# GLOSSARY

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| **absorption** | The process of an agent being taken in by a surface (clothing, fabrics, wood, etc.) much like a sponge and water. |
| **aerosol** | A liquid or solid composed of finely divided particles suspended in a gaseous medium. Examples of common aerosols are mist, fog, and smoke. |
| **alpha radiation (α)** | The least penetrating type of nuclear radiation; not considered dangerous unless alpha contaminated or source emitter particles enter the body. |
| **antidote** | A substance which neutralizes toxic agents or their effects. |
| **anthrax** | A disease caused by the spore-forming bacteria, *Bacillus anthracis* most commonly occurring in hoofed animals that can be transmitted to humans. Anthrax can be contracted in cutaneous, respiratory ("wool sorters disease"), or intestinal forms. Anthrax is not contagious. |
| **asphyxiants** | Substances that interfere with oxygen flow during normal breathing. There are two types of asphyxiants: simple and systemic. |
| **B-NICE** | Pertaining to biological, nuclear, incendiary, chemical, or explosive weapons or materials. |
| **bacteria** | Can be grown in a laboratory—bacteria easily. Only some bacteria cause disease. Treated with antibiotics |
| **beta radiation (β)** | A type of nuclear radiation that is more penetrating than alpha radiation, and can damage skin tissue and harm internal organs. |
| **biological agent** | A microorganism that causes disease in people, plants, or animals or causes the deterioration of materiel. |
| **blister agents** | Blister agents (also called vesicants) are substances that cause reddening and blistering of the skin. Exposure is through liquid or vapor contact with any exposed tissue (eyes, skin, lungs). They include several families of chemicals: mustards (e.g., sulfur mustards, nitrogen mustards), organoarsenic compounds (e.g., Lewisite), and halogenated oximes (e.g., phosgene oxime (CX)). |

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| **blood agents** | Blood agents produce effects by interfering with the exchange of oxygen and carbon dioxide between blood and tissues. They cause loss of consciousness and convulsions and interfere with breathing. The most prominent blood agents are cyanide agents, including hydrogen cyanide (AC) and cyanogen chloride (CK). |
| **botulinum toxins** | Toxins produced by the microorganism, Clostridium botulinum. There are at least seven different substances, most being proteins. They have neuro-, entero-, and haemotoxic properties, are immunogenic, and include the most potent poisons known. The most commonly used apparently blocks release of acetylcholine at cholinergic synapses. |
| **botulism** | Poisoning by toxin derived from the microorganism Clostridium botulinum. |
| **chemical agents** | A chemical substance that is intended for use in military operations to kill, seriously injure, or incapacitate people through its physiological effects. Excluded from consideration are riot control agents, and smoke and flame materials. The agent may appear as a vapor, aerosol, or liquid; it can either be a casualty/toxic agent or an incapacitating agent. |
| **choking agents** | Choking agents (also called lung-damaging agents or pulmonary agents) primarily attack the lungs. Exposure is through inhalation. In extreme cases, pulmonary edema (filling of the lung sacs with body fluids) occurs, which prevents oxygen from being absorbed by, and carbon dioxide from being removed from, the blood. Death results from lack of oxygen (the victim is "choked"). Common choking agents include chlorine and phosgene. |
| **cholera** | An acute, diarrheal illness caused by infection of the intestine with the bacterium *Vibrio cholerae*. The infection is often mild or without symptoms, but it can be severe. A person may get cholera by drinking water or eating food contaminated with the cholera bacterium. |
| **Cold Zone** | Area where the command post and support functions that are necessary to control the incident are located. This is also referred to as the Clean Zone. |
| **consequence management** | Measures to protect public health and safety, restore essential government services, and produce emergency relief to governments, business, and individuals affected by the consequences of terrorism. This role is assigned to the Federal Emergency Management Agency in the Federal Response Plan. |

