that results from the transfer of small quantities of materials (e.g., hair, textile fibers, paint chips, glass fragments, gunshot residue particles).

Transient Evidence

Evidence that, by its very nature or the conditions at the scene, will lose its evidentiary value if not preserved and protected (e.g., blood in the rain).

Tularemia

A bacterial biological agent. It is naturally occurring and can be transmitted to humans by the bite of an infected tick, deerfly or other insect.

Venezuelan Equine Encephalomyelitis (VEE)

A viral biological agent. It is naturally occurring and not transmittable through human contact.

Victim

One whose injuries are the result of WMD exposure and has *not* yet received medical evaluation.

Viruses

Smaller than bacteria and uses the reproductive mechanism of host cells to create more viruses.

Volatility/Persistency

Volatility is important because it provides an indication of how rapidly an agent will evaporate. The more volatile an agent is, the more rapidly it will evaporate. Evaporation will cause the agent to become a true gas or vapor and reduce the liquid hazard. Temperature, wind speed, and humidity at the incident site influence how rapidly an agent will evaporate.

This evaporation process is also referred to as persistency (the amount of time an agent will remain a threat in the incident site). A non-persistent agent will not remain at the incident site as long as a persistent agent. Obviously, if an agent is released inside an enclosed space, weather will not play a role, and the persistency will normally increase.

VX

A military, persistent chemical nerve agent, usually disseminated in liquid or gas form. VX is odorless.

Warm Zone

The area where personnel, equipment decontamination, and hot zone support takes place.

Weapon(s) of Mass Destruction (WMD)

A weapon of mass destruction is any device that is designed or intended to cause mass destruction and/or death. (Refer to Title 18 USC, Section 2332a for an in-depth definition).

For more information on the NDPC and its members, please contact their websites at:

National Emergency Response and Rescue Center, Texas Engineering Extension Service, Texas A&M University at <http://www.teexweb.tamu.edu/nerrtc>

New Mexico Institute of Mining and Technology, Energetic Materials Research and Training Center at <http://ww.emrtc.nmt.edu>

Louisiana State University, National Center for Biomedical Research & Training Academy of Counter-Terrorist Education at <http://www.ace.lsu.edu>

U.S. Department of Energy National Center for Exercise Excellence

U.S. Department of Homeland Security, Office for Domestic Preparedness, Center for Domestic Preparedness at <http://www.cdptraining.com>

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