

# Glossary of AgroSecurity Terms<sup>1</sup>

The following glossary of terms was assembled for use by students enrolled in an agrosecurity class at Purdue University. The terms and definitions were drawn from numerous sources both private and public. It was developed to help students better understand the terminology used in the field.



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## GLOSSARY OF TERMS

**ABC Fire Extinguisher:** An extinguisher that can be used for all types of fires. The “A” rating is for wood, textiles (material and clothing), paper, and rubbish. The “B” rating is for burning liquids, and the “C” rating is for electrical equipment.

**AC:** an abbreviation referring to alternating electrical current. Electricity used in most homes and businesses is AC or alternating current. Nearly all power tools that plug into a wall receptacle are powered by AC current. Contact with overhead wiring or power tools with faulty wiring may cause electrocution or death, especially in a wet environment.

**Accident:** A deviation from normal operations or activities associated with a hazard, which has the potential to result in an emergency.

**Acute Toxicity:** The ability of a substance to cause poisonous effects resulting in severe biological harm or death soon after a single exposure or dose.

**Automated External Defibrillator (AED):** A device used to treat sudden cardiac arrest or heart attack. Current models provide verbal commands/instructions for appropriate use. AED placement in work places, especially when isolated from emergency medical services is becoming more common.

**Aerobic:** Characterizing organisms able to live and grow in conditions where there is the presence of air or oxygen.

**Aerosol:** A substance that can become airborne under pressure such as paint from an aerosol can that is sprayed under pressure. The substance can be either fine solid particles or liquid drops. Fine agricultural dusts, such as from grain, can be suspended in the air forming a respiratory risk or a risk of explosion.

**Aftershock:** An earthquake of lesser magnitude, usually one of a series, following a large quake in the same area. After shocks can still cause considerable damage.

**Agrosecurity:** An area of specialization related to protecting agricultural production and the food supply from intentional attacks or natural disasters. It addresses basic emergency management strategies, including prevention, preparedness, mitigation, response, and recovery.

**Agro-terrorism:** The act of any person knowingly or maliciously using biological agents or violence as weapons against the agricultural industry and the food supply.

**Airborne Particles:** A solid or liquid material suspended in the air. Commonly found in agriculture in the form of dust, chemical spray, biological material, or other pollutants. These particles can irritate eyes, nose, throat, or lungs and pose minor to severe health risks. Respiratory protection should be worn when there is excessive exposure to airborne particles.

**Alert:** An emergency class within the Operational and Energy categories of emergency. An Alert is declared when events are predicted, are in progress, or have occurred.

**All-terrain vehicles (ATVs):** Motor-driven, off-road, recreational vehicle capable of cross-country travel on land, snow, ice, marsh, swampland, or other natural terrain. They include, but are not limited to, a multi-track, multi-wheel, or low pressure tire vehicles. ATVs are useful following a disaster to reach areas not accessible to other vehicles.

**Ammonia (NH<sub>3</sub>):** A colorless gas in the natural state that has a sharp, pungent odor, is severely irritating to eyes and breathing passages and is deadly at 5,000 ppm. It is extensively used to manufacture fertilizers and a wide variety of nitrogen-containing organic and inorganic chemicals. It is also used to illegally manufacture certain drugs such as methamphetamines.

**Ammonium hydroxide:** A highly reactive alkali that readily causes chemical burns of human tissue, especially eyes and lungs.

**Ammonium nitrate (NH<sub>4</sub>NO<sub>3</sub>):** A chemical compound long used as a source of nitrogen fertilizer in agricultural production. It is sold as a granular material that can be harmful to the respiratory track and eyes. It can be modified to be used as a high explosive, including for use in acts of terrorism.

**Anaerobic:** Characterizing organisms able to live and grow in conditions that exist only in the absence of air or free oxygen.

**Anaerobic fermentation:** A chemical process from which air is excluded. The anaerobic fermentation process occurs during the formation of silage inside a silo.

**Anhydrous ammonia:** A pressurized and liquefied form of undiluted ammonia used to add nitrogen to soils. It is injected into the soil with pressurized equipment. Exposure can cause blindness, lung damage, skin damage similar to burns and death. Flooding with water is the most effective first aid measure. Pressurized anhydrous ammonia is sometimes stolen for use as an ingredient in the illegal production of methamphetamine.

**Anhydrous:** That which is without water. Anhydrous ammonia is ammonia not diluted with water.

**Anthrax:** An acute infectious disease caused by the spore-forming bacterium *Bacillus anthracis*. Anthrax most commonly occurs in hooved mammals and can also infect humans. It has also been used by terrorists in America and has been developed as a weapon by the militaries of several countries.

**Antidote:** A remedy to counteract the effects of a poison. If the antidote for a poison can be administered quickly after a poison has been ingested, serious health consequences may be avoided.

**Antimicrobial:** That which is capable of destroying or inhibiting the growth of microorganisms. A chemical that kills or inhibits the growth of bacteria, fungi, and viruses.

**Anxiety:** The state of being worried or anxious. It means to be full of worry and not being able to think clearly and function properly. During a time of disaster many people understandably become anxious.

**Animal and Plant Health Inspection Service (APHIS):** A department of the USDA that is responsible for enforcing regulations governing the import and export of plants, animals, and other agricultural products.

**Aqueous:** Water based; an aqueous solution is one consisting of a component dissolved in water.

**Assault:** Unlawful intentional inflicting, or attempted or threatened inflicting of injury, upon another person. One form of violence in the workplace is assault.

**Assessment:** The process of placing a value on property. Assessments are made by professionals to determine the appraised value of losses after a disaster.

**Asset:** Tangible or intangible property that can be converted into cash.

**Auto-Ignition Temperature:** The minimum temperature at which the material will ignite without a spark or flame being present. Along with the flashpoint, auto-ignition temperature gives an indication of relative flammability.

**Avalanche entrapment:** The trapping of a person that occurs when a large pile of material collapses and engulfs the person to the extent that he cannot escape by himself. Out-of-condition grain along a bin wall can collapse and cause an avalanche entrapment of farm workers.

**Bacteria:** A type of biological cell that is widely present throughout nature. Some are beneficial as a means of decomposing biological materials, while other forms of bacteria can be extremely harmful to humans by causing infections. Botulism, typhoid, pneumonia, and tuberculosis are all caused by the toxins released by bacteria. Bacterial infections are treated by antibiotics.

**Barrier:** The various “layers of protection” afforded facility and site personnel, the general public and the environment by the design and operational controls of each facility.

**Base Flood Elevation (BFE).** The regulatory flood elevation.

**Bilingual:** The ability to use two languages with fluency. Bilingual individuals are often used as interpreters during emergencies.

**Biological agent:** Biological agents that can be used in bioterrorism or biological warfare listed by the CDC. Category A – agents easily transmitted and result in high morbidity and mortality rates and panic with serious potential for large-scale dissemination (e.g. *anthrax*); Category B – agents moderately easy to transmit and result in moderate morbidity and mortality rates with moderate dissemination (e.g. *Escherichia coli* O157:H7); and Category C – agents that have the potential to be used because they are available and accessible and have potential for high morbidity and mortality (e.g. *Listeria monocytogenes*).

**Biological/chemical shelter:** A shelter designed to protect from biological and chemical attacks. Portable shelters of different designs are commercially available.

**Bio-security:** Protection from the risks posed by biological organisms to the economy, environment, and the health of people and animals. Posting livestock production sites can enhance biosecurity.

**Bio-terrorism:** The use of biological agents, such as pathogenic organisms or agricultural pests, for terrorism purposes.

**Blast Effect:** A pulse of air in which the pressure increases sharply at the front, accompanied by winds, propagated from an explosion.

**Bleach:** A widely used disinfectant to destroy microorganisms such as bacteria and fungus. A common brand name for bleach is Clorox. It is a diluted solution of sodium hypochlorite or hydrogen peroxide. Dairy farmers and veterinarians use bleach to disinfect milking equipment and instruments used to treat animals in order to prevent infection.

**Blizzard:** A severe snow storm of long duration with winds over 35 mph and visibility near zero.

**Blizzard warning:** A warning for sustained winds or frequent gusts of 35 mph or greater and considerable falling or blowing snow expected to prevail for a period of three hours or longer.