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| **crisis management** | Measures to resolve the hostile situation, investigate, and prepare a criminal case for prosecution under Federal law. This role is assigned to the FBI in the Federal Response Plan. |
| **decon** | (Military slang). To decontaminate; decontamination |
| **decontamination** | Often shortened to decon. The process of making any person, object, or area safe by absorbing, destroying, neutralizing, making harmless, or removing chemical or biological agents, or by removing radioactive material clinging to or around it. |
| **domestic terrorism** | The unlawful use, or threatened use, of force or violence by a group or individual based and operating entirely within the United States or Puerto Rico without foreign direction and whose acts are directed at elements of the U.S. Government or its population, in furtherance of political or social goals. |
| **Ebola** | A *filovirus* that causes hemorrhagic fevers. Ebola hemorrhagic fever (Ebola HF) is a severe, often-fatal disease in humans and nonhuman primates (monkeys and chimpanzees). Three of the four species of Ebola virus identified so far have caused disease in humans: Ebola-Zaire, Ebola-Sudan, and Ebola-Ivory Coast. The fourth, Ebola-Reston, has caused disease in nonhuman primates, but not in humans. |
| **Emergency Operations Plan** | An Emergency Operations Plan (EOP) is a document that (1) assigns responsibility to organizations and individuals for carrying out specific actions at projected times and places in an emergency that exceeds the capability or routine responsibility of any one agency; (2) sets forth lines of authority and organizational relationships, and shows how all actions will be coordinated; (3) describes how people and property will be protected in emergencies and disasters; (4) identifies personnel, equipment, facilities, supplies, and other resources available for use during response and recovery operations; and (5) identifies steps to address mitigation concerns during response and recovery activities. |
| **Explosive** | As defined by the U.S. Department of Transportation, an explosive is "A substance fitting into one of these two categories: (1) any substance or article, including a device, designed to function by explosion; or (2) any substance or article, including a device, which, by chemical reaction within itself, can function in a similar manner even if not designed to function by explosion." |
| **FBI** | Federal Bureau of Investigation |

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| **Federal Response Plan (FRP)** | Developed to help expedite Federal support to disasters. Generally, the FRP is activated when the State's resources are not sufficient to cope with a disaster, and the governor has requested Federal assistance. |
| **First Responder** | Personnel, such as firefighters, police officers, and EMS teams who have responsibility to initially respond to emergencies. They will be the first on the scene of an incident and will be responsible for the sizeup and determining if additional resources are needed. |
| **gamma radiation (γ)** | A high energy, ionizing radiation that travels at the speed of light and has great penetrating power. Gamma rays can cause skin bums, severely injure internal organs, and have long-term, physiological effects. |
| **Hot Zone** | Area immediately surrounding a dangerous goods incident which extends far enough to prevent adverse effects from released dangerous goods to personnel outside the zone. |
| **incendiary** | Primarily an antimateriel compound that generates sufficient heat to cause destructive thermal degradation or destructive combustion of materiel. |
| **incendiary device** | Any mechanical, electrical, or chemical device used intentionally to initiate combustion and start a fire. |
| **Incident Command System (ICS)** | The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure with responsibility for the management of assigned resources to effectively accomplish stated objectives pertaining to an incident. |
| **ingestion** | The act of taking food, medicines, and other substances into the body, by mouth. |
| **inhalation** | The drawing of air or other substances into the lungs. |
| **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. |

