HAZMAT

GLOSSARY OF TERMS
AND DEFINITIONS OF ACRONYMS

The express purpose of the Hazardous Materials Emergency Response Glossary of Standardized Terms is to provide common and readily understandable definitions to facilitate communications and operations among hazardous materials emergency responders when dealing with hazardous materials incidents. This document is not intended as a legal or scientific reference.

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ABANDONED SITE:

An inactive hazardous waste disposal or storage facility which cannot be easily traced to a specific owner, or whose owner has gone bankrupt and subsequently cannot afford the cost of cleanup, or a location where illegal dumping has taken place

ABANDONED WELL:

A well whose use has been permanently discontinued or which is in a state of such disrepair that it cannot be used for its intended purpose.

ABATEMENT DEBRIS:

Waste from remediation activities.

ABATEMENT:

The actions taken to reduce the amount, degree of the hazard, or intensity of the release or threatened release of hazardous material.

ABSOLUTE:

A chemical substance that is not mixed; pure. An example is Absolute Alcohol - which is ethyl alcohol containing not more than one percent by weight of water.

ABSORBED DOSE:

In exposure assessment, the amount of a substance that penetrates an exposed organism s absorption barriers (e.g., skin, lung tissue, gastrointestinal tract) through physical or biological processes. The term is synonymous with internal dose.

ABSORBENT MATERIAL:

A material designed to pick up and hold liquid hazardous material to prevent contamination spread.

ABSORPTION BARRIER:

Any of the exchange sites of the body that permit uptake of various substances at different rates (e.g., skin, lung tissue, and gastrointestinal-tract wall)

ABSORPTION:

1. The process of absorbing or picking up a liquid hazardous material to prevent enlargement of the contaminated area.
2. Movement of a toxicant into the circulatory system by oral, dermal, or inhalation exposure.

ACCEPTABLE DAILY INTAKE (ADI):

The highest daily amount of a substance that may be consumed over a lifetime without adverse effects.

ACCEPTABLE RISK:

A risk judged to be outweighed by corresponding benefits or one that is of such a degree that it is considered to pose minimal potential for adverse effects.

ACCESS CONTROL POINT:

The point of entry and exit which regulates traffic to and from control zones.

ACCESS ROAD:

Any passage providing access to a treatment, storage, or disposal area within a Hazardous Waste Management (HWM) facility, suitable for use by transport vehicles and emergency vehicles in all types of weather.

ACCIDENT SITE:

The location of an unexpected occurrence, failure or loss, either at a plant or along a transportation route, resulting in a release of hazardous materials.

ACCLIMATIZATION:

The physiological and behavioral adjustments of an organism to changes in its environment.

ACGIH:

An acronym for American Conference of Governmental Industrial Hygienists.

ACID DEPOSITION:

A complex chemical and atmospheric phenomenon that occurs when emissions of sulfur and nitrogen compounds and other substances are transformed by chemical processes in the atmosphere, often far from the original sources, and then deposited on earth in either wet or dry form. The wet forms, popularly called acid rain, can fall to earth as rain, snow, or fog. The dry forms are acidic gases or particulates.

ACID MINE DRAINAGE:

Drainage of water from areas that have been mined for coal or other mineral ores. The water has a low pH because of its contact with sulfur-bearing material and is harmful to aquatic organisms.

ACID NEUTRALIZING CAPACITY:

Measure of ability of a base (e.g., water or soil) to resist changes in pH.

ACID:

A hydrogen-containing corrosive material that reacts with water to produce hydrogen ions; a proton donor.

ACIDIC:

The condition of water or soil that contains a sufficient amount of acid substances to lower the pH below 7.0.

ACIDITY:

The quantitative capacity of aqueous solutions to react with hydroxyl ions. It is measured by titration with a standard solution of a base to a specific end point. Usually expressed as milligrams per liter of calcium carbonate.

ACT OF GOD:

An unanticipated grave natural disaster or other natural phenomenon of an exceptional, inevitable and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

ACTION LEVELS:

1. **Regulatory levels recommended by EPA for enforcement by FDA and USDA when pesticide residues occur in food or feed commodities for reasons other than the direct application of the pesticide. As opposed to tolerances which are established for residues occurring as a direct result of proper usage, action levels are set for inadvertent residues resulting from previous legal use or accidental contamination.**
2. **In the Superfund program, the existence of a contaminant concentration in the environment high enough to warrant action or trigger a response under SARA and the National Oil and Hazardous Substances Contingency Plan. The term is also used in other regulatory programs. (See: tolerances.)**

ACTIVATED CARBON:

A highly adsorbent form of carbon used to remove odors and toxic substances from liquid or gaseous emissions. In waste treatment, it is used to remove dissolved organic matter from waste drinking water. It is also used in motor vehicle evaporative control systems.

ACTIVATED SLUDGE:

Product that results when primary effluent is mixed with bacteria-laden sludge and then agitated and aerated to promote biological treatment, speeding the breakdown of organic matter in raw sewage undergoing secondary waste treatment.

ACTIVATED SLUDGE PROCESS:

A process by which bacteria that feed on organic waste are continuously circulated and put in contact with organic waste in the presence of oxygen. Incoming wastewater is mixed with recycled activated sludge and the mixture is aerated, allowing various oxidation reactions to take place that remove much of the organic waste from wastewaters. This has been used for treatment of refinery, petrochemical and biodegradable organic wastewaters.

ACTIVATOR:

A chemical added to a pesticide to increase its activity.

ACTIVE FAULT:

A fault, which according to geologic evidence is capable of movement along a fault trace. A hazardous waste disposal site located on an active fault may pose a threat to the environment.

ACTIVE INGREDIENT:

In any pesticide product, the component that kills, or otherwise controls, target pests. Pesticides are regulated primarily on the basis of active ingredients.

ACTIVE PORTION:

Any area of a facility where treatment, storage, or disposal operations are being conducted. It includes the treated area of a land farm and the active face of a landfill. Covered, closed, or inactive landfills, building roofs, and roads are excluded unless designated as "active portions."

ACTIVITY PLANS:

Written procedures in a school s asbestos-management plan that detail the steps a Local Education Agency (LEA) will follow in performing the initial and additional cleaning, operation and maintenance-program tasks; periodic surveillance; and reinspection required by the Asbestos Hazard Emergency Response Act (AHERA).

ACUTE EFFECT:

An adverse action on a human or animal, generally after a single significant exposure, which may be mild or severe.

ACUTE TOXICITY:

The ability of a substance to cause severe biological harm or death soon after a single exposure or dose. Also, any poisonous effect resulting from a single short-term exposure to a toxic substance. (See: chronic toxicity, toxicity).

ACUTE TOXICITY:

Any harmful effect produced by a single short-term exposure that may result in severe biological harm or death.

ADAPTATION:

Changes in an organism s physiological structure or function or habits that allow it to survive in new surroundings.

ADD-ON CONTROL DEVICE:

An air pollution control device such as carbon absorber or incinerator that reduces the pollution in an exhaust gas. The control device usually does not affect the process being controlled and thus is add-on technology, as opposed to a scheme to control pollution through altering the basic process itself.

ADEQUATELY WET:

Asbestos containing material that is sufficiently mixed or penetrated with liquid to prevent the release of particulates.

ADHESION:

Molecular attraction which holds the surfaces of two substances in contact, such as water and rock particles.

ADJUVANT:

A substance used in pesticide formulation to aid its action. (Also used in the manufacture of drugs.)

ADMINISTERED DOSE:

In exposure assessment, the amount of a substance given to a test subject (human or animal) to determine dose-response relationships. Since exposure to chemicals is usually inadvertent, this quantity is often called potential dose.

ADMINISTRATIVE ORDER ON CONSENT:

A legal agreement signed by EPA and an individual, business, or other entity through which the violator agrees to pay for correction of violations, take the required corrective or cleanup actions, or refrain from an activity. It describes the actions to be taken, may be subject to a comment period, applies to civil actions, and can be enforced in court.

ADMINISTRATIVE ORDER:

A legal document signed by EPA directing an individual, business, or other entity to take corrective action or refrain from an activity. It describes the violations and actions to be taken, and can be enforced in court. Such orders may be issued, for example, as a result of an administrative complaint whereby the respondent is ordered to pay a penalty for violations of a statute.

ADMINISTRATIVE PROCEDURES ACT:

A law that spells out procedures and requirements related to the promulgation of regulations.

ADMINISTRATIVE RECORD:

All documents which EPA considered or relied on in selecting the response action at a Superfund site, culminating in the record of decision for remedial action or, an action memorandum for removal actions.

ADSORPTION:

Removal of a pollutant from air or water by collecting the pollutant on the surface of a solid material; e.g., an advanced method of treating waste in which activated carbon removes organic matter from waste-water.

ADULTERANTS:

Chemical impurities or substances that by law do not belong in a food, or pesticide.

ADULTERATED:

1. **Any pesticide whose strength or purity falls below the quality stated on its label.**
2. **A food, feed, or product that contains illegal pesticide residues.**

ADVANCED TREATMENT:

A level of wastewater treatment more stringent than secondary treatment; requires an 85-percent reduction in conventional pollutant concentration or a significant reduction in non-conventional pollutants. Sometimes called tertiary treatment.

ADVANCED WASTEWATER TREATMENT:

Any treatment of sewage that goes beyond the secondary or biological water treatment stage and includes the removal of nutrients such as phosphorus and nitrogen and a high percentage of suspended solids. (See primary, secondary treatment.)

ADVERSE EFFECTS DATA:

FIFRA requires a pesticide registrant to submit data to EPA on any studies or other information regarding unreasonable adverse effects of a pesticide at any time after its registration.

ADVISORY:

A non-regulatory document that communicates risk information to those who may have to make risk management decisions.