**Bloodborne pathogen:** Bloodborne pathogens are infectious microorganisms in human blood that can cause disease in humans. These pathogens include, but are not limited to, hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV).

**Blowing snow:** Wind-driven snow that reduces visibility and causes significant drifting.

**Border Patrol:** The mobile, uniformed law enforcement arm of the U.S. Customs and Border Protection (CBP) within the Department of Homeland Security (DHS). The agency is responsible for preventing the entry of illegal aliens as well as terrorists and their weapons into the United States.

**Braille:** A system of writing that uses characters made up of a pattern of raised dots. The blind and visually impaired read these characters using their sense of touch on the pattern of raised dots. Individuals with vision impairments may need emergency instructions printed in Braille.

**Bridging entrapment:** The trapping of a person who falls through the crusted bridge of out-of-condition grain (or other flowing material) into the cavity that formed below the bridge when the storage structure had been partially unloaded.

**Brush fire:** A fast-moving fire that ignites grass, shrubs, and other low-lying vegetation. If the under growth is extremely dry these fires can be very hot and destructive.

**Buddy system:** A part of emergency preparedness planning in which a disabled person chooses and trains a non-disabled person that will assist him in the time of an emergency; often applied to emergency workplace plans where a second person is required to be present when carrying out hazardous tasks.

**Burnout:** Physical and/or mental exhaustion, especially as a result of being overworked or from the effects of a disaster. First responders can suffer from burnout.

**Carbon dioxide (CO<sub>2</sub>):** A colorless, odorless nontoxic gas formed during combustion of many fuels or fermentation of crops. Although nontoxic, it can replace the oxygen consumed during combustion in an enclosed environment and can cause the health problems associated with oxygen deficiency and even death.

**Carbon monoxide (CO):** A colorless, odorless, and tasteless gas that is very toxic. Exposure to carbon monoxide from portable generators used inside enclosed areas is a primary cause of loss of life following a major disaster. All internal combustion engines will produce carbon monoxide.

**Carcass:** The body or a part of an animal or fowl that has died. Carcass disposal is a serious problem following a disaster involving livestock.

**Carcass disposal:** The process of getting rid of dead animals, often by composting, incineration or burial. Appropriate carcass disposal is important to prevent the spread of disease.

**Carcinogen:** A substance capable of causing cancer.

**Cardio Pulmonary Resuscitation (CPR).** An emergency procedure involving an alternating series of chest compressions and breathing for a person whose heart and breathing have stopped. Some emergency CPR techniques include only chest compressions.

**Categories:** *Hurricanes* are rated from 1 to 5, according to their wind strength. Category 1 – 75-95 mph; Category 2 – 96-110 mph; Category 3 – 111-130 mph; Category 4 – 131-155 mph; Category 5 – 155 mph. *Tornadoes* are rated from EF0 (65-85 mph), EF1 (86-110), EF2 (111-135), EF3 (136-165), EF4 (166-200) to EF5 (Over 200).

**Caustic:** Capable of eating away or destroying by chemical action. Anhydrous ammonia and toilet bowl cleaners are caustic.

**Caution:** Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It can also be used to alert against unsafe practices. Caution signs are typically black and yellow.

**Centers for Disease Control and Prevention (CDC):** An agency of the United States Department of Health and Human Services that protects public health and safety. For more information visit [www.cdc.gov](http://www.cdc.gov).

**Chemical agent:** Chemical agents with toxic properties that can be used in chemical warfare or in a personal attack to kill, injure, or incapacitate. (e.g. caustics, organic solvents, reactive metals).

**Chemical goggles:** A type of protective eye wear designed to protect the wearer's eyes from dirt, flying debris, and/or chemicals, including hazardous liquids. The goggles are designed with splash resistant venting and antifogging lenses.

**Chemical release:** A release of a hazardous chemical into the environment. Chemicals like fertilizers, and soil conditioners, soil fumigants, herbicides, pesticides, rodenticides, insecticides, and fungicides release toxic chemicals during spills and fires.

**Civil Defense:** System of protective measures and emergency relief activities conducted by civilians in case of hostile attack, sabotage; or natural disaster. At one time, the federal government had a Department of Civil Defense, which is now the Department of Homeland Security.

**Class A fire:** A fire that involves wood, textiles, paper, rubbish and other ordinary combustibles. Grain bin fires would be a Class A fire.

**Class B fire:** A fire fueled by flammable liquids, such as oils, solvents, paint, gasoline, grease, etc. An engine fire should be treated as a Class B fire.

**Class C fire:** A fire involving electrical equipment. Water must not be used on a Class C fire.

**Class D fire:** A fire that consumes combustible metals, such as magnesium, titanium, potassium.

**Closed-captioned:** A series of words superimposed on the bottom of television or motion picture frames that communicate dialogue to the hearing-impaired or translate foreign dialogue.



**Coastal flooding:** Flooding that occurs when the winds generated from tropical storms, hurricanes, or intense offshore low-pressure systems drive ocean water inland.

**Combustible materials:** Any substance that ignites or burns readily, such as paper, gasoline, and crop residue.

**Communication Device:** Any device that people use to communicate, such as: telephone, cell phone, business-band radio, citizens-band radio, and walkie-talkie.

**Composting:** Converting a mixture of organic waste material into a fertilizer and soil conditioner by means of natural decay. Composting is used as a method to dispose of large numbers of animal carcasses.

**Composting In Place:** The disposing of animal carcasses by composting within the building or facilities where they were housed before being euthanized. Poultry flocks are sometimes euthanized within the growing barn and allowed to compost or decompose in place. Composting takes place faster in an oxygen-rich environment and has been shown to reduce odor.

**Confined space:** OSHA Definition – a space that: (1) is large enough and so configured that an employee can bodily enter and perform assigned work; (2) has limited or restricted means of entry or exit (e.g., tanks, vessels, silos, storage bins, hoppers, vaults, pits); and (3) is not designed for continuous employee occupancy. A simpler definition is any space that requires the use of one's hands to access.

**Contamination:** When undesirable materials or substances are found in a product of value. Intentionally adding a harmful substance to milk or produce is a form of contamination. Farmers and food handlers are required to take measures to prevent contamination of the food supply. Objects such as metal shavings, pins, small stones, paint flecks, and packaging are contaminants that are sometimes found in food.

**Coronavirus (COVID-19):** A disease caused by the virus SARS-COV-2. It impacts the respiratory system, heart, blood vessels, kidneys, guts, and nervous system. It can effect people who have it widely, from no symptoms to the risk of death.

**Crown fire:** A forest fire that advances rapidly from one tree top to the next and advances faster than the brush fire on the ground. Crown fires are common in coniferous forests and chaparral-type shrub lands.

**Current:** Electrical current, measured in amps, is the flow of electrons, often through a wire. Overloading electrical circuits poses a safety/fire risk by the heat generated from the electrical current. The term is also used to describe the movement of water.

**Cyclone:** "Cyclone" is used synonymously with "tornado" depending where you live. For storms near the Equator the "tropical cyclone" is used synonymously with the term "hurricane" that is used for storms in Central and North America. A cyclone is an atmospheric system characterized by the rapid inward circulation of air masses about a low-pressure center, usually accompanied by stormy, often destructive weather. Cyclones circulate counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

**Danger:** Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that for functional purposes cannot be guarded. Danger signs typically have a red background.

**DC:** An abbreviation for direct electrical current. Tractors and other off-highway equipment with batteries operate by DC or direct current; and even though they are usually rated at only 12 or 24 volts, electrical shorts still can cause operator burns and equipment fires. Flashlights operate on DC.

**Decontamination:** A process using a physical or chemical means to remove, inactivate, or destroy microorganisms capable of transmitting infectious particles. Decontamination also refers to the removal or inactivation of chemicals or any other hazardous substance. Disinfections and sterilization are methods of decontamination.

**Debris:** Materials that are primarily non-geologic (e.g., grass, trees, stumps), man-made materials (e.g., concrete, siding, lumber, clothing), partially buried whole or empty fuel or chemical containers and other manufacturing items (e.g., liners). Debris does not include synthetic organic chemicals but may include materials contaminated with these chemicals.

**Defective Item, Material, or Service:** Any item, material, or service that does not meet the commercial standard or procurement requirements as defined in catalogues, proposals, procurement specifications, design specifications, testing requirements, contracts, or the like.