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| **irritants** | Incapacitants are agents that temporarily incapacitate the victim but ordinarily do not cause serious harm. Irritants irritate the eyes and breathing passages and induce copious production of tears along with runny nose and coughing. These agents are usually not gases. They are usually solids or liquids close to their freezing points, dispersed as aerosols. Common tearing agents include tear gas (CS and CR), Mace® (CN), and capsicum (pepper spray) (OC). |
| **Local Emergency Operations Plan (EOP)** | The local Emergency Operations Plan focuses on essential measures for protecting the public, to include warning, emergency public information, evacuation, and shelter. Local EOPs should include a mechanism for emergency responders and managers to notify and activate State resources. |
| **Mustard agent** | This group of agents includes the sulfur mustards (H and HD) which are chlorinated thioethers, and the nitrogen mustards (HN-1, HN-2, and HN-3) which are considered derivatives of ammonia. The nitrogen mustards have nitrogen as the central atom with the hydrogen atoms replaced by various organic groups. Derivatives of the nitrogen mustards have been used in the treatment of certain types of cancer. HD and HN-3 are the principal military representatives of sulfur and nitrogen mustards. The mustards can penetrate skin and a great number of materials. These materials include wood, leather, rubber, and paints. Because of their physical properties, mustards are very persistent under cold and temperate conditions. It is possible to increase their persistency even more by dissolving them in thickeners. Mustards are less persistent in hot climates but can reach relatively high concentrations in air because of greater evaporation rate. |
| **Mycotoxin** | A toxin produced by certain types of molds. These toxins can be commonly found in grain that has been invaded by mold. The toxins can affect the nervous system, liver, kidney, and immune system. |

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| **Nerve agents** | Nerve agents interfere with the normal functioning of the central nervous system. The ultimate result of exposure can be convulsions, paralysis of the muscles used to breathe, and death. Although often referred to as "nerve gases," these agents are actually liquids at normal temperatures and pressures. Exposure is primarily through contact with the liquid (via skin and eyes) and secondary through inhalation of the vapor. The most common nerve agents are tabun (GA), sarin (GB), soman (GD), and VX. |
| **Persistent agent** | An agent that, upon release, retains its casualty producing effects for an extended period of time, usually anywhere from 30 minutes to several weeks. A persistent agent usually has a low evaporation rate and its vapor is heavier than air. Therefore, its vapor cloud tends to hug the ground. It is considered to be a long-term hazard. Although inhalation hazards are still a concern, extreme caution should be taken to avoid skin contact as well. |
| **Plague** | Plague is an infectious disease that affects animals and humans. It is caused by the bacterium *Yersinia pestis*. This bacterium is found in rodents and their fleas and occurs in many areas of the world, including the United States. Plague can be contracted in pneumonic, bubonic, and septicemic forms. |
| **Presidential Decision Directive 39** | Issued in June 1995, PDD-39, *United States Policy on Counterterrorism,* directed a number of measures to reduce the Nation's vulnerability to terrorism, to deter and respond to terrorist acts, and to strengthen capabilities to prevent and manage the consequences of terrorist use of nuclear, biological, and chemical weapons. |
| **Protective clothing** | Includes both respiratory and physical protection. One cannot assign a level of protection to clothing or respiratory devices separately. |
| **Level A** | SCBA plus totally encapsulating chemical-resistant clothing (permeation resistant). |
| **Level B** | SCBA plus hooded chemical-resistant clothing (splash suit). |
| **Level C** | Full or half-face respirator plus hooded chemical-resistant clothing (splash suit). |
| **Level D** | Coverall with no respiratory protection. |
| **Q-fever** | Pneumonia-like disease caused by *Coxiella burnetti*, a rickettsia that survives long periods outside cells and can be transmitted aerially as well as by ticks. |