AERATED LAGOON:

Speeds up the natural process of the biological decomposition through the stimulation of bacteria to degrade organic wastes. The process requires a basin of significant depth (usually 4 to 17 feet), and introduces oxygen into the pond through mechanical or diffused aeration equipment. Aerated lagoons have been used successfully as an economical means to treat industrial wastes where high quality effluents are not required.

AERATED POND:

A natural or artificial wastewater treatment pond in which mechanical or diffused-air-aeration is used to supplement the oxygen supply.

AERATION:

The act of exposing a liquid to air (oxygen) with the aim of producing a high level of dissolved oxygen in the liquid.

AEROBIC:

Having molecular oxygen (O_2) as part of the environment; growing only in the presence of molecular oxygen, such as aerobic organisms; occurring only in the presence of molecular oxygen, such as aerobic decomposition.

AEROSOLS:

Liquid droplets, or solid particles dispersed in air, that are of fine enough particle size (0.01 to 100 microns) to remain dispersed for a period of time.

AFTER ACTION REPORT:

A post incident analysis report generated by a responsible party or responding agency after termination of a hazardous material incident describing actions taken, materials involved, impacts, etc.

AGENCY SPECIFIC PLAN:

An emergency plan written by and addressing an individual agencies response actions, capabilities and resources.

AGENT:

A chemical, physical, mineralogical, or biological entity that may cause deleterious effects in an organism after the organism is exposed to it.

AHERA DESIGNATED PERSON (ADP):

A person designated by a Local Education Agency to ensure that the AHERA requirements for asbestos management and abatement are properly implemented.

AIHA:

An acronym for See American Industrial Hygiene Association.

AIR BASIN:

An area that has similar meteorology and geography that has an impact on air in consideration of political boundary lines whenever practicable. California has been divided into 14 air basins.

AIR MODELING:

Mathematical models used to predict movement and concentrations of chemicals in the atmosphere.

AIR MONITORING:

To measure, record, and/or detect pollutants in ambient air.

AIR POLLUTANTS:

Foreign and/or natural substances occurring in the atmosphere that may result in adverse effects on humans, animals, vegetation, and/or materials.

AIR PURIFYING RESPIRATORS (APR):

Personal Protective Equipment; a breathing mask with specific chemical cartridges designed to either filter particulates or absorb contaminants before they enter the workers breathing zone. They are intended to be used only in atmospheres where the chemical hazards and concentrations are known.

ALGAE:

Simple rootless plants that grow in sunlit waters in proportion to the amount of available nutrients. They can affect water quality adversely by lowering the dissolved oxygen in the water. They are food for fish and small aquatic animals.

ALGAL BLOOMS:

Sudden spurts of algal growth, which can affect water quality adversely and indicate potentially hazardous changes in local water chemistry.

ALGICIDE:

Substance or chemical used specifically to kill or control algae.

ALKALI:

A hydroxide containing (-OH) corrosive material which is soluble in water, neutralizes acids, and is irritating or destructive to tissue.

ALKALINITY:

The capacity of water to neutralize acids, a property imparted by water's content of carbonates, bicarbonates, hydroxides, and occasionally borates, silicates, and phosphates. It is expressed in milligrams per liter of equivalent calcium carbonate.

ALPHA PARTICLE:

A positively charged particle, consisting of two protons and two neutrons.

AMBIENT AIR QUALITY:

Quality of the surrounding atmosphere or circulating air.

AMBIENT AIR:

Outdoor air.

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH):

A professional society of persons responsible for full-time industrial hygiene programs, who are employed by official governmental units. Its primary function is to encourage the interchange of experience among governmental industrial hygienists, and to collect and make available information of value to them. ACGIH promotes standards and techniques in industrial hygiene, and coordinates governmental activities with community agencies.

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION (AIHA):

An organization of professionals trained in the recognition and control of health hazards and the prevention of illness related thereto. It promotes the study and control of environmental factors affecting the health of industrial workers, and provides information and communication services pertaining to industrial hygiene.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI):

Serves as a clearing house for nationally coordinated voluntary safety, engineering and industrial standards developed by industrial firms, trade associations, technical societies, consumer organizations and government agencies.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):

Establishes voluntary consensus standards for materials, products, systems and services. Sponsors research projects, develops standard test methods, specifications and recommended practices now in use.

AMMONIA STRIPPING:

This method is used in the treatment of ammonia-bearing waste. By stripping alkaline aqueous waste with steam in a special column, the ammonia readily condenses and can be reclaimed for sale. The remaining liquids will be almost completely free of ammonia. This process can be used to remove various volatile and organic contaminants from the waste stream.

ANAEROBIC AND AEROBIC DIGESTION:

The biological stabilization of sludge through partial conversion of putrescible matter into liquid, dissolved solids, and gaseous by-products, with some destruction of pathogens. These processes also reduce the amount of dry sludge solids. Consequently, these processes result in stabilization and in solids reduction or conversion. (*Also see Digestion.*)

ANAEROBIC WASTE TREATMENT:

Waste stabilization brought about through the action of microorganisms in the absence of air or elemental oxygen. Usually refers to waste treatment by methane fermentation.

ANALYSIS:

The separation of a compound into its constituent parts; the breaking down of a complex substance into simpler substance.

ANHYDROUS:

Free from water, dry.

ANIONIC SURFACTANT:

A type of surface-active substance widely used in cleaning products, The hydrophilic group of these surfactants carries a negative charge in solution.

ANNULAR SPACE:

The space between the bore hole and the casing of a well

ANSI:

American National Standards Institute; a privately funded, voluntary membership organization that identifies industrial and public needs for national consensus standards. Many ANSI standards relate to safe design/performance of equipment - such as safety shoes, eyeglasses, smoke detectors, fire pumps, household appliances - and safe practices or procedures - such as noise measurement, testing of fire extinguishers and flame arresters, industrial lighting practices, and use of abrasive wheels.

ANTIDOTE:

A therapeutic agent which is administered to counteract the effects of a toxic agent.

API:

American Petroleum Institute; voluntary membership organization of the petroleum industry. Among its services, API assists member committees in developing - by the consensus process - and publishing recommended practices for drilling and well servicing, storage tank installation, tank cleaning, piping and fittings, other industry-related design, installation and operating practices; also funds and publishes basic reference books and manuals (example: "Industrial Hygiene Monitoring Manual for Petroleum Refineries and Selected Petrochemical Operations).

APPROVED:

Acceptable to the "authority having jurisdiction".

AQUEOUS:

Pertaining to, similar to, containing, or dissolved in water.

AQUEOUS TREATMENT:

A hazardous waste treatment system designed to remove contamination from water so that it can be returned to the environment safely.

AQUIFER:

Geological formation, group of formations or part of a ground formation, which is usually gravel or porous, that is capable of yielding water to wells or springs.

AROMATIC:

Pertaining to the six-carbon ring configuration of organic compounds such as benzene and its derivatives.

ASBESTOS:

A silicate of calcium or magnesium mineral, the friable form occurring in threadlike fibers; noncombustible and a nonconductor of electricity; a known carcinogen.

ASBESTOS ABATEMENT:

Procedures to control fiber release from asbestos-containing materials in a building or to remove them entirely, including removal, encapsulation, repair, enclosure, encasement, and operations and maintenance programs.

ASBESTOS ASSESSMENT:

In the asbestos-in-schools program, the evaluation of the physical condition and potential for damage of all friable asbestos containing materials and thermal insulation systems.

ASBESTOS PROGRAM MANAGER:

A building owner or designated representative who supervises all aspects of the facility asbestos management and control program.

ASBESTOS-CONTAINING WASTE MATERIALS (ACWM):

Mill tailings or any waste that contains commercial asbestos and is generated by a source covered by the Clean Air Act Asbestos NESHAPS.

ASBESTOSIS:

A disease of the lungs caused by the inhalation of fine airborne fibers of asbestos.

ASH:

The Incombustible material that remains after a fuel or solid waste has been burned.

ASPHYXIANT:

A vapor or gas which can cause unconsciousness or death by suffocation (lack of oxygen).

ASSESSMENT:

The process of determining the nature and degree of hazard of a hazardous material or hazardous materials incident.

ASSISTING AGENCIES:

Any agency that assists the agency having jurisdiction at the scene of a hazardous materials incident by providing a service or support not within the immediate responsibility or capability of the agency having jurisdiction.

ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INC.:

This association consists of officials charged by law with active execution of the laws regulating the sale of economic poisons, and of deputies designated by these officials employed by State, Territorial, dominion, or Federal agencies.

ASSOCIATION OF AMERICAN RAILROADS (AAR):

A central coordinating and research agency of the American railway industry.

AUTHORITY HAVING JURISDICTION:

1. **Provides for the position of Incident Commander/Scene Manager at the scene of a hazardous materials incident occurring within their jurisdictional response boundaries.**
2. **The organization, office, or individual responsible for approving the equipment, an installation, or a procedure.**

AUTOIGNITION TEMPERATURE:

The minimum temperature required to ignite gas or vapor without a spark or flame being present.

AUTOTHERMIC COMBUSTION (OR AUTOGENOUS):

The burning of a wet organic material where the moisture content is at such a level that the heat of combustion of the organic material is sufficient to vaporize the water and maintain combustion. No auxiliary fuel is required except for start-up.

AWARENESS LEVEL TRAINED:

First responders at the awareness level are those persons who, in the course of their normal duties may be the first on the scene of an emergency involving hazardous materials. First responders at the awareness level are expected to recognize hazardous materials presence, protect themselves, call for trained personnel, and secure the area. (NFPA 472)

BACK PRESSURE:

A pressure that can cause water to backflow into the water supply when a user s waste water system is at a higher pressure than the public system.