**Department of Homeland Security:** A cabinet-level Department of the U.S. government with responsibilities in public security within the nation's borders. FEMA is an agency within the Department of Homeland Security. See [www.dhs.gov](http://www.dhs.gov).

**Depression:** A debilitating mental disorder involving loss of hope and the deliberate moving away from the real world of responsibility. Symptoms of depression often involve sadness, inactivity, difficulty in thinking and concentration, significant increase or decrease in appetite and time spent sleeping, feeling of dejection and hopelessness, and at times suicidal tendencies. Individuals experiencing loss due to a disaster can experience depression. (Depression is also used to describe a region of low barometric pressure.)

**Dermal Toxicity:** Adverse effects resulting from skin exposure to a substance.

**Designated Area:** The geographical area designated under a Presidential major disaster declaration that is eligible to receive disaster assistance in accordance with the provisions of Public Law (P.L.) 93-288, as amended.

**Designated Meeting Place:** A predetermined meeting point where people can gather or report to in the event of an emergency. Every place of business should have a designated meeting place that provides employees a safe place in the event of an emergency.

**Disability:** The temporary or long-term reduction of a person's capacity to function. The concept of disability encompasses many different dimensions of health and functioning, and the complex interactions with one's environment. It refers to any restriction or lack of ability to perform an activity in the manner or within the range considered normal.



**Disaster:** A sudden calamitous event bringing great damage, loss or destruction. An agricultural or rural disaster (either natural or man-made) is an event that seriously threatens the livelihood of one or more members of the agricultural community.

**Disaster plan:** A plan that is designed to protect individuals and their assets in the event of a disaster. Such a plan should cover all the stages of an emergency situation including the prevention, mitigation, preparedness, response and recovery stages. See [www.nfpa.org](http://www.nfpa.org) for standards on developing a disaster plan.

**Disinfect:** A process used to destroy bacteria that may be present and be transmissible to humans and animals. It usually involves the application of a chemical such as bleach that destroys harmful microorganisms. Common disinfectants include alcohol, bleach, iodine, and hydrogen peroxide.

**Department of Natural Resources (DNR):** This agency of state government has responsibilities in areas of soil, water, air, and other natural resources. The agency name may vary in some states.

**Downwind:** Being in a position that is in the opposite direction from which the wind is blowing. In the event of toxic chemical release or smoke from a fire, being downwind can increase exposure.

**Drill:** A method of practicing the response to an emergency such as a fire or tornado. First responders conduct drills on a regular basis to prepare for disasters.

**Drought:** A condition of moisture deficit sufficient to have an adverse effect on vegetation, animals, and humans over a sizeable area. Drought can create serious fire hazards.

**Dust Bowl:** A region subject to drought and dust storms; often specifically referring to the central United States during the 1930's.

**Dust Explosion:** An explosion caused by the ignition of suspended grain dust that generates a rapid flame front. A dust explosion requires four components: fuel (finely suspended grain dust), oxygen, containment (building), and ignition sources. Grain dust suspended in the right proportion is more powerful than an equal amount of dynamite.

**Dust mask:** A type of respiratory protection that does not meet the current NIOSH standards. They are worn for comfort against non-toxic dusts generated when weed wacking, cleaning, or doing yard work. These masks are not respirators and do not offer protection against toxic dusts, gases, or vapors. See [FDA.gov](http://FDA.gov).

**Earthquake:** A sudden slipping or movement of a portion of the earth's crust, accompanied and followed by a series of vibrations.

**Extension Disaster Education Network (EDEN):** A collaborative multi-state effort to improve the delivery of services to people affected by disasters. For more information see [www.extensiondisaster.net](http://www.extensiondisaster.net).

**Emergency:** An emergency is the most serious event and consists of any unwanted operational, civil, natural-phenomenon, or security occurrence that could endanger or adversely affect people, property, or the environment.

**Emergency Action Plan (EAP):** A written plan that includes the procedures that individuals within a company, organization, family, or group should follow in the event of an emergency. Every farm should give consideration to developing an emergency action plan and communicating it to all those involved. An EAP should include plans for evacuation, designated meeting place, and responding to incidents such as chemical spills, tornadoes, and violence in the workplace. See [www.nfpa.org](http://www.nfpa.org)

**Emergency Assistance Program:** All activities whereby Departmental resources, emergency response assets, personnel, and/or facilities are deployed in support of federal interagency plans, international agreements, Presidential direction, and state, local, or tribal agreements of mutual aid.

**Emergency Go Bag (Bug-out Bag):** A survival bag that can be carried by an individual who is required to suddenly evacuate due to an emergency. It contains the most essential items needed for at least three days. It should be easy to carry by one person.

**Emergency Support Function:** Describes the Federal coordinating structures that group resources and capabilities into functional areas that are most frequently needed in a national response to emergencies and disasters. See [www.fema.gov](http://www.fema.gov).

**Emergency Supply Kit:** A prepared kit that contains emergency supplies, which is easily accessible in the event of an emergency. Each home should have an emergency supply of food, water, and other essential items. See [www.INPREPARED.org](http://www.INPREPARED.org) or [www.redcross.org](http://www.redcross.org)

**Endothermic:** A process that absorbs heat.

**Engulfment:** An entrapment in free flowing material in which the victim is completely buried. Nearly all engulfments in grain, for example, are fatal. Engulfments can also occur during soil excavation or trenching. See [www.agconfinedspaces.org](http://www.agconfinedspaces.org)

**Enhanced 911 (E-911):** An emergency communication system that allows the dispatcher or operator to identify the caller's location and, in some cases, other information such as compromised health conditions.

**Entrapment:** Occurs when a victim is buried in grain or other free flowing material beyond the point of self-extrication. Entrapments in grain usually require emergency rescue personnel and the use of a grain rescue tube to safely remove the victims from the grain. See [www.agconfinedspaces.org](http://www.agconfinedspaces.org)

**Epicenter:** The area of the earth's surface directly above the origin or focus of an earthquake.

**Epidemic:** An outbreak of a disease that is limited in geographic area during a particular time. Once an epidemic crosses country borders, it becomes a pandemic.

**Epidemiological:** Dealing with the scientific study of the incidence, control, and spread of disease in a population.

**Eradication:** The killing or destroying of something completely. In the case of animal disease, it is the absence or lack of evidence of the existence of the disease.

**Escort:** An individual with the prerequisite training necessary for unescorted access to the area(s) where the escort activities will be performed who is authorized to accompany and ensure the safety of individuals who lack such training.

**Euthanize:** Putting animals or livestock to death in a humane manner. In some cases, an outbreak of a disease will require that an entire flock or herd be euthanized.

**Evacuation:** The act of removing people or living things from a place of danger. During a widespread flood, large numbers of people may have to be evacuated.

**Evacuation wheelchair:** A special wheelchair that can be used to transport an immobile person down stairs in the time of an emergency. Several different designs are commercially available.

**Exercise:** Evaluated demonstration of the integrated capabilities of emergency response resources (personnel, procedures, facilities, and equipment) conducted for the purpose of validating elements of an emergency management program.

**Exothermic:** A process that releases energy, usually in the form of heat.

**Explosion:** An effect produced by violent, sudden expansion of gases from chemical change, such as: detonation of an explosive or ignition of a flammable gas; boiler explosion; or dust explosion. An explosion generally requires four elements: oxygen, fuel, ignition source and a container.

**Extremely Hazardous Substance (EHS):** EPA applies the term extremely hazardous substance to chemicals that must be reported to the appropriate authorities if released above the threshold reporting quantity. Each substance has a threshold reporting quantity.

**Exposure:** a circumstance in which a person comes into contact with a hazard that can result in injury or disease. To reduce the level of exposure to pesticides, personal protective equipment such as gloves, safety goggles, and disposable coveralls should be worn. One good protection from exposure is frequent hand washing.

**Eye of a hurricane:** The relatively calm area in the center of the hurricane. Hurricane winds swirl counter-clockwise around the eye in the northern hemisphere.

**Fall-out shelter:** Shelters designed to protect from radiation caused by a nuclear explosion.

**Face shields:** Clear plastic shield designed to protect the wearer's face from flying debris or chemical splashes. Face shields provide added protection to the use of safety glasses or goggles. Face shields should be worn when grinding, mixing chemicals, or cleaning with high pressure air.