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| **radiation** | There are three types of nuclear radiation: (1) alpha, (2) beta, and (3) gamma. |
| **Radiological Dispersal Devices (RDD)** | A conventional explosive device incorporating radioactive material(s); sometimes referred to as a "dirty" bomb. |
| **Ricin** | Ricin is a potent toxin that is widely available, easily produced, and derived from the beans of the castor plant *(Ricinus communis)*. |
| **rickettsiae** | Behave similar to bacteria but cannot grow independently (they must grow inside other cells). Can be treated with antibiotics |
| **SCBA** | Self-Contained Breathing Apparatus |
| **SCO** | State Coordinating Officer |
| **secondary device** | A device placed by perpetrators at the scene of an incident. The device is specifically designed to harm responders. |
| **shielding** | One of the three components of TDS; it refers to maintaining significant physical barriers between the responders and the hazard. Examples include vehicles, buildings, walls, and Personal Protective Equipment. |
| **size-up** | The rapid evaluation of the factors that influence an incident. Size-up is the first step in determining a course of action. |
| **smallpox** | A DNA virus, a member of the *genus orthopoxvirus*. Smallpox is a viral disease unique to humans. To sustain itself, the virus must pass from person to person in a continuing chain of infection and is spread by inhalation of air droplets or aerosols. |
| **State EOP** | The State EOP is the framework within which local EOPs are created and through which the Federal government becomes involved. The States play three roles: (1) they assist local jurisdictions whose capabilities are overwhelmed by an emergency, (2) they themselves respond first to certain emergencies, and (3) they work with the Federal government when Federal assistance is necessary. |
| **tear gas** | This irritant produces irritating or disabling effects such as a large flow of tears and intense eye pain and irritation of the skin that rapidly disappear within minutes after exposure. |

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| **Terrorism** | A violent act or an act dangerous to human life, in violation of the criminal laws of the United States or any segment, to intimidate or coerce a government, the civilian population or any segment thereof, in furtherance of political or social objectives. |
| **Terrorism Incident Annex** | An annex to the Federal Response Plan (FRP) that describes the Federal concept of operations to implement PDD-39 when necessary to respond to terrorist incidents within the United States. |
| **terrorist incident** | A violent act, or an act dangerous to human life, in violation of the criminal laws of the United States or of any State, to intimidate or coerce a government, the civilian population, or any segment thereof in furtherance of political or social objectives. |
| **time** | One of the three components of TDS; it refers to the amount of time a responder should be exposed to an incident. It is recommended that one should spend the shortest amount of time possible in the hazard area. |
| **Time, Distance, and Shielding (TDS)** | Three types of protective measures commonly associated with hazardous materials training. |
| **toxic** | Poisonous; effects ranging from harmful to lethal depending on the dose and resistance of the individual. |
| **toxins** | Toxins are poisons derived from plants, animals, or microorganisms (e.g., plants, shellfish, sponges, corals). They do not grow, reproduce, or die after they have been dispersed, and relatively few are suitable for use as weapons. Toxins are difficult, in most cases, to synthesize in the laboratory, so they continue to be obtained from the organisms that create them—usually in very small quantities. (An exception is ricin, which comes from the castor bean and is easy to prepare in large quantities.) |
| **tularemia** | A disease caused by the bacteria *Francisella tularensis*, most often associated with animals, especially cottontail rabbits. Tularemia is not known to spread from person to person. |
| **vector** | A carrier, especially the animal or intermediate host that carries a pathogen from one host to another, as the malaria-carrying mosquito. |
| **venom** | Poisonous mixture of toxins and other natural chemicals produced by animals, including snakes, spiders, and scorpions. |

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| **Vesicant** | An agent that acts on the eyes, lungs, mucous membranes, and the intestinal tract, as well as blisters the skin. |
| **vesicle** | A blister on the skin. |
| **virulence** | Capacity of a microorganism to produce disease. |
| **viruses** | Depend totally on a host. They grow by infecting cells, usually killing them in the process. There are only a few antiviral drugs that are effective against specific viruses. |
| **volatility** | With chemical agents, it refers to their ability to change from a liquid state into a gaseous state (the ability of a material to evaporate or give off fumes). Volatility is directly related to vapor pressure. |
| **Warm Zone** | Area between Hot and Cold Zones where personnel and equipment decontamination and Hot Zone support take place. It includes control points for the access corridor and thus assists in reducing the spread of contamination. |
| **Weapon of Mass Destruction (WMD)** | Any explosive, incendiary, poison gas, bomb, grenade, or rocket having a propellant charge of more than 4 ounces, missile having an explosive or incendiary charge of more than ¼ ounce, or mine or device similar to the above. Poison gas. Any weapon involving a disease organism. Any weapon that is designed to release radiation at a level dangerous to human life. |