BACKFLOW/BACK SIPHONAGE:

A reverse flow condition created by a difference in water pressures that causes water to flow back into the distribution pipes of a drinking water supply from any source other than the intended one.

BACKGROUND LEVEL:

1. **The concentration of a substance in an environmental media (air, water, or soil) that occurs naturally or is not the result of human activities.**
2. **In exposure assessment the concentration of a substance in a defined control area, during a fixed period of time before, during, or after a data-gathering operation..**

BACKWASHING:

Reversing the flow of water back through the filter media to remove entrapped solids.

BACKYARD COMPOSTING:

Diversion of organic food waste and yard trimmings from the municipal waste stream by composting hem in one s yard through controlled decomposition of organic matter by bacteria and fungi into a humus-like product. It is considered source reduction, not recycling, because the composted materials never enter the municipal waste stream.

BARREL SAMPLER:

Open-ended steel tube used to collect soil samples.

BACT-BEST AVAILABLE CONTROL TECHNOLOGY:

An emission limitation based on the maximum degree of emission reduction (considering energy, environmental, and economic impacts) achievable through application of production processes and available methods, systems, and techniques. BACT does not permit emissions in excess of those allowed under any applicable Clean Air Act provisions. Use of the BACT concept is allowable on a case by case basis for major new or modified emissions sources in attainment areas and applies to each regulated pollutant.

BACTERIA:

Single-cell, microscopic organism that posses rigid cell walls. They can cause disease and some are important in the stabilization of solid waste.

BACTERIAL EXAMINATION:

The examination of water and wastewater to determine the presence, number, and identification of bacteria. Also called bacterial analysis.

BAFFLES:

Deflector vanes, guides, grids, grating, or similar devices constructed or place in flowing water, wastewater, or slurry systems to check or effect a more uniform distribution of velocities; absorb energy; divert, guide, or agitate the liquids; and check eddies.

BAG:

A flexible packaging made of paper, plastic film, textile, woven material or other similar materials.

BALER:

A machine used to compress and bind solid waste and/or other materials.

BASE (CHEMICAL):

A hydroxide containing (-OH) corrosive material that when in a water solution is bitter, more or less irritating, or caustic to the skin.

BASE (INCIDENT COMMAND SYSTEM):

Location at which additional equipment, apparatus, and personnel are assembled for primary support of activities at the incident scene. The Command Post may be located at the Base. (NIIMS)

BASIN:

Any uncovered device constructed of artificial materials used to retain waste as part of a treatment process, usually less than 100,000 gallons. Examples include open mixing tanks, clarifiers, and settling tanks.

BETA PARTICLE:

A high speed electron or positron, esp. one emitted in radioactive decay.

BIOACCUMULATION:

The process that occurs when toxic substances are passed up the food chain from soil to plants to grazing animals to human beings.

BIOASSAY:

Determination of the relative strength and toxicity of a substance (such as a drug) by comparing its effect on a test organism with that of a standard preparation.

BIODEGRADATION:

The process by which a substance is decomposed by microorganisms or other natural environmental factors.

BIOHAZARD:

Infectious agents presenting a risk or potential risk to living organisms, either directly through infection or indirectly through disruption of the environment.

BIOHAZARD AREA:

Any area in which work has been, or is being performed, with infectious agents or materials.

BIOLOGICAL AGENTS:

Biological materials that are capable of causing acute or long term damage to living organisms. (NFPA 1990, 1-3)

BIOLOGICAL HALF-LIFE:

The time required for a living organism to eliminate half of a substance which it takes in.

BIOLOGICAL TREATMENT:

A process by which waste is rendered less hazardous, or is reduced in volume, by relying on the action of microorganisms.

BLASTING AGENT:

A material designed for blasting which has been tested and found to be so insensitive that there is very little probability of accidental initiation to explosion or of transition from deflagration to detonation.

BOILING LIQUID EXPANDING VAPOR EXPLOSION (BLEVE):

A container failure with a release of energy, often rapidly and violently, which is accompanied by a release of gas to the atmosphere and propulsion of the container or container pieces due to an overpressure rupture.

BOILING POINT:

The temperature at which liquid changes to a vapor. Expressed in degrees Fahrenheit at sea level pressure. Flammable materials with low boiling points generally present special fire hazards.

BOOM:

A floating physical barrier serving as a continuous obstruction to the spread of a contaminant.

BOOTIE:

A sock like over-boot protector worn to minimize contamination.

BORE HOLE:

A man-made hole in a geological formation, which has been drilled, jetted, driven or made by other similar techniques.

BOTTLE:

An inner packaging having a neck or relatively smaller cross section than the body and a opening capable of holding a closure for retention of the contents.

BREAKTHROUGH TIME:

The elapsed time between initial contact of the hazardous chemical with the outside surface of a barrier, such as protective clothing material, and the time at which the chemical can be detected at the inside surface of the material.

BREATHING ZONE AIR SAMPLE:

A sample collected in the breathing area of a worker to assess exposure to airborne contaminants.

BRINE:

Water saturated with or containing large amounts of salt.

BUDDY SYSTEM:

A system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group.

BUFFER:

Any of certain combinations of chemicals used to stabilized the pH values or alkalinities of solutions.

BUFFER ZONE:

The area of land that surrounds a hazardous waste facility on which certain usages and activities are restricted to protect the public health and safety, and the environment from existing or potential hazards caused by the migration of hazardous waste.

BULK SAMPLE:

A small portion (usually thumbnail size) of a suspect asbestos-containing building material collected by an asbestos inspector for laboratory analysis to determine asbestos content.

BULKY PACKAGING:

A packaging other than a vessel or barge, including a transport vehicle or freight container, in which hazardous materials or waste are loaded with no intermediate for containment which has: (1) an internal volume greater than 450 liters (119 gallons) as a receptacle for a liquid; (2) an internal volume of weight greater than 400 kg. (882 pounds) or internal volume greater than 450 liters (119 gallons) as a receptacle for a solid; or (3) a water capacity as a receptacle for a gas as defined in 173.115.

BULKY WASTE:

Large items of waste materials, such as appliances, furniture, large auto parts, trees, stumps. Burial Ground (Graveyard): A disposal site for radioactive waste materials that uses earth or water as a shield.

BUREAU OF ALCOHOL, TOBACCO AND FIREARMS (ATF):

Enforces and administers firearms and explosive laws, as well as those covering the production, use and distribution of alcohol and tobacco products.

BY-PRODUCT:

A material produced without separate commercial intent during the manufacture or processing of other materials or mixtures.

CAKE:

The solids discharged from a dewatering apparatus.

CAMEO:

Computer Aid Management of Emergency Operations is computer software for chemical emergency planners and responders. Available for Windows and Macintosh, CAMEO was developed by the U.S. Environmental Protection Agency and National Oceanic and Atmospheric Administration to help emergency managers in government and industry plan for and mitigate chemical accidents and to comply with requirements under the Emergency Planning and Community Right to Know Act of 1986 (SARA Title III).

CANADIAN TRANSPORT EMERGENCY CENTER (CANUTEC):

A 24 hour, government sponsored hot line for chemical emergencies. (The Canadian version of CHEMTREC.)

CANCER:

Uncontrolled invasive growth of cells.

CARBOY:

A container, usually encased in a protective basket or crate, used to ship hazardous materials, particularly corrosives.

CARCINOGEN:

An agent that produces or is suspected of producing cancer.

CASCADE SYSTEM:

Several air cylinders attached in series to fill Self Contained Breathing Apparatus (SCBA) bottles.

CATALYST:

A substance which, when present in a very small amount, increases the rate at which two or more chemicals react together.

CATASTROPHIC INCIDENT:

An event that significantly exceeds the resources of a jurisdiction.

CC:

Cubic centimeter; a volume measurement in the metric system, equal in capacity to one milliliter (ml). One quart is about 946 cubic centimeters.

CEASE AND DESIST ORDER:

Legal direction to stop any and all activities.

CELSIUS (CENTIGRADE) °C:

The internationally used scale for measuring temperature, in which 100ºC is the boiling point of water at sea level (1 atmosphere), and 0ºC is the freezing point.

CENTER FOR DISEASE CONTROL (CDC):

The federally funded research organization tasked with disease control and research.

CENTRIFUGATION:

A hazardous waste physical treatment process by which heavier particles in the fluid move to the walls of a rotating vessel and are removed.

CFR:

1. **Crash, Fire, Rescue personnel; trained in aircraft fire fighting and rescue.**
2. **Code of Federal Regulations; enforced by Federal and State agencies and contain statutes for the function of Federal government.**

CGA:

An acronym for Compressed Gas Association.

CHEMICAL ABSTRACTS SERVICE (C.A.S) NUMBER:

A numbering system assigned by the American Chemical Society often used by local and state hazardous materials compliance legislation for tracking chemicals in the workplace and in the community.

CHEMICAL EMERGENCY PREPAREDNESS AND PREVENTION OFFICE (CEPPO):

EPA created its Chemical Emergency Preparedness program (CEPP) in 1985: a voluntary program to encourage state and local authorities to identify hazards in their areas and to plan for potential chemical emergencies. This local planning complemented emergency response planning carried out at the national and regional levels by the National Response Team and Regional Response Teams.

CHEMICAL FAMILY:

A group of compounds with related chemical and physical properties, such as ketone or aldehyde family.

CHEMICAL HAZARDS RESPONSE INFORMATION SYSTEM (CHRIS):

Developed by the Coast Guard, and is used by Federal on-scene coordinators during a chemical spill/response.

CHEMICAL MANUFACTURERS ASSOCIATION:

The parent organization that operates CHEMTREC.

CHEMICAL NAME:

The scientific designation of a chemical in accordance with the naming system developed by the International Union of Pure and Applied Chemistry.