**Fatigue:** mental or physical exhaustion that causes extreme tiredness or weariness during and after lengthy or strenuous physical or mental activity. Emergency workers may become fatigued while working long hours responding to a disaster. Fatigue often contributes to human error and injuries.

**Fault:** A fracture in the earth's crust accompanied by the displacement between two sections of the earth's crust.

**Flood Boundary Floodway Map (FBFM).** A detailed map delineating floodway from floodway fringe.

**Federal Crop Insurance Program:** A subsidized insurance program providing farmers with a means to mitigate the risk of crop losses resulting from natural disasters.

**Federal Emergency Management Agency (FEMA).** The agency responsible for coordinating federal disaster response. It oversees the National Flood Insurance Program (NFIP), which was established in 1968 and is run by the Federal Insurance Administration. For more information visit [www.fema.gov](http://www.fema.gov).

**Federal Insurance Administration (FIA).** An independent agency that administers the National Flood Insurance Program and is a component of the Federal Emergency Management Agency (FEMA).

**FEMA Online Courses:** Online training offered by FEMA's Emergency Management Institute. It includes courses on incident command, hazardous material and animals and livestock in disaster. Several hundred courses are available to complete for certification. See [www.fema.gov](http://www.fema.gov).

**Firefighter's carry:** A method of carrying a immobile or impaired person and transporting him to safety in an emergency. Two individuals lock wrists and form a "seat" with their arms on which the disabled person is transported.

**First Aid:** Medical treatment given to a person with minor injuries or illness, or the initial treatment provided before professional medical personnel arrive to treat major injuries or illness. Bystanders often provide lifesaving first aid to injury victims before the ambulance arrives. Many hospitals and the American Red Cross offer basic first aid training. See [www.redcross.org](http://www.redcross.org)

**First response personnel:** In general, the first persons to arrive at an emergency scene. Specifically, persons who have been trained as a first responder in first-aid and other first response are usually equipped with radios so that they can respond rapidly to emergency incidents in their community.

**Flood Hazard Boundary Map (FHBM).** A map based on approximate data and identities; in general, and the Special Flood Hazard Areas (SFHAs) within the community.

**Flood Insurance Rate Map (FIRM).** Shows areas within the 100-year flood boundary, which are termed Special Flood Hazard Areas (SFHAs). This is published after a Flood Insurance Study is completed for a community.

**Flood Insurance Study (FIS).** A compiled study and assessment of a community's flood hazard.

**Flammable:** Able to ignite and burn readily.

**Flash flood:** A local flood of great volume and short duration generally resulting from heavy rainfall in the immediate vicinity. Flash floods can trap people in canyons, along river banks, and in low lying areas.

**Flash Point:** The lowest temperature of a liquid at which its vapors will ignite in air when exposed to a flame. Gasoline is much more explosive than diesel fuel because the flash point of gasoline is a much lower temperature than that of diesel fuel. Safety Data Sheets contain flash point temperatures for all substances.

**Flood plain:** The channel proper and the areas adjoining any wetland, lake, or watercourse that may be covered by the regulatory flood. The floodplain includes both the floodway and the floodway fringe districts.

**Floodway:** The channel of a river or stream and those portions of the floodplains adjoining the channel which are reasonably required to efficiently carry and discharge the peak flood flow of the regulatory flood of any river or stream.

**Floodway fringe:** Those portions of the floodplain lying outside the floodway.

**Flowing grain entrapment:** The trapping of a person who travels down with the flow of grain (or other flowing material) until he is entrapped to the extent that he can no longer remove himself. A farm worker in the flow of grain that is being unloaded from a bin can become completely engulfed in 30 seconds or less. See [www.agconfinedspaces.org](http://www.agconfinedspaces.org)

**Flurries:** Light snow falling for a short time.

**Food defense:** The process of safeguarding the food supply against intentional contamination or disruption.

**Food safety:** The process of protecting the food supply against intentional/unintentional contamination by setting standards in the industry such as good manufacturing practices and quality control. Food safety efforts are assigned to the U.S. Department of Agriculture and the U.S. Food and Drug Administration. Local government agencies, such as Boards of Health are also involved in ensuring safe food.

**Food security:** The process of maintaining a supply of sufficient, safe, and nutritious food for a healthy and active life; addressing famine and food shortages.

**Foot-candle:** A unit of luminance on a surface that is everywhere 1 foot from a uniform point source of light of 1 candle and equal to 1 lumen per square foot.

**Forest fire:** A fire that consumes large wooded areas. Forest fires can be started intentionally, unintentionally such as downed power lines, or by lightning.

**Flood Protection Grade (FPG).** The elevation of the regulatory flood plus 2 feet at any given location in the SFHA.

**Freezing rain:** Rain that freezes when it hits the ground, creating a coating of ice on roads, walkways, trees, and power lines.

**Frostbite:** Destruction of tissue by freezing; symptoms include tingling, blistering, pale appearance, and possibly gangrene.

**Frost/Freeze warning:** Winds below 10 mph and temperatures below 32°F are expected.

**Generator:** A device that converts mechanical energy to electrical energy and often used to reduce the risk of loss during a power outage. PTO-driven or engine driven generators should supply the same type of power (voltage, frequency) as power lines. Portable generators can produce carbon monoxide and must be generated in a well-ventilated location.

**Glanders:** A contagious, usually fatal disease of horses and other equine species, caused by the bacterium *Pseudomonas mallei* and symptomized by swollen lymph nodes, nasal discharge, and ulcers of the respiratory tract and skin. The disease is communicable to other mammals, including humans. Used as a biological weapon in World War I.

**Grain dust explosions:** When finely divided grain dust is suspended in the right concentrations in air, explosion can occur if an ignition source is present.

**Ground fire:** A fire that burns slowly on the ground in decayed leaves and/or needles of trees that have fallen and may not be apparent on the surface of the humus by occurring under the surface.

**Guide dog:** A dog that is trained to lead and assist a blind or visually impaired person. When being evacuated, a visually impaired person has the right to take their guide dog with them.

**Gust front:** The leading edge of the thunderstorm downdraft air. It is most prominent beneath the rain-free base and on the leading edge of an approaching thunderstorm. It is usually marked by gusty cool winds and sometimes blowing dust. The gust front often precedes the thunderstorm precipitation by several minutes. A shelf or roll cloud sometimes accompanies the gust front, especially when it precedes a line of thunderstorms.

**Hand washing:** A process to thoroughly clean the hands with soap and water or hand sanitizer in order to reduce the risk of transferring bacteria and viruses.

**Halon:** A colorless, odorless, electrically non-conductive gas (chemical formula  $\text{CBrF}_3$ ), which is a medium for extinguishing fires by inhibiting the chemical chain reaction of fuel and oxygen. It is also known as bromotrifluoromethane. It is no longer in general use.

**Ham radio operators:** Individuals who use radio equipment to communicate with other radio operators. Also known as amateur radio operators. These individuals can assist during disasters when other forms of communication have been damaged.

**Hazard:** Anything that has the potential to cause injury or harm; a source of danger. All hazards are associated with a transfer of energy.

**Hazard analysis:** Identifying the range of risks that may impact an operation. It should reveal what can occur, how often it is likely to occur, and how serious the effects might be.

**Hazardous Waste:** Any solid, liquid, or contained gaseous material that is no longer used or needed, which has the potential to cause injury or death, or pollute the environment.

**Heat (thermal) detector:** A device for fire detection based upon gauging either temperature or temperature rise in the given location.

**Heat wave:** A period of abnormally and uncomfortably hot weather that could last from several days to several weeks. A long-term heat wave can be responsible for multiple deaths, especially within vulnerable populations such as the elderly.

**HEPA filter:** High efficiency particulate air filter

**Homeland security:** The protection of national borders and the homeland from terrorist and all other threats to national security.

**Hot Zone:** Area of highest chemical concentration.

**Human-caused disasters:** Disasters caused by human hand. Whether intentional or unintentional, human-caused disasters could be avoided through preventative measures or education. Some forms of human-caused losses are criminal and can be prosecuted.

**100-year flood:** Also known as the Regulatory Flood, refers to a flood level with a 1 percent or lesser chance of being equaled or exceeded in a given year.

**Hurricane:** A severe tropical storm that develops east of the International Date Line in the southern Atlantic Ocean, Caribbean Sea, Gulf of Mexico, or the eastern Pacific Ocean. It has sustained surface winds of 74 mph or more.

**Hurricane warning:** Conditions with winds of at least 74 mph, coastal flooding and heavy rain are expected within 24 hours.

**Hurricane watch:** Conditions with winds at least 74 mph, coastal flooding and heavy rains are possible within 36 hours.



**Hydraulic:** Refers to operating by the flow of liquid, such as oil or water. Hot hydraulic oil and high pressures greater than 2500 PSI can cause serious injury to skin, muscle tissue, and eyes if a leak occurs. Hydraulic systems are used widely on modern agricultural, construction, and industrial equipment.

**Hydrogen sulfide (H<sub>2</sub>S):** A highly toxic gas that can cause nausea and vomiting at 50 to 200 ppm and death at 1000 ppm. It has a rotten egg smell and is explosive at concentrations of 4.3% to 46% in air. Manure pit agitation releases large quantities of hydrogen sulfide. The most feared and deadly gas in manure pits.

**Hygroscopic:** Referring to the process of moisture being absorbed by a substance from the atmosphere. Under high humidity conditions, road salt is hygroscopic and can cause roads to stay wet and slippery for long periods of time. Grain in a bin is hygroscopic which can cause the grain to go out-of-condition if exposed to moisture.

**Hyperthermia:** Overheating of the body, possibly due to extreme weather conditions and/or over-exertion. Untreated hyperthermia can lead to serious illness or death from heat stroke.

**Hypothermia:** The condition in which the body temperature is lowered by exposure to cold. Hypothermia can result in death if not treated immediately.

**Ignition Temperature (Auto -Ignition):** The minimum temperature required to initiate or cause self-sustained combustion in a substance. The temperature that the vapors of a product must be heated to for ignition to occur.

**Incident:** Any deviation from normal operations or activities which has the potential to result in an emergency.

**Incident Command System (ICS):** The emergency response organization at the event scene designed to deal with command, control and coordination issues in advance.

**Ingestion:** The term used when materials are taken into the body through the mouth, such as by eating or drinking. Also applies when breathing results in the inhaled materials being swallowed.

**Inhalation:** The term used when materials are taken into the lungs by breathing.

**Inhalation Exposure:** Exposure to a hazardous substance that enters the body through the respiratory system.

**Inhalation Hazard:** Airborne material that can damage a person's health when breathed or inhaled. Inhalation hazards of dust, chemical vapors, fumes, or pathogens can be avoided by the proper use of respirators to protect health.

**Injection:** The introduction of chemicals into the body through puncture.

**Immunization:** The process by which a person is protected against the adverse effects of infection by a disease-causing microorganism. Active immunization (vaccination) involves inoculating a person with an antigen and relying on their body to mount an immune response. Passive immunization involves giving a patient exogenous (manufactured or transferred from another individual) antibodies.

**Impairment:** The loss of the use of, or the damage or malfunction of any bodily system or function. A permanent impairment is one that is likely to continue indefinitely.

**Implementation:** The phase of the emergency system development process that starts when workers are trained and ready to use an emergency plan if a disaster strikes.

**Incident Commander:** The individual in charge at the scene of an emergency. He or she is responsible for the welfare of those responding to the incident. In most cases, the Incident Commander is the highest ranking fire official responding to the scene. One of the roles of the Incident Commander is to mitigate the hazards to first responders and to coordinate resources.

**Incinerate:** To cause to burn to ashes. Incineration is used on a small scale to dispose of animal carcasses.

**Inland flooding:** Flooding that occurs when hurricanes create intense rainfall many (often hundreds of) miles from the coast. In the aftermath of a hurricane, more people die from drowning than from any other cause.

**Insurance:** A means of mitigating potential losses. It is generally accepted that paying for insurance to help recover from losses is a form of good business management.

**Ionization:** The formation of ions by adding or removing electrons from a neutral atom or molecule by the use of chemical reaction, radiation, strong electrical fields, or high temperature.

**LD 50:** The lethal dose or amount of a chemical that will kill 50 percent of the animals in a test population. The LD50 is measured in mg of chemical dose per kg of body weight. Therefore, the lower the LD50 rating, the more toxic the chemical is. Some insecticides with an LD50 of 5 or less are so toxic that it would require only a few drops to kill a person.

**Lift:** The action of rising air that is created by natural means, such as sea breezes, storm fronts, and mountains. Lift facilitates the strengthening or forming of thunderstorms.

**Lightning:** The discharge of electrical energy between clouds or a cloud and the ground. This discharge is caused by the rising and descending air within a thunderstorm, which separates positive and negative charges.

**Local Emergency Planning Committee (LEPC).** A local committee that helps communities protect public health, safety and the environment from hazards by developing emergency plans. LEPC's were originally developed for response to chemical releases and by furthering of education concerning chemical-related hazards and protective measures. They are now involved in preparing for all forms of emergencies.

**Lost Workdays:** The number of days (consecutive or not) after, but not including, the day of injury or illness during which employees would have worked but could not do so; that is, could not perform all or any part of their normal assignment during all or any part of the workday or shift because of their occupational injury or illness.

**LP gas:** Liquid petroleum gas, a pressurized liquid fuel available in bottles or large storage tanks, is used primarily for temporary heating or in remote locations where less expensive, natural gas is not available. LP gas is a primary source of fuel for rural residents.

**Magnitude:** A measure of the energy released from an earthquake. This energy is expressed as a number on the Richter scale.

**Major Disaster:** As defined under P.L. 93-288, any natural catastrophe, (including any hurricane, tornado, storm, flood, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.

**Malevolent Acts:** Acts which are performed with an intent to cause harm to others, such as sabotage or terrorism.

**Manure gas:** A by-product of manure decomposition that often contains methane, hydrogen sulfide, carbon dioxide, and ammonia. Methane occasionally reaches explosive concentrations in a storage structure; and the toxic mixture of gases can be lethal to farm workers entering a manure pit.

**Mass Casualty Event:** An event in which: (1) the numbers of patients and the nature of the injuries make the normal level of stabilization and care unachievable; and/or (2) the number of Emergency Medical Service personnel that can be brought to the site within the time allowed is not enough; and/or (3) the stabilization capabilities of the hospitals that can be reached within the time allowed are insufficient to handle all the patients.

**Meals Ready to Eat (MREs):** Self-contained; individual meals designed for military use under field conditions. MREs are sometimes included as part of civilian emergency food supply. They tend to be high in calories.

**Meteorological Information:** Characteristics of the atmosphere (e.g., wind direction, wind speed, temperature, and precipitation) used to determine how the material will be transported through the atmosphere to the receptors, and how rapidly the receptors will be affected.

**Methamphetamine:** A central nervous system stimulant similar to amphetamine sulfate but more potent. A member of the amphetamine class, it is preferred by habitual amphetamine users. In intravenous form, it produces an almost instantaneous onset of the drug's effect. Slang names include "meth," "speed," and "crystal." One method of production by illegal producers requires anhydrous ammonia which is often stolen from farm sites and fertilizer plants.

**Methane (CH<sub>4</sub>):** A colorless, odorless, combustible gas that is commonly found in natural gas, coal mines, bubbles in stagnant ponds, and manure pits; consequently, it is responsible for many inadvertent explosions.

**Mitigation:** Initiatives that reduce the level of losses to humans and property from natural and man-made hazards. Carrying an insurance policy on a farm or home is a form of mitigation.

**Monitoring:** The process of measuring certain environmental parameters on a real-time basis for spatial and time variations. For example, air monitoring may be conducted with direct-reading instruments to indicate relative changes in air contaminant concentrations at various times.

**Mutual Aid Response:** A mutual aid response is one in which (1) Facility first responders and facility Emergency Medical Service personnel are able to mitigate life threatening injuries in all victims to the same level that they would be able to mitigate similar injuries in a single victim; and (2) Within 10 to 20 minutes, enough other responders and ambulances can be at the site to provide normal levels of care and transportation; and (3) The hospitals that can be reached within the normally accepted time for transport of patients can provide adequate stabilization until definitive care can be provided.

**N-95 Respirator:** A type of personal protective equipment worn to protect the wearer from airborne dust and particles. The function of these respirators are regulated by the National Institute of Occupational Safety and Health (NIOSH) and while used in the workplace by the Occupational Safety and Health Administration (OSHA). The N-95 refers to the ability of the respirator, if properly fitted, to block at least 95% of test particles that are 0.3 micron in size. See [www.FDA.gov](http://www.FDA.gov) or [www.niosh.gov](http://www.niosh.gov).