CHEMICAL PROTECTIVE CLOTHING MATERIAL:

Any material or combination of materials used in an item of clothing for the purpose of isolating parts of the wearer s body from contact with a hazardous chemical. (NFPA 1991,1-3)

CHEMICAL PROTECTIVE SUIT:

Single or multi-piece garment constructed of chemical protective clothing materials designed and configured to protect the wearer s torso, head, arms, legs, hands, and feet. (NFPA 1991, 1-3)

CHEMICAL RESISTANCE:

The ability to resist chemical attack. The attack is dependent on the method of test and its severity is measured by determining the changes in physical properties. Time, temperature, stress, and reagent may all be factors that affect the chemical resistance of a material.

CHEMICAL RESISTANT MATERIALS:

Materials that are specifically designed to inhibit or resist the passage of chemicals into and through the material by the processes of penetration, permeation or degradation.

CHEMICAL TRANSPORTATION EMERGENCY CENTER (CHEMTREC):

The Chemical Transportation Center, operated by the Chemical Manufacturers Association (CMA), can provide information and technical assistance to emergency responders. (Phone number: 1-800-424-9300)

CHEMICAL:

An element, chemical compound or mixture of elements and/or compounds.

CHEMNET:

A mutual aid network of chemical shippers and contractors. It is activated when a member shipper cannot respond promptly to an incident involving chemicals. (Contact is made through CHEMTREC.)

CHLOREP:

The chlorine emergency plan, established by the Chlorine Institute, enables the nearest producer of chlorine to respond to an incident involving chlorine. (Contact is made through CHEMTREC.)

CHLORINATION:

The application of chlorine to water or wastewater, generally for the purpose of disinfections, but frequently for accomplishing other biological or chemical results.

CHLORINE KITS:

Standardized kits commercially manufactured by contract with the Chlorine Institute to provide equipment to control or stop leaks in chlorine cylinders, tanks, and transportation tank cars.

CHRIS:

An acronym for the Chemical Hazard Response Information System. Written and maintained by the United States Coast Guard.

CHRONIC EFFECT:

Delayed or slowly developing harm resulting from a chemical exposure, which is often hard to recognize.

CLANDESTINE LABORATORY:

An operation consisting of a sufficient combination of apparatus and chemicals that either have been or could be used in the illegal manufacture/synthesis of controlled substances.

CLEAN AIR ACT (CAA):

A set of national standards for ambient air quality, which defines the principal types and levels of pollution that should not be exceeded. This law requires states to develop state implementation plans for achieving the ambient air standards in each air quality control region in the state.

CLEAN WATER ACT (CWA):

Federal legislation to protect the nation s water and set state water quality standards for interstate navigable waters as the basis for pollution control and enforcement. The main objective is to restore and maintain the chemical, physical and biological integrity of the Nation s waters.

CLEANUP:

Incident scene activities directed toward removing hazardous materials, contamination, debris, damaged containers, tools, dirt, water, and road surfaces in accordance with proper and legal standards, and returning the site to as near a normal state as existed prior to the incident.

CLEANUP OPERATION:

An operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

COKE OVEN:

An industrial process which converts coal into coke, one of the basic materials used in blast furnaces for the conversion of iron ore into iron.

COLD ZONE:

The area outside of the Warm Zone. Equipment and personnel are not expected to become contaminated in this area. This is the area where resources are assembled to support the hazardous materials operation.

COLORIMETRIC TUBES:

Glass tubes containing a chemically treated substrate that reacts with specific airborne chemicals to produce a distinctive color. The tubes are calibrated to indicate approximate concentrations in air.

COMBINATION PACKAGING:

One or more inner packages used in combination with a non-bulk outer packaging. This does not include a Composite Packaging.

COMBINED LIQUID WASTE SAMPLER (COLIWASSA):

A tool designed to provide stratified sampling of a liquid container.

COMBUSTIBILITY:

The ability of a substance to undergo rapid chemical combination with oxygen, with the evolution of heat.

COMBUSTIBLE LIQUID:

A substance capable of fueling a fire. According to OSHA, any liquid having a flash point at or above 100°F and less than 200°F is a combustible liquid. According to DOT, any liquid having a flash point at or above 141°F and less than 200°F is a combustible liquid.

COMBUSTION PRODUCT:

By-products produced or generated during the burning or oxidation of a fuel.

COMMAND:

The act of directing, ordering, and/or controlling resources by virtue of explicit legal, agency, or delegated authority. (NIIMS)

COMMAND POST:

The location from which all incident operations are directed and planning functions are performed. The communications center is often incorporated into the command post. (NIIMS)

COMMUNITY AWARENESS AND EMERGENCY RESPONSE (CAER):

A program developed by the Chemical Manufacturers Association (CMA) to provide guidance for chemical plant managers to assist them in taking the initiative in cooperating with local communities developing integrated hazardous materials response plans.

COMMUNITY RIGHT-TO-KNOW:

Legislation requiring business establishments to provide chemical inventory information to local agencies or the public.

COMPANY (FIRE USAGE):

Any piece of fire response equipment having a full complement of personnel. (NIIMS)

COMPATIBILITY:

The matching of protective chemical clothing to the hazardous material involved to provide the best protection for the worker.

COMPATIBILITY CHARTS:

Permeation and penetration data supplied by manufacturers of chemical protective clothing to indicate chemical resistance and breakthrough time of various garment materials as tested against a battery of chemicals. This test data should be in accordance with ASTM and NFPA standards.

COMPOSITE PACKAGING:

A packaging consisting of an outer packaging and an inner receptacle. It is constructed so that the inner receptacle and outer packaging form an integral packaging. Once assembled it remains a single unit and is filled, stored, transported, and emptied as such.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA):

Known as CERCLA or SUPERFUND, it addresses hazardous substance releases into the environment and the cleanup of inactive hazardous waste sites. It also requires those who release hazardous substances, as defined by the Environmental Protection Agency (EPA), above certain levels (known as reportable quantities) to notify the National Response Center.

COMPRESSED GAS:

Any material or mixture having an absolute pressure exceeding 40 p.s.i. in the container at 70°F. or, regardless of the pressure at 70°F., having an absolute pressure exceeding 104 p.s.i. at 130°F.; or any liquid flammable material having a vapor pressure exceeding 40 p.s.i. absolute at 100°F. as determined by testing. Also includes cryogenic or refrigerated liquids (DOT) with boiling points lower than -130 degrees at 1 atmosphere.

COMPRESSED GAS ASSOCIATION (CGA):

Firms producing and distributing compressed, liquefied, and cryogenic gases; also manufacturers of related equipment. Submits recommendations to appropriate government agencies to improve safety standards and methods of handling, transporting, and storing gases; acts as advisor to regulatory authorities and other agencies concerned with safe handling of compressed gases; collaborates with national organizations to develop specifications and standards of safety.

COMPUTER AIDED MANAGEMENT OF EMERGENCY OPERATIONS (CAMEO):

A computer data base storage-retrieval system of pre-planning and emergency data for on-scene use at hazardous materials incidents.

CONFINED SPACE:

A space that has limited openings for entry and exit and has poor natural ventilation.

CONFINEMENT:

Actions taken to keep a material in a defined or local area after it is released.

CONSIGNEE:

The addressee to whom the item is shipped.

CONTACT:

Being exposed to an undesirable or unknown substance that may pose a threat to health and safety.

CONTAINER:

Anything that holds material, including storage tanks, pipelines and packaging (drums, carboys, etc.).

CONTAINER, INTERMODAL, ISO:

An article of transport equipment that meets the standards of the International Organization for Standardization (ISO) designed to facilitate and optimize the carriage of goods by one or more modes of transportation without intermediate handling of the contents and equipped with features permitting ready handling and transfer from one mode to another. Containers may be fully enclosed with one or more doors, open top, tank, refrigerated, open rack, gondola, flatrack, and other designs. Included in this definition are modules or arrays that can be coupled to form an intrinsic unit regardless of intention to move single or in multiplex configurations.

CONTAINMENT:

All activities necessary to bring the incident to a point of stabilization and to establish a degree of safety for emergency personnel greater than existed upon arrival.

CONTAMINATION:

An un-contained substance or process that poses a threat to life, health, or the environment. (NFPA standard 472, sections 1-3)

CONTAMINATION CONTROL LINE:

The established line around the Contamination Reduction Zone that separates it from the Support Zone.

CONTAMINATION REDUCTION ZONE:

Term used by the Coast Guard to identify the area of moderate hazard where threat of contamination spread to the immediate surrounding area is low. It is the area immediately outside of the inner Hot Zone. (See Warm Zone.)

CONTINGENCY PLAN:

A pre-planned document presenting an organized and coordinated plan of action to limit potential pollution in case of fire, explosion or discharge of hazardous materials; defines specific responsibilities and tasks.

CONTROL:

The procedures, techniques, and methods used in the mitigation of a hazardous materials incident, including containment, extinguishments, and confinement.

CONTROL ZONES:

The designation of areas at a hazardous materials incident based upon safety and the degree of hazard. (NFPA 472, sections 1-3) (See Support Zone, Warm Zone, Hot Zone, and Decontamination Corridor.)

CONVERSION FACTOR:

To convert from ppm to mg/m^3. mg/m^3 = (ppm) x (molecular weight of the substance)/(24.45). For example, formaldehyde: 1.23 mg/m^3 = (1 ppm) x (30.03)/(24.45).

COORDINATION:

To bring together, in a uniform and controlled manner, the functions of all agencies on scene.

CORROSIVE:

A material that has the ability to cause visible destruction of living tissue and has a destructive effect on other substances. An acid or a base.

COST RECOVERY:

A procedure that allows for the agency having jurisdiction to pursue reimbursement for all costs associated with a hazardous materials incident.