**Natural disasters:** Those disasters that occur because of weather, land masses, bodies of water, or other natural forces (e.g., hurricanes, tornados, floods, winter storms, drought, earthquakes, tsunamis, and volcanoes).

**Newcastle disease (Ranikhet disease).** An acute, febrile and contagious disease of birds resembling the fowl plague that is caused by a Paramyxovirus (Newcastle disease virus) and characterized by high infectivity with respiratory and nervous symptoms. It is transmissible to humans, causing severe but transient conjunctivitis.

**National Emergency Coordination Center (NECC):** The FEMA facility that provides notification to Headquarters and Regional responders of implementation of the Plan.

**National Fire Protection Association (NFPA):** Promotes fire prevention and emergency planning through education and standards. See [www.nfpa.org](http://www.nfpa.org).

**NFPA 1600:** Standard for designing and implementing emergency management plans. Developed by the National Fire Protection Association. For more information visit [www.nfpa.com](http://www.nfpa.com).

**National Incident Management System (NIMS):** A structure for management of large-scale emergencies or disasters. It is managed by the Department of Homeland Security and addresses the following components: Preparedness, Communications and Information Management, Resource Management, Command and Management, and Ongoing Management and Maintenance. It is designed to coordinate emergency response. See [www.fema.org](http://www.fema.org).

**National Institute for Food and Agriculture (NIFA):** A division of the USDA whose mission is to advance knowledge for agriculture, the environment, human health and well being, and communities.

**National Institute for Occupational Safety and Health (NIOSH):** The federal agency responsible for conducting research and making recommendations for the prevention of work-related disease and injury. NIOSH publishes news alerts to warn workers when it discovers a significant number of injuries occurring in a particular occupational task. To learn more about NIOSH visit [www.niosh.gov](http://www.niosh.gov).

**National Oceanic and Atmospheric**

**Administration (NOAA):** This federal agency has multiple missions related to its long-term goals, which are to describe and predict changes in the earth's environment and to conserve and wisely manage U.S. coastal and marine resources. In addition, it also provides advance short-term weather warnings and forecast services.

**National Response Framework:** Is part of the National Strategy for Homeland Security that presents the guiding principle for all levels of domestic response in the event of emergencies and disasters. See [www.fema.gov](http://www.fema.gov).

**Natural Phenomena Hazard:** An act of nature (e.g., earthquake, wind, hurricane, tornado, flood, precipitation (rain or snow), volcanic eruption, lightning strike, or extreme cold or heat) that poses a threat or danger to workers, the public, or to the environment by potential damage to structures, systems, and components.

**Necropsy:** Typically refers to an autopsy of an animal in order to determine the cause or manner of death. Necropsies provide valuable information that can be used to help prevent the spread of disease.

**Occupational Safety and Health**

**Administration (OSHA):** The federal agency charged with regulating working conditions and practices for the purpose of protecting worker health and safety in the United States. OSHA publishes standards to protect workers involved with clean-up following a storm. See [www.osha.gov](http://www.osha.gov).

**Oral Exposure:** Exposure to a hazardous substance that enters the body through the mouth. Handwashing prior to eating as well as thorough washing of fruits and vegetables that may be contaminated with pesticides are two of the most effective methods to prevent oral exposure. Regular handwashing also prevents the spread of infectious diseases such as the flu.

**Overland flooding:** Flooding that occurs outside a defined river or stream.

**Pandemic:** An epidemic of a disease that effects a large area, multiple countries or multiple continents. The 2020 outbreak of the coronavirus was determined to be a pandemic.

**Permissible Exposure Limit:** Exposure level limits for the workplace established by the OSHA Act of 1972. A common practice is to use the more stringent standard between Threshold Limit Values and Permissible Exposure Limits.

**Personal protective equipment (PPE).** Safety equipment that can reduce the number and severity of injuries and illnesses. PPE not only helps protect people, but also improves productivity and profits. Farmers/ranchers can share in these benefits by using the appropriate protective equipment for themselves, family members, and employees whenever performing hazardous tasks. PPE should also be used during clean-up following a disaster.

**Pesticide:** Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest; and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant. A broad class of crop protection chemicals including four major types: insecticides (used to control insects); herbicides (used to control weeds); rodenticides (used to control rodents); and fungicides (used to control mold, mildew and other fungi).

**Photoelectric:** Pertaining to the electrical effects due to light or other radiation (e.g., emissions of electrons).

**Power failure:** Failure of the source or supply of power; often refers to an electrical power outage.



**Preparedness Phase:** The phase of an emergency management program characterized by activities focused on the acquisition and maintenance of resources, along with training, drills, and exercises.

**Preparedness stage:** The time period of emergency planning when activities, programs, and systems are developed prior to a disaster to support and enhance mitigation of, response to, and recovery from disasters. Preparedness includes ensuring that adequate water and food are available for at least 72 hours.

**Presidential Disaster Declaration:** A declaration that a major disaster or emergency exists based upon a request from a governor of the state that has been impacted. Widespread flooding or tornado damage can result in a Presidential Disaster Declaration.

**Prevention stage:** The time period of emergency planning when tasks are performed to reduce the risk of potential consequences from disasters or emergencies. Not building a structure in a flood plain is a strategy of prevention that can save lives and reduce property damage.

**Power take off (PTO):** An external shaft, usually on the rear of a tractor, which provides rotational power to an implement such as a generator. Entanglement in PTO drivelines can cause severe or fatal injuries.

**Quarantine:** The enforced isolation or restriction of free movement imposed to prevent the spread of a contagious disease.

**Radiation:** The energy emitted from radioactive materials which are composed of unstable atoms that are giving off energy until they become stable.

**Radiation exposure:** To be exposed or made vulnerable to the energy emitted from radioactive materials.

**Rainfall intensity:** The rate of rainfall, generally expressed as inches per hour.

**Range fire:** A fire on a prairie or large grazing area where flammable vegetation is found.

**Reaction time:** The lapse of time between stimulation and response to a stimulus. Reaction time can be slowed under the influence of alcohol and drugs.

**Recovery stage:** The stage of emergency management that involves rebuilding or returning an entity to an acceptable condition after a disaster.

**Red Cross:** An international organization that cares for the wounded, sick, and homeless in wartime, according to the terms of the 1864 Geneva Convention. Currently the Red Cross also provides care during and following natural disasters. See [www.redcross.org](http://www.redcross.org).

**Re-entry:** The returning to the disaster site. Re-entry may be delayed due to dangerous situations such as downed power lines and leaking gas lines.

**Release:** Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or otherwise disposing of substances into the environment.

**Respirator:** The mask, filters, and, in some cases, air supply tanks that workers use to provide clean air for safe breathing and protection from airborne particles and certain mists or aerosols. Respirators must be certified to meet strict safety standards. According to current OSHA regulations, respirator use requires specialized training, and may require approval by a physician. See [www.fda.gov](http://www.fda.gov)



**Response:** Activities to address the immediate and short-term effects of an emergency or disaster. Response includes immediate actions to save lives, protect property, and meet basic human needs. Based on the requirements of the situation, response assistance will be provided to an affected state under the Federal Response Plan using a partial activation of selected ESFs or the full activation of all ESFs to meet the needs of the situation.

**Response stage:** The time period of disaster planning when activities are designed to address the immediate and short term effects of the disaster.

**Rinderpest:** Cattle plague; an acute, viral infection of cattle, sheep, and goats with symptoms of fever, diarrhea, and inflammation of mucous membranes.

**Risk:** The potential for realization of unwanted, adverse consequences to human life, health, property, or the environment. Estimation of risk is usually based on the expected value of the conditional probability of the event occurring times the consequence of the event if it occurs. Risk has also been described being equal to the toxicity or degree of hazard times the amount of exposure to that hazard ( $\text{Risk} = \text{Toxicity} \times \text{Exposure}$ )

**Risk assessment:** The process of establishing information regarding acceptable levels of a risk and/or levels of risk for an individual, group, society, or the environment.

**Risk evaluation:** A component of risk assessment in which judgments are made about the significance and acceptability of risk.

**Risk management:** The process by which risks to an operation are anticipated or recognized and the risks removed or decreased to an acceptable level by intervention.

**Riverine flood:** A flood that develops slowly, sometimes over a period of days.

**Rustling:** A form of thievery whereby cattle or livestock are rounded up and transported from one location to another.

**Run Off:** Harmful materials that are carried by water from one location to another causing potential hazards to people and the environment. The run off of pesticide or anhydrous ammonia contaminated water into a stream can cause fish kills. Misapplied manure can also run off into waterways.

**Sabotage:** Deliberate destruction; any act to hamper or destroy.

**Safeguards:** An integrated system of physical protection, material accounting, and material control measures designed to deter, prevent, detect, and respond to unauthorized possession, use, or sabotage.

**Safety:** The freedom from those conditions that can cause danger, risk, or injury. Car seats and seat belts so greatly improve the safety of children and youth riding in cars and trucks that all states have laws requiring their use.

**Safety Analysis:** A documented process: (1) to provide systematic identification of hazards within a given DOE operation; (2) to describe and analyze the adequacy of the measures taken to eliminate, control, or mitigate identified hazards; and (3) to analyze and evaluate potential accidents and their associated risks.

**Safety Data Sheets (SDS):** Information provided by the manufacturer of a pesticide or hazardous chemical that includes physical and health hazards, safety procedures, such as required personal protective equipment and first aid procedures. The SDS sheets should be readily available to all workers so that they can familiarize themselves with necessary safety precautions before handling or applying chemicals. These sheets are sometimes known as Material Safety Data Sheets (MSDS).

**Safety interpreters:** Individuals trained in emergency procedures who also have the ability to communicate with non-English speaking employees.

**Sanitize:** The process of making something clean or hygienic. Using an alcohol wipe is one way to sanitize or disinfect a surface prior to food preparation.

**Secondary Containment:** Structures usually dikes, or berms, surrounding tanks or other storage containers and designed to catch spilled material from the storage containers.

**Security:** The quality or state of being secure; freedom from danger; freedom from fear or anxiety; protection; to put beyond hazard of losing; to make safe against adverse contingencies; to relieve from exposure to danger. Putting a fence around the perimeter of a facility enhances its security.

**Seismic waves:** Earth vibrations that travel outward from the center of the earthquake at speeds of several miles per second.

**Self-help network:** A support system that brings individuals together for the purpose of exploring common issues, sharing experiences, understanding past failures, encouraging future successes, and most of all, accepting and supporting one another. One kind of a support system involves disabled people in the workplace.

**Shelter-In-Place:** Protective action that calls for personnel to move into or remain indoors; close doors and windows; turn off air conditioners, heaters, and air-handling units that draw in outside air; refrain from eating, drinking, smoking, or chewing gum; and remain indoors until notified that it is safe to leave. Personnel in vehicles should roll up windows and close vents that draw in outside air (including heater and air-conditioning vents if applicable), and proceed to a safe area.

**Signal Words:** Used to alert a product user of potential hazards. Signal words used to indicate the level of toxicity of a chemical are, from most to least toxic: DANGER-POISON, DANGER, WARNING, and CAUTION. Similar signal words are also used to indicate hazards found on equipment and in facilities.

**Silage fires:** The burning of silage. The heat of fermentation can initiate spontaneous combustion, if forage is stored too wet. A smoldering fire can start and progress to a full-blown fire when the smoldering material reaches an area of unlimited oxygen supply. In oxygen limiting or sealed storage structures, steam and expanding gases create a pressure rise with the potential for explosion.

**Silo Gas:** A collection of gases produced during the fermentation of silage. The most toxic component is nitrogen dioxide, which is heavier than air and can cause asphyxiation and damage to the lungs. Silo gas can be present for up to 21 days following the filling of a silo. Entering the silo during this time should be avoided or performed only after extensive ventilation.

**Shock:** A serious medical condition that can result in death if not treated immediately. It is established by a fall in blood pressure due to loss of blood or severe burns, or allergic reaction. The first step in treating shock is to call 911.

**Showers:** Snow, rain, sleet, or hail falling at various intensities for a relatively short period of time.

**Sighted guide:** A person who guides blind people by means of pre-planned touch and verbal signals. A sighted guide serves the blind partner in event of an emergency.

**Sleet:** Rain that freezes to ice pellets before reaching the ground, causing roads and sidewalks to become slippery.

**Solvent:** A liquid that is used to dissolve a substance. Solvents are often used for removing grease and dirt. Rubber gloves should be worn when handling solvents to prevent skin damage. Most solvents are toxic and highly flammable. Read the label carefully to determine what Personal Protective Equipment is required.

**Special Flood Hazard Area (SFHA):** Those lands within the jurisdiction of the city/town/country that are subject to inundation by the regulatory flood.

**Spontaneous Combustion:** Self-ignition of a combustible material caused by the heat generated from a chemical reaction. Wet hay, wet grain, and silage can cause spontaneous combustion resulting in disastrous fires which can be extremely difficult to extinguish and actually smolder for many days. Workers should never enter a bin or silo that contains heating or smoldering material due to toxic air quality.

**Squalls:** Brief, intense snow or precipitation showers accompanied with strong, gusty winds.

**Squall line:** A line or narrow band of active thunderstorms. The line may extend across several hundred miles. It forms along and ahead of an advancing cold front.

**Standard:** A generic, all-encompassing term used to describe documents that provide a specified set of mandatory or discretionary rules, requirements or conditions concerned with performance, design, operation, or measurements of quality to accomplish a specific task. Standards may include federal laws, regulations, state laws, federal agency directives, national and international technical standards, codes of conduct, or even organizational "internal use only" documents.

**Static Electricity:** An electrical charge that can develop on an object due to friction. Lightning that travels between the clouds and the earth is an example of static electricity. When refueling a vehicle or filling a fuel container in the bed of a truck, the buildup of static electricity can cause a spark that could ignite fuel vapors. Place containers on the ground when filling with gasoline and touch the side of a vehicle before touching the fuel nozzle to discharge any static electricity away from concentrated fuel vapors.

**Stored Energy:** Any form of energy that is stored. This includes chemical energy in a battery, potential energy in a spring, thermal energy in a hot engine, electricity, and kinetic energy stored in a coasting PTO shaft that can cause a serious entanglement injury. Before working on a machine, all sources of stored energy should be identified.

**Storm Shelter:** A structure designed to protect the occupants from the effects of a tornado or hurricane. At one time many farms in the Midwest had a "storm cellar" that provided protection during storms and also served as a cool location to store potatoes and other vegetables.

**Storm Spotter Program:** A volunteer program sponsored by the National Weather Service (NWS) to help keep communities safe by having Storm Spotters provide timely and accurate reports of severe weather to the NWS. These reports help the NWS to issue more timely warnings. Training is required. See [www.weather.gov](http://www.weather.gov).

**Storm surge:** Also called a hurricane tide. High water pushed toward shore by a hurricane's whirling winds. This advancing tide combines with normal tide to raise mean water level by 15 feet or more.

**Storm watcher:** Another name for NWS-trained Storm Spotter, or may refer to independent weather watchers or "storm chasers" who follow and observe violent weather events.

**Straight line storm/wind:** Thunderstorm winds most often found with the gust front. They originate from downdrafts and can cause damage, which occurs in a "straight line", as opposed to tornadic wind damage, which has circular characteristics.

**Stress:** A physical, chemical, or emotional factor that causes bodily or mental tension resulting from factors that alter one's equilibrium and create a feeling of anxiety often produced by the seeming inability to manage one's circumstances due to a supposed limitation of resource or ability. The effects of stress can often be managed by right thinking and actions.

**Swine Flu (H1N1):** A type of flu virus that, it is believed, originated from pigs that causes human respiratory infections. Its symptoms include chills, fatigue, and fever. Outbreaks are relatively common around the world where pigs are raised.

**Synergism:** The cooperative effect of mixing two or more chemicals whereby the resulting effect is greater than the sum of the effects of the chemicals if used separately. The synergism between two chemicals can make them more toxic.

**Table Top Drill:** An exercise that involves key emergency personnel to conduct a practice response to an emergency in a safe or secure setting. Table top drills help build stronger relationships between the different emergency agencies.

**Technological Hazard:** A range of hazards emanating from the manufacture, transportation, and use of such substances as radioactive materials, chemicals, explosives, flammables, agricultural pesticides, herbicides and disease agents; oil spills on land, coastal waters or inland water systems; and debris from space.