COUNCIL ON ENVIRONMENTAL ALTERNATIVES (CEA):

Encourages people to conserve, rather than consume, their environment. The Council concentrates on the area of energy, and provides specific recommendations which encourage individuals to recognize and assume responsibility for environmentally sound choices available to them.

COUNTY WARNING POINT:

The center within the County that is the reporting office for any release or threatened release of a hazardous material or spill.

COVER MATERIAL:

Soil used to cover compacted solid waste in a sanitary landfill.

CRADLE-TO-GRAVE OR MANIFEST SYSTEM:

A procedure in which hazardous materials are identified and followed as they are produced, treated, transported, and disposed of by a series of permanent, linkable, descriptive documents (e.g., manifests). Commonly referred to as the cradle-to-grave system.

CRYOGENIC:

Gases, usually liquefied, that induce freezing temperatures of -150 degrees F and below (liquid oxygen, liquid helium, liquid natural gas, and liquid hydrogen, etc.).

CUBIC FEET PER MINUTE (CFM):

A measure of the volume of a substance flowing through air within a fixed period of time. With regard to indoor air, refers to the amount of air, in cubic feet, that is exchanged with outdoor air in a minute s time; i.e., the air exchange rate.

DAMAGE ASSESSMENT:

Gathering information on the type, extent, and costs of damage after an incident.

DAMMING:

A procedure consisting of constructing a dike or embankment to totally immobilize a flowing waterway contaminated with a liquid or solid hazardous substance. (EPA, 600/2-77-277)

DANGEROUS WHEN WET:

A label required for water reactive materials (solid) being shipped under US DOT, ICAO, and IMO regulations. A labeled material that is in contact with water or moisture may produce flammable gases. In some cases, these gases are capable of spontaneous combustion. (Reference: 49 CFR 171.8)

DECILITER:

One tenth (10-1) of a liter.

DECOMPOSE:

Breaking apart into smaller different chemicals.

DECON:

Popular abbreviation referring to the process of decontamination.

DECONTAMINATION:

The physical and/or chemical process of reducing and preventing the spread of contamination from persons and equipment used at a hazardous materials incident. (Also referred to as contamination reduction.) (NFPA 472, 1-3)

DECONTAMINATION CORRIDOR:

A distinct area within the Warm Zone that functions as a protective buffer and bridge between the Hot Zone and the Cold Zone, where decontamination stations and personnel are located to conduct decontamination procedures.

DECONTAMINATION OFFICER:

A position within the FIRESCOPE ICS HM-120 which has responsibility for identifying the location of the decontamination corridor, assigning stations, managing all decontamination procedures, and identifying the types of decontamination necessary.

DECONTAMINATION TEAM (DECON-TEAM):

A group of personnel and resources operating within a decontamination corridor.

DEGRADATION:

The loss in physical properties of an item of protective clothing due to exposure to chemicals, use, or ambient conditions.

DELAYED TOXIC EXPOSURE EFFECT:

The condition in which symptoms of an exposure are not present immediately after the exposure, but are delayed for a relatively short period of time (such as pulmonary edema a few hours after an inhalation exposure).

DELETERIOUS SUBSTANCES:

Substances not normally harmful to humans that may be harmful to the environment.

DENSITY:

Ratio of mass per unit volume expressed as grams per liter (g/L) for gases and grams per cubic centimeter (g/cm^3) for liquids and solids. Examples: air = 1.29 g/L; water = 1 g/cm^3.

DEPARTMENT OF COMMERCE (DOC):

A Federal agency whose primary mission is to encourage, serve and promote economic development and technological advancement.

DEPARTMENT OF DEFENSE (DOD):

Provides the military forces needed to deter war and protect the security of our country.

DEPARTMENT OF ENERGY (DOE):

Provides the framework for a comprehensive and balanced national energy plan through coordination and administration of the energy functions of the federal government; and to be responsible for long term, high risk research, development and demonstration of energy technology, the marketing of federal power, energy conservation, the nuclear weapons program, regulation of energy production and use, and a central energy data collection and analysis program.

DEPARTMENT OF JUSTICE (DOJ):

Serves as counsel for the citizens of the Nation; represents them in enforcing the law in the public interest; through its thousands of lawyers, investigators, and agents it plays a key role in protection against criminals and subversion, in insuring healthy competition of business in our free enterprise system, in safeguarding the consumer, and in enforcing drug, immigration, and naturalization laws; plays a significant role in protecting citizens through its efforts for effective law enforcement, crime prevention, crime detection, and prosecution and rehabilitation of offenders; conducts all suits in the Supreme Court in which the United States is concerned; and represents the Government in legal matters.

DEPARTMENT OF LABOR (DOL):

The purpose of the Department of Labor is to foster, promote, and develop the welfare of the wage earners of the United States, to improve their working conditions, and to advance their opportunities for profitable employment.

DEPARTMENT OF STATE (DOS):

Advises the President in formulation and execution of foreign policy; promotes long-range security and well-being of the United States; determines and analyzes the facts relating to American overseas interest, makes recommendations on policy and future action, and takes the necessary steps to carry out established policy; engages in continuous consultation with the American public, the Congress, other U.S. departments and agencies, and foreign governments.

DEPARTMENT OF TRANSPORTATION (DOT):

Assures the coordinated, effective administration of the transportation programs of the Federal government and develops national transportation policies and programs conducive to the provision of fast, safe, efficient and convenient transportation at the lowest possible cost.

DESICCANT:

A substance, such as silica gel, that removes moisture (water vapor) from the air to maintain a dry atmosphere in containers of food or chemical packaging.

DETECTORS:

***Combustible Gas Indicator (CGI) detector:* Measures the presence of a combustible gas or vapor in air**
***Corrosivity (pH) detector:* A meter or paper that indicates the relative acidity or alkalinity of a substance, generally using an international scale of 0 (acid) through 14 (alkali-caustic). (See pH.)**
***Flame Ionization detector (FID):* A device used to determine the presence of hydrocarbons in air.**
***Gas Chromatograph/Mass Spectrometer detector:* An instrument used for identifying and analyzing organics.**
***Heat detector:* An instrument used to detect heat by sensing infrared waves.**
***Photoionization Detector (PID):* A device used to determine the presence of gases/vapors in low concentrations in air.**
***Radiation Beta Survey detector:* An instrument used to detect beta radiation.**
***Radiation Dosimeter detector:* An instrument that measures the amount of radiation to which a person has been exposed.**

Radiation Gamma Survey detector: An instrument used for the detection of ionizing radiation, principally gamma radiation, by means of a gas-filled tube.
Temperature detector: An instrument, either mechanical or electronic, used to determine the temperature of ambient air, liquids, or surfaces.

DIFFUSED AIR:
A type of aeration that forces oxygen into sewage by pumping air through perforated pipes inside a holding tank.

DIFFUSION:
The movement of suspended or dissolved particles (or molecules) from a more concentrated to a less concentrated area. The process tends to distribute the particles or molecules more uniformly.

DIGESTER:
In wastewater treatment, a closed tank; in solid-waste conversion, a unit in which bacterial action is induced and accelerated in order to break down organic matter and establish the proper carbon to nitrogen ratio.

DIGESTION:
The biochemical decomposition of organic matter, resulting in partial gasification, liquefaction, and mineralization of pollutants.

DIKE:
An embankment or ridge, natural or man made, used to control the movement of liquids, sludges, solids, or other materials.

DIKE OVERFLOW:
A dike constructed in a manner that allows uncontaminated water to flow unobstructed over the dike while keeping the contaminant behind the dike.

DIKE UNDERFLOW:
A dike constructed in a manner that allows uncontaminated water to flow unobstructed under the dike while keeping the contaminant behind the dike.

DISPERSION:
To spread, scatter, or diffuse through air, soil, surface or ground water.

DISPOSAL DRUM:
A reference to a specially constructed drum used to overpack damaged or leaking containers of hazardous materials for shipment.

DISSOLUTION:
A uniformly dispersed mixture at the molecular or ionic level, of one or more substances (the solute) in one or more other substances (the solvent).

DIVERSION:
The intentional, controlled movement of a hazardous material to relocate it into an area where it will pose less harm to the community and the environment.

DIVISION:
That organizational level within the Incident Command System having responsibility for operations within a defined geographic area. The Division Officer directs approximately 5 Companies, and answers to the Operations Officer. (NIIMS)

DOSE:
The amount of substance ingested, absorbed, and/or inhaled per exposure period.

DOSE EQUIVALENT:
The product of the absorbed dose from ionizing radiation and such factors as account for biological differences due to the type of radiation and its distribution in the body in the body.

DOSE RATE:
In exposure assessment, dose per time unit (e.g., mg/day), sometimes also called dosage.

DOSE RESPONSE:

Shifts in toxicological responses of an individual (such as alterations in severity) or populations (such as alterations in incidence) that are related to changes in the dose of any given substance.

DOSE RESPONSE CURVE:

Graphical representation of the relationship between the dose of a stressor and the biological response thereto.

DOSE-RESPONSE ASSESSMENT:

1. **Estimating the potency of a chemical.**
2. **In exposure assessment, the process of determining the relationship between the dose of a stressor and a specific biological response.**
3. **Evaluating the quantitative relationship between dose and toxicological responses.**

DOSE-RESPONSE RELATIONSHIP:

The quantitative relationship between the amount of exposure to a substance and the extent of toxic injury or disease produced.

DOSIMETER:

An instrument to measure dosage; many so-called dosimeters actually measure exposure rather than dosage. Dosimetry is the process or technology of measuring and/or estimating dosage.

D.O.T.:

An acronym for United States Department of Transportation.

DOT REPORTABLE QUANTITY:

The quantity of a substance specified in a U.S. Department of Transportation regulation that triggers labeling, packaging and other requirements related to shipping such substances.

DOUBLE GLOVING:

A set of gloves worn over those already in place for enhanced protection.

DOWNGRADIENAT:

The direction that groundwater flows; similar to downstream for surface water.

DOWNWIND:

In the direction in which the wind blows.

DRAINAGE:

Improving the productivity of agricultural land by removing excess water from the soil by such means as ditches or subsurface drainage tiles.

DRAINAGE BASIN:

The area of land that drains water, sediment, and dissolved materials to a common outlet at some point along a stream channel.

DRAINAGE WELL:

A well drilled to carry excess water off agricultural fields. Because they act as a funnel from the surface to the groundwater below. Drainage wells can contribute to groundwater pollution.

DRONE:

A pilotless airplane or ship controlled by radio.

DUST:

Solid particles generated by handling, crushing, grinding, rapid impact, detonation, and decrepitation of organic or inorganic materials such as rock, ore, metal, coal, wood, and grain.

ECOLOGY:

A branch of science concerned with the interrelationship of organisms and their environments.

ECONOMIC POISON:

As defined in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), an economic poison is any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects, rodents, nematodes, fungi, or weeds, or any other forms of life declared to be pests . . . any substance intended for use as a plant regulator, defoliant, or desiccant. As defined, economic poisons are generally known as pesticides.

ECOSYSTEM:

A habitat formed by the interaction of a community of organisms with their environment.

EDEMA:

The swelling of body tissues resulting from fluid retention.

EMERGENCY MEDICAL SERVICES (EMS):

Functions as required to provide emergency medical care for ill or injured persons by trained providers.

EMERGENCY OPERATIONS CENTER (EOC):

The secured site where government officials exercise centralized direction and control in an emergency. The EOC serves as a resource center and coordination point for additional field assistance. It also provides executive directives to and liaison for state and federal government representatives, and considers and mandates protective actions.

EMERGENCY OPERATIONS PLAN (EOP):

A document that identifies the available personnel, equipment, facilities, supplies, and other resources in the jurisdiction, and states the method or scheme for coordinated actions to be taken by individuals and government services in the event of natural, man-made, and attack related disasters.

EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT (EPCRA):

This law establishes a structure at the state and local levels to assist communities in planning for chemical emergencies and requires facilities to provide information on various chemicals present in the community.

EMERGENCY RESPONSE:

Response to any occurrence, which has or could result in a release of a hazardous substance.

EMERGENCY RESPONSE ORGANIZATION:

An organization that utilizes personnel trained in emergency response.

EMERGENCY RESPONSE PERSONNEL:

Personnel assigned to organizations that have the responsibility for responding to different types of emergency situations. (NFPA 1991, 1-3)

EMISSION CAP:

A limit designed to prevent projected growth in emissions from existing and future stationary sources from eroding any mandated reductions. Generally, such provisions require that any emission growth from facilities under the restrictions be offset by equivalent reductions at other facilities under the same cap. (See: emissions trading)

EMISSION FACTOR:

The rate of emission of a particular substance from its source.

EMISSION INVENTORY:

A record of the estimated amount of pollutants (commonly in lbs or tons) emitted from mobile and stationary sources into the atmosphere over a specific period such as a day or a year.

EMISSION RATE:

The weight of a pollutant emitted per unit of time (e.g. tons/year).

EMPTY PACKAGING:

Any packaging having a capacity of 110 gallons or less that contains only the residue of a hazardous material in table 2 of 49 CFR 172.504.

EMULSIFICATION:

The process by which two or more immiscible liquids are held in suspension by small percentage of substances called emulsifiers to become a stable mixture.

ENDOTHERMIC:

A process or chemical reaction, which is accompanied by absorption of heat.

ENGINE (FIRE USAGE):

Any emergency response vehicle providing specified levels of pumping, water, hose capacity, and personnel.

ENTRY POINT:

A specified and controlled location where access into the Hot Zone occurs at a hazardous materials incident.

ENTRY TEAM LEADER:

The entry leader is responsible for the overall entry operations of assigned personnel within the Hot Zone. (FIRESCOPE ICS-HM)

ENVIRONMENTAL PROTECTION AGENCY (EPA):

The purpose of the Environmental Protection Agency (EPA) is to protect and enhance our environment today and for future generations to the fullest extent possible under the laws enacted by Congress. The Agency's mission is to control and abate pollution in the areas of water, air, solid waste, pesticides, noise, and radiation. EPA's mandate is to mount an integrated, coordinated attack on environmental pollution in cooperation with state and local governments.

EPA:

(See Environmental Protection Agency.)

ETIOLOGICAL AGENT:

A viable microorganism or its toxin, which causes or may cause human disease.

EVACUATION:

The removal of potentially endangered, but not yet exposed, persons from an area threatened by a hazardous materials incident.

EXCLUSION ZONE:

(See Hot Zone.)

EXOTHERMIC:

Reactions which take place with the evolution of energy in any form - heat, light, electrical, mechanical, etc.

EXPLOSION-PROOF EQUIPMENT:

Instruments whose enclosure is designed and constructed to prevent the ignition of an explosive atmosphere. Certification for explosion proof performance is subject to compliance with ASTM standards.

EXPLOSIVE:

Any chemical compound, mixture, or device, of which the primary or common purpose is to function by explosion, i.e., with substantial instantaneous release of gas and heat. (49 CFR 173.50)

EXPLOSIVE CLASS A:

Any of nine types of explosives as defined in 49 CFR 173.53. A material which, when it detonates, creates a shock wave which travels faster than the speed of sound.

EXPLOSIVE CLASS B:

Those explosives which generally function by rapid combustion rather than by detonation and include some explosive devices such as special fireworks, flash powders, some pyrotechnic signal devices, and liquid or solid propellant explosives including some smokeless powders. (49 CFR 173.88)

EXPLOSIVE CLASS C:

Certain types of manufactured articles, which contain Class A, or Class B explosives, or both, as components but in restricted quantities, and certain types of fireworks. This includes small arms ammunition. (49 CFR 173.100)

EXPLOSIVE ORDNANCE DISPOSAL (EOD):

Military or civilian bomb squads.

EXPOSURE:

The subjection of a person to a toxic substance or harmful physical agent through any route of entry.

EXTREMELY HAZARDOUS SUBSTANCES (EHS):

Environmental Protection Agency (EPA) uses this term for chemicals which must be reported to the local administering agency. The list of these substances and the threshold reporting quantity is identified in 40 CFR 355. Releases of extremely hazardous substances as defined by EPA must be reported to the National Response Center.

EXTREMELY HAZARDOUS WASTE:

Any hazardous waste or mixture of hazardous wastes which, if human exposure should occur, may likely result in death, disabling injury or serious illness caused by the hazardous waste or mixture of hazardous wastes because of its quantity, concentration or chemical characteristics.

F

FACILITY:

Defined for Section 302 of Title III of SARA as all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by, or under common control with, such person). For purposes of emergency release notification, the term includes motor vehicles, rolling stock, and aircraft.

FACILITY EMERGENCY COORDINATOR (FEC):

Facility representative for each facility with an extremely hazardous substance (EHS) in a quantity exceeding its threshold planning quantity (TPQ), who participates in the emergency planning process.

FAHRENHEIT (F):

The scale of temperature in which 212ºF is the boiling point of water at 760 mmHg and 32ºF is the freezing point.

FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA):

An act that requires pesticides to be registered and labeled, makes it illegal to detach or destroy pesticide labels, and provides for pesticide inspections. An amendment to FIFRA now requires EPA to determine whether a pesticide will perform its intended function without causing unreasonable adverse effects on the environment or human health.

FEDERAL WATER POLLUTION CONTROL ACT (1972) WPCA:

(See Clean Water Act.)

FEMA:

An acronym for Federal Emergency Management Agency.

FIBROSIS:

A condition marked by an increase of interstitial fibrous tissue.

FILTER CANISTER:

A container filled with sorbents and catalysts, which removes gases and vapors from air drawn through the unit. The canister may also contain an aerosol (particulate) filter to remove solid or liquid particles.

FIRST RESPONDER:

The first trained person(s) to arrive at the scene of a hazardous materials incident. May be from the public or private sector of emergency services.

FIRST RESPONDER, AWARENESS LEVEL:

Individuals who are likely to witness or discover a hazardous substance release who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release.

FIRST RESPONDER, OPERATIONS LEVEL:

Individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures.

FLAMMABLE LIQUID:

According to OSHA, any liquid having a flash point below 100ºF (37.8ºC). According to DOT, any liquid having a flash point below 140ºF

FLAMMABLE RANGE:

A mixture of flammable gas, as mixed with air, expressed as a percent. Each gas has a range including a lower limit and upper limit and between these limits the mixture is flammable (explosive).

FLAMMABLE SOLID:

Any solid material, other than one classed as an explosive, which under conditions normally incident to transportation is liable to cause fires through friction, retains heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious transportation hazard. Included in this class are spontaneously combustible and water-reactive materials. (49 CFR 173.150)

FLASHPOINT:

The minimum temperature of a liquid at which it gives off vapors sufficiently quickly to form an ignitable mixture with air and will flash when subjected to an external ignition source, but will not continue to burn.

FOOD AND DRUG ADMINISTRATION (FDA):

Performs, directs, and coordinates detection and control activities which protect consumers against adulterated, misbranded, or falsely advertised foods, drugs, medical devices, and hazardous products.

FRIABLE ASBESTOS:

Any material containing more than one-percent asbestos, and that can be crumbled or reduced to powder by hand pressure. (May include previously non-friable material which becomes broken or damaged by mechanical force.)

FRIABLE:

Easily crumbled or reduced to powder.

FROSTBITE:

Injury caused to skin or other tissue by very cold materials. The medical consequences are similar to those caused by burns.

FULL PROTECTIVE CLOTHING:

Protective clothing worn primarily by fire fighters which includes helmet, coat, pants, boots, gloves, and self-contained breathing apparatus designed for structural fire fighting. It does not provide specialized chemical protection.