**Telecommunication Device for the Deaf (TDD).** A device that allows a person to transmit typed messages over phone lines to another person with a TDD. Most TDD's include a keyboard for typing messages to send and a display and/or printer to receive messages.

**Terminal:** Predicted to lead to death.

**Terrorism:** The U.S. Code of Federal Regulations defines terrorism as "the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives".

**Tetanus:** An acute, infectious disease commonly referred to as lockjaw, characterized by muscle spasms, especially of the jaw, and caused by a bacterium that is usually introduced through a wound, especially a puncture wound. It is recommended that rescue workers have a tetanus inoculation and periodic booster shots because of the likelihood of puncture wounds during disaster response.

**Thermal Radiation:** Electromagnetic radiation emitted from an explosion in the form of light and heat.

**Thunderstorm:** A storm with lightning and thunder produced by a cumulonimbus cloud; producing gusty winds, heavy rain, and sometimes hail.

**Thunderstorm warning:** An alert indicating that severe thunderstorms are occurring.

**Thunderstorm watch:** An alert indicating that severe thunderstorms are possible.

**Tornado:** An intense, rotating column (vortex) of air extending from the base of a thunderstorm cloud to the ground. Tornadoes are responsible for considerable property damage in the Midwest.

**Tornado warning:** An alert that a tornado has been spotted or indicated by weather radar and is expected to reach the warning area soon.

**Tornado watch:** An alert indicating that conditions are favorable for development of a tornado.

**Toxic:** Relating to a toxin, poisonous. Left-over agricultural chemicals are toxic waste and must be discarded in an approved manner. The bite of a brown recluse spider hiding in a dark shed or a rattlesnake under a board on a ranch can inject toxic venom that can cause serious illness and even death.

**Toxin:** Any poisonous or harmful substance.

**Toxic spill:** The emergency state caused when toxic materials are released into the environment.

**Toxicity:** The degree to which a substance or mixture of substances can harm humans or animals.

**Trauma:** A single or multi-system, life-threatening or limb-threatening injury requiring immediate medical or surgical intervention or treatment to prevent death or permanent disability. Trauma is also used to describe severe emotional or psychological distress.

**Triple rinse:** A practice that is intended to reduce residual agricultural pesticides from being transported in their original containers. Each container is rinsed three times before disposal.

### **Transportation Security Administration**

**(TSA):** An agency of the Department of Homeland Security that has authority over the traveling public in the U.S. It was established in response to the attacks on September 11, 2001 that used commercial airlines. In order to board any commercial flight, all passengers are screened by TSA personnel. See [www.tsa.gov](http://www.tsa.gov).

**Typhoon:** A hurricane-size storm that develops west of the International Date Line (i.e. in the western Pacific, Indian Ocean or China Sea).

**Tyvek Suit:** Typically white coveralls that are worn to protect the wearer from outside contaminants. They are made from a material manufactured by Dupont. It is lightweight, acts as a water resistant barrier, and is relatively cheap. They are widely used in agriculture to protect workers from animal waste, pesticides, fertilizer, dust, and oil and grease. They are also widely used in the medical field and during disaster clean-up.

**U.L. Label:** A symbol found on electrical power tools and equipment that indicates that the tool has been tested by the *Underwriters Laboratory*.

**Un-insulated:** Not insulated. High-voltage power lines are bare, un-insulated wires used to transport high voltage electricity over long distances. Many injuries and deaths have resulted from electrocution when television antennas, augers, and ladders have contacted un-insulated overhead electrical lines.

**Unintentional:** Describing actions that are not planned; without deliberate purpose or intent.

**Upwind:** Being in a position that is in the direction from which the wind is blowing. When spraying chemicals or working in a dusty setting, being upwind of the source can reduce inhalation exposure to toxic substances.

**U.S. Border Patrol:** The U.S. Customs and Border Protection's federal law enforcement arm within the U.S. Department of Homeland Security. Border Patrol agents prevent terrorists and terrorists' weapons from entering the U.S. See [www.cbp.gov](http://www.cbp.gov).

**U.S. Immigration and Customs Enforcement (ICE):** An agency under the U.S. Department of Homeland Security responsible for immigration and customs enforcement, and to counter transnational crime. See [www.ice.gov](http://www.ice.gov).

**United States Department of Agriculture (USDA).** The federal agency administers the meat and poultry inspection program, educates about food safety, runs nutritional assistance (food stamp) programs, assists marketing of agricultural products, maintains national forests, promotes conservation of private lands, and conducts research on agricultural problems.

**Unstable air:** A state in which the vertical distribution of temperature is such that an air particle, if given either an upward or downward impulse, will tend to move away with increasing speed from its original level. In other words, warm rising air stays warmer and continues to rise while cooler falling air stays cooler and continues to fall creating turbulent air movement.

**Utility terrain (UTV) or utility task vehicle:** Recreational off-road vehicle with side-by-side seating for two or more passengers. May be equipped with cab or rollover protective structure, a cargo bed, and is often used for agricultural work applications and in emergency response.

**Vandalism:** The willful and malicious destruction, injury, disfigurement, or defacement of any public or private property, real or personal, without consent of the owner or person having control.

**Vapor:** An air dispersion of molecules of a substance that is liquid or solid in its normal physical state, at standard temperature and pressure.

**Virus:** A microscopic infectious agent that replicates itself within living cells. Viruses can infect all types of life. COVID-19, Swine Flu, SARS, and HIV are types of viruses. The most effective way to deal with viruses is to vaccinate against them to provide immunity.

**Volatile:** A substance that is easily converted to a vapor (evaporated) at normal temperatures. The more volatile a chemical is, the faster it will evaporate. These vapors may be dangerous and precaution should be used when working within near proximity. Anhydrous ammonia and propane convert from a compressed liquid to a vapor very quickly.



**Voltage:** Pressure in an electrical system that pushes charged electrons. Most vehicles and equipment have 12V electrical components, however 6V and 24V are also possible. Buildings may have electrical wiring that is 120V, 240V, or 440V. Electricity is transmitted from a powerplant long distances at high-voltage (up to 400,000V).

**Voltage Detector:** An electronic, usually hand-held device that detects the presence of flowing electricity in electrical wiring or receptacles. This device should be a part of everyone's toolbox in order to prevent unintentionally contacting energized electrical components. Before any electrical work is done, all power must be locked out to prevent electrical shock.

**Volunteer First Responder:** Generally refers to local volunteers who belong to organizations that are established to provide assistance in the event of an emergency. The most common of these are volunteer fire/rescue and emergency medical personnel. Most first responders in the U.S. are volunteers.

**Vulnerability:** The state of being vulnerable or exposed to suffering, needs, or threats while lacking abilities and/or resources to cope with these. Vulnerability to disasters refers to how well people can anticipate, cope with, resist, and recover from the impacts of a disaster.

**Warning:** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, including hazards that are exposed when guards are removed. It can also be used to alert against unsafe practices. The word "WARNING" on a chemical label indicates an intermediate level of hazard to the worker or the environment.

**Wind chill:** The condition whereby the body heat is more rapidly transferred from the body as the wind increases.

**Wind chill warning:** An alert issued when wind chill temperatures are expected to be less than 34 degrees below zero.

**Wind storm:** An intense movement of air around or over the earth's surface.

**Winter storm warning:** An alert that a winter storm is occurring in a nearby area and is expected to reach the warning area soon.

**Winter storm watch:** An alert that conditions are favorable for the development of a winter storm.

**Workplace Environmental Exposure Level:** American Industrial Hygiene Association (AIHA) exposure level limit considered to be acceptable in the workplace.

**Write-off:** The act of changing part or all of the value of an asset to an expense or a loss. It is used to reduce or eliminate the value of an asset; consequently, it reduces profits and income taxes.

**Zone security plan:** A security plan that takes into account different areas or zones of the property with their special security needs. Each zone is secured accordingly.

**Zoonotic Diseases:** Diseases that can be transferred from animals to humans in natural ways. Zoonotic diseases can be transmitted to humans by: oral ingestion (mad-cow disease); bites (rabies); inhalation (anthrax); puncture wound (tetanus); scratch wound (cat scratch disease). Frequent hand washing and PPE are used by veterinarians to reduce their exposure to zoonotic diseases.