FULLY ENCAPSULATING SUITS:

Chemical protective suits that are designed to offer full body protection, including Self Contained Breathing Apparatus (SCBA), are gas tight, and meet the design criteria as outlined in NFPA Standard 1991.

FUME:

Airborne dispersion consisting of minute solid particles arising from the heating of a solid material such as lead, in distinction to a gas or vapor. This physical change is often accompanied by a chemical reaction, such as oxidation. Fumes flocculate and sometimes coalesce. Odorous gases and vapors should not be called fumes.

FUNGICIDE:

Any substance which kills or inhibits the growth of fungi.

FUNGUS (FUNGI):

Molds, mildews, yeasts, mushrooms, and puffballs, a group of organisms lacking in chlorophyll (i.e., are not photosynthetic) and which are usually non-mobile, filamentous, and multicellular. Some grow in soil, others attach themselves to decaying trees and other plants whence they obtain nutrients. Some are pathogens; others stabilize sewage and digest composted waste.

GAMMA RAY:

Electromagnetic radiation emitted by radioactive decay and having energies in a range from ten thousand (10_4) to ten million (10_7) electron volts.

GAS:

A state of matter in which the material has very low density and viscosity; can expand and contract greatly in response to changes in temperature and pressure; easily diffuses into other gases; readily and uniformly distributes itself throughout any container. A gas can be changed to a liquid or solid state by the combined effect of increased pressure and/or decreased temperature.

GAS CHROMATOGRAPH/MASS SPECTROMETER:

Instrument that identifies the molecular composition and concentrations of various chemicals in water and soil samples.

GASAHOL:

Mixture of gasoline and ethanol derived from fermented agricultural products containing at least nine percent ethanol. Gasohol emissions contain less carbon monoxide than those from gasoline.

GELLING:

A process of adding a specific material that is designed to coagulate a liquid facilitating its isolation and removal.

GENERATOR:

1. **A facility or mobile source that emits pollutants into the air or releases hazardous waste into water or soil.**
2. **Any person, by site, whose act or process produces regulated medical waste or whose act first causes such waste to become subject to regulation. Where more than one person (e.g., doctors with separate medical practices) are located in the same building, each business entity is a separate generator.**

GROUNDING:

Method whereby activities which may generate static electricity will be prevented from discharging a spark and thereby not produce an ignition point.

GROUP:

That organization level within the incident command system having responsibility for operations within a specific functional area, i.e. salvage, ventilation, hazmat. (NIIMS)

HABITAT:

The native environment of an animal or plant; the natural place for life and growth of an animal or plant.

HALOGENS:

A chemical family that includes fluorine, chlorine, bromine, and iodine.

HALONS:

Fire suppressing gases that are composed of straight chain carbon atoms with a variety of halogen atoms attached.

HAZARD:

Any situation that has the potential for causing damage to life, property, and/or the environment.

HAZARD ASSESSMENT:

A process used to qualitatively or quantitatively assess risk factors to determine incident operations.

HAZARD CLASS:

The eight classes of hazardous materials as categorized and defined by the Department of Transportation in 49 CFR.

HAZARD CLASSIFICATION:

Materials are grouped as to the specific hazard they present. The groups are Explosives, Gases, Flammable Liquids, Flammable Solids, Oxidizers, Poisonous Materials, Corrosive Materials and Miscellaneous.

HAZARDOUS CHEMICAL:

A term used by the United States Occupational Safety and Health Administration (OSHA) to denote any chemical that would be a risk to employees if exposed in the workplace. The list of hazardous chemicals is found in 29 CFR.

HAZARDOUS MATERIAL:

A substance (solid, liquid, or gas) capable of posing an unreasonable risk to health, safety, environment or property.

HAZARDOUS MATERIAL CATEGORIZATION:

A field analysis process to determine basic hazardous materials hazard classification and some chemical and physical properties of unknowns.

HAZARDOUS MATERIALS EMERGENCY:

The release or threatened release of a hazardous material that may impact the public health, safety and/or the environment.

HAZARDOUS MATERIALS RESPONSE TEAM (HMRT):

An organized group of employees, designated by the employer, who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance. A Hazmat Team may be a separate component of a fire brigade or a fire department or other appropriately trained and equipped units from public or private agencies.

HAZARDOUS MATERIALS RESPONSE TEAM - TECHNICIAN LEVEL:

Shall consist of an organized group of employees, designated by the employer, trained to function at the hazardous materials incident at the Technician Level in accordance with NFPA 472, Chapter 3 (1990).

HAZARDOUS MATERIALS RESPONSE TEAM - SPECIALIST LEVEL:

Shall consist of an organized group of employees, designated by the employer in compliance with 8 CCR 5192(q)(6), trained to function at the hazardous materials incident at the Specialist Level in accordance with NFPA Standard 472, Chapter 4 (1990).

HAZARDOUS MATERIALS SAFETY OFFICER/OFFICIAL:

A person at a hazardous materials incident responsible for assuring that all operations performed at a hazardous materials incident, by all members present, are done so with respect to the highest levels of safety. The Hazardous Materials Safety Officer has full authority to alter, suspend, or terminate any activity that may be judged to be unsafe, advises the hazardous materials group supervisor, and reports to the IC through the site safety officer.

HAZARDOUS MATERIALS TABLE:

An alphabetical listing of the hazardous materials found in CFR-49, section 172.101. It lists the product by proper shipping name, and its UN number. It lists the hazard classification, packing group, and the sections in CFR 49 that apply to the packaging and shipping of a specific product.

HAZARDOUS SUBSTANCE:

1. **Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive, or chemically reactive.**
2. **Any substance designated by EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or is otherwise released into the environment.**

HAZARDOUS WASTE:

1. **Waste materials or mixtures of waste, which require special handling and disposal because of their potential to damage health and/or the environment.**
2. **The Environmental Protection Agency uses the term hazardous waste for chemicals that are regulated under the Resource Conservation and Recovery Act and are listed in 40 CFR 261.33 (d). Environmental Protection Agency, when in transport, must also meet 49 CFR parts 170 through 179.**

HAZARDOUS WASTE FACILITY:

Any location used for the treatment, transfer, or storage of hazardous waste

HAZARDOUS WASTE GENERATION:

The act or process of producing hazardous waste.

HAZARDOUS WASTE LANDFILL:

An excavated or engineered area on which hazardous waste is deposited and covered. Proper protection of the environment from the materials to be deposited in such a landfill requires careful site selection, good design, proper operation, leachate collection and treatment, and thorough final closure.

HAZARDOUS WASTE LEACHATE:

Any liquid that has percolated through or drained from hazardous waste emplaced in or on the ground.

HAZARDOUS WASTE MANAGEMENT:

Systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous wastes.

HAZARDOUS WASTE MANIFEST, UNIFORM (EPA USAGE):

The shipping document, originated and signed by the waste generator or an authorized representative, that contains the information required by law and must accompany shipments of hazardous waste. (40 CFR 262, Subpart B)

HAZARDOUS WASTE SITE:

A location where hazardous wastes are located.

HAZMAT:

Acronym used for Hazardous Materials.

HAZWOPER:

Name given to the 29CFR 1910.120 regulation entitled Hazardous Waste Operation and Emergency Response.

HEAVY METAL:

A high density metallic element that may demonstrate health hazards as a result of exposure and may contribute to contamination of the environment. This includes chromium (Cr), beryllium (Be), lead (Pb), mercury (Hg), zinc (Zn), copper (Cu), cadmium (Cd) and others.

HENRY'S LAW CONSTANT (H):

The air to water partition coefficient, and therefore, relates the chemical concentration in the gas phase to its concentration in the water phase. The amount of gas that dissolves in a given quantity of liquid is proportional to the pressure of the gas above the liquid. The higher the pressure of a gas above the liquid, the greater the amount of dissolved gas in the liquid. H can be determined by dividing the vapor pressure in atmospheres (atm) by the water solubility in mole/m^3 to give H in atm-m^3/mole. H provides an indication of the partition between air and water at equilibrium and also is used to calculate the rate of evaporation from water.

HEPATOTOXIC:

A substance that negatively effects the liver.

HERBICIDE:

An agricultural chemical intended for killing plants or interrupting their normal growth. (See pesticides.)

HIGH EFFICIENCY PARTICULATE FILTER (HEPA):

Type of filter which is 99.93-percent efficient at filtering particles of 0.3 micrometers in diameter.

HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC):

A procedure used in organics analysis to separate chemical mixtures based on differential ionic absorption to various substrates.

HM-181:

A set of the proposed new packaging and shipping regulations which since have been incorporated into CFR-49. This document is no longer applicable.

HMRT:

(See Hazardous Materials Response Team.)

HOT TAPPING:

A sophisticated method of welding on and the cutting of holes through liquid, compressed gas vessels, and piping for the purpose of relieving pressure and/or removing product.

HOT ZONE:

An area immediately surrounding a hazardous materials incident, which extends far enough to prevent adverse effects from hazardous materials releases to personnel outside the zone. This zone is also referred to as the exclusion zone, the red zone, and the restricted zone in other documents. (NFPA 472, 1-3)

HYDROCARBONS:

Any of a vast family of compounds containing hydrogen and carbon. Used loosely to include many organic compounds in various combinations; most fossil fuels are composed predominantly of hydrocarbons. When hydrocarbons mix with nitrogen oxides in the presence of sunlight, ozone is formed; hydrocarbons in the atmosphere contribute to the formation of ozone.

HYGROSCOPIC:

A substance that has the property of absorbing moisture from the air, such as silica gel.

HYPERGOLIC:

Two chemical substances that spontaneously ignite upon mixing.

I

IGNITABLE MATERIAL:

Any material having, as a liquid, a flash point less than 140° F or, if not a liquid, is capable of causing fire through friction, absorption of moisture or spontaneous chemical changes.

IGNITION TEMPERATURE:

The minimum temperature at which a material will ignite without a spark or flame being present. This is also the temperature the ignition source must be.

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH):

An atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individuals ability to escape from a dangerous atmosphere.

IMMINENT HAZARD:

One that would likely result in unreasonable adverse effects on humans or the environment or risk unreasonable hazard to an endangered species during the time required for a pesticide registration cancellation proceeding.

IMMINENT THREAT:

A high probability that exposure is occurring.

INCIDENT:

An event involving a hazardous material or a release or potential release of a hazardous material.

INCIDENT ACTION PLAN:

A plan which is initially prepared at the first meeting of emergency personnel who have responded to an incident. The Incident Action Plan contains general control objectives reflecting overall incident strategy and specific action plans.

INCIDENT COMMAND:

A disciplined method of management established for the specific purpose of control and direction of resources and personnel.

INCIDENT COMMANDER (I.C.)/SCENE MANAGER (S.M.):

The person responsible for all decisions relating to the management of the incident.

INCIDENT COMMAND POST:

(See Command Post.)

INCIDENT COMMAND SYSTEM (ICS):

An organized system of roles, responsibilities, and standard operating procedures used to manage and direct emergency operations.

INCINERATOR:

A furnace for burning waste under controlled conditions.

INCOMPATIBLE WASTE:

Waste unsuitable for commingling with another waste or material.

INDUSTRIAL WASTES:

Unwanted materials produced in or eliminated from an industrial operation.

INFECTIOUS WASTE:

Waste containing pathogens; may consist of tissues, organs, body parts, blood, and body fluids.

INGESTION:

The process of taking substances such as food, drink, and medicine into the body through the mouth.

INHIBITOR:

A chemical added to another substance to prevent or slow down an unwanted or sudden occurrence of chemical change.

INJECTION WELL:

A well into which fluids are injected for purposes such as waste disposal, improving the recovery of crude oil, or solution mining.

INNER PACKAGING:

A packaging for which an outer packaging is required. This does not include the inner receptacle of a composite packaging.

INORGANIC COMPOUNDS:

Chemical compounds that do not contain the element carbon with the exception of carbon oxides and carbon sulfides.

INSECTICIDE:

A chemical product used to kill and control insects. (See pesticides.)

IN-SITU:

Refers to something in its natural place or position; commonly used in referring to groundwater and soils.

INSOLUBLE:

Not able to be dissolved.

ISOMER:

A material with the same chemical composition (i.e. kind and number of elements) as another material but with a different arrangement of those elements. For example, n-butyl alcohol and t-butyl alcohol are isomers of one another.

INSTALLATION RESTORATION PROGRAM:

An Air Force program to identify, characterize, and remediate environmental contamination on its installations as a result of past Air Force activities.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):

An association of air carriers which develop guidelines for transportation of cargo.

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO):

Develops the principles and techniques of international air navigation and fosters the planning and development of international air transport so as to insure safe and orderly growth.

INVESTIGATE:

To systematically search or inquire into the particulars of an incident, and collect the necessary evidence to seek criminal and/or civil prosecution.

ION:

An electrically charged particle or group of atoms.

IRRITANT:

A material that has an anesthetic, irritating, noxious, toxic, or other similar property which can cause extreme annoyance or discomfort. (See 49 CFR.)

ISOLATING THE SCENE:

Preventing persons and equipment from becoming exposed to a release or threatened release of a hazardous material by the establishment of site control zones.

J

JERRICANS:

Metal or plastic containers of rectangular or polygonal cross-section.

K

KARST:

A geologic formation of irregular limestone deposits with sinks, underground streams, and caverns.

KINETIC ENERGY:

Energy possessed by a moving object or water body.

KINETIC RATE COEFFICIENT:

A number that describes the rate at which a water constituent such as a biochemical oxygen demand or dissolved oxygen rises or falls, or at which an air pollutant reacts.

L

LABPACK:

Putting multiple small containers of chemicals with compatible chemical characteristics in a disposal drum with absorbent material.

LACRIMATION:

Tearing produced by eye irritation.

LAGOON:

1. **A shallow pond where sunlight, bacterial action, and oxygen work to purify wastewater; also used for storage of wastewater or spent nuclear fuel rods.**
2. **Shallow body of water, often separated from the sea by coral reefs or sandbars.**

LANDFILLS:

1. **Sanitary landfills are disposal sites for nonhazardous solid wastes spread in layers, compacted to the smallest practical volume, and covered by material applied at the end of each operating day.**
2. **Secure chemical landfills are disposal sites for hazardous waste, selected and designed to minimize the chance of release of hazardous substances into the environment.**

LARGE QUANTITY GENERATOR:

Person or facility generating more than 2200 pounds of hazardous waste per month. Such generators produce about 90 percent of the nation s hazardous waste, and are subject to all RCRA requirements.

LC50 (LETHAL CONCENTRATION, 50%):

The amount of a toxicant in air which is deadly to 50% of the exposed lab animal population within a specified time.

LC100 (LETHAL CONCENTRATION, 100%):

The amount of a toxicant in air which is deadly to 100% of the exposed lab animal population within a specified time.

LD50 (LETHAL DOSE, 50%):

The amount of a toxicant administered by other than inhalation which is deadly to 50% of the exposed lab animal population within a specified time.

LD100 (LETHAL DOSE, 100%):

The amount of a toxicant administered by other than inhalation which is deadly to 100% of the exposed lab animal population within a specified time.

LEACHATE:

Water that collects contaminants as it trickles through wastes, pesticides or fertilizers. Leaching may occur in farming areas, feedlots, and landfills, and may result in hazardous substances entering surface water, ground water, or soil.

LEACHATE COLLECTION SYSTEM:

A system that gathers leachate and pumps it to the surface for treatment.

LEACHING:

The process by which soluble constituents are dissolved and filtered through the soil by a percolating fluid. (See: leachate.)

LEAD (PB):

A heavy metal used in many industries, which can accumulate in the body and cause a variety of negative effects. One of the six pollutants for which there is a national ambient air quality standard.

LEAK:

The uncontrolled release of a hazardous material which could pose a threat to health, safety, and/or the environment.

LEAK CONTROL COMPOUNDS:

Substances used for the plugging and patching of leaks in non-pressure containers.

LEAK CONTROL DEVICES:

Tools and equipment used for the plugging and patching of leaks in non-pressure and some low-pressure containers, pipes, and tanks.

LEVEL OF PROTECTION:

In addition to appropriate respiratory protection, designations of types of personal protective equipment to be worn based on NFPA standards.

LEVEL A:

Vapor protective suit for hazardous chemical emergencies. Pressure-demand, full-facepiece SCBA or Pressure-demand supplied-air respirator with escape SCBA. Fully-encapsulating, chemical-resistant suit. The highest available level of respiratory, skin, and eye protection.

LEVEL B:

Liquid splash protective suit for hazardous chemical emergencies. Pressure-demand full-facepiece SCBA or pressure-demand supplied-air respirator with escape SCBA. Chemical-resistant clothing (overalls and long-sleeved jackets; disposable chemical resistant one-piece suit). The same level of respiratory protection but less skin protection than level A.

LEVEL C:

Limited use protective suit for hazardous chemical emergencies. Full-facepiece, air-purifying, canister-equipped respirator. Chemical-resistant clothing (overalls and long-sleeved jackets; disposable chemical resistant one-piece suit). The same level of skin protection as level B, but a lower level of respiratory protection.

LEVEL D:

No respiratory protection is provided. Coveralls, safety boots/shoes, safety glasses or chemical splash goggles, hard hat. No respiratory protection, Minimal skin protection.

LEVEL ONE INCIDENT:

Hazardous materials incidents which can be correctly contained, extinguished, and/or abated utilizing equipment, supplies, and resources immediately available to first responders having jurisdiction, and whose qualifications are limited to and do not exceed the scope of training as explained in with reference to First Responder, Operational Level.

LEVEL TWO INCIDENT:

Hazardous materials incidents which can only be identified, tested, sampled, contained, extinguished, and/or abated utilizing the resources of a Hazardous Materials Response Team, which requires the use of specialized chemical protective clothing, and whose qualifications are explained in with reference to Hazardous Materials Technician Level.

LEVEL THREE INCIDENT:

A hazardous materials incident which is beyond the controlling capabilities of a Hazardous Materials Response Team (Technician or Specialist Level) and/or requires the use of two or more Hazardous Materials Response Teams; and/or must be additionally assisted by qualified specialty teams or individuals.

LIMIT OF DETECTION (LOD):

The lowest concentration of a substance that can be measured by an instrument.

LIMITED QUANTITY:

The quantity of hazardous material that may be shipped in packaging that is not UN certified. The quantity will vary depending on the specific product shipped, the mode of transportation, and the country the shipping occurs.

LOCAL EMERGENCY PLANNING COMMITTEE (LEPC):

A committee appointed by a state emergency response commission, as required by SARA Title III, to formulate a comprehensive emergency plan.

LOCAL GOVERNMENT:

A political subdivision within a state.

LOCALIZED EXPOSURE:

Contact with a limited area, usually an external body surface.

LOGISTICS CHIEF:

That organizational position within the Incident Command System having responsibility for summoning and managing support, apparatus, equipment and personnel.

LOWER EXPLOSIVE LIMIT (LEL):

The lowest concentration of the material in air that can be detonated by spark, shock, or fire, etc.

M

MACROENCAPSULATION:

The isolation of a waste by embedding it in, or surrounding it with, a material that acts as a barrier to water or air (e.g., clay and plastic liners).

MAGNESIUM:

A silvery, moderately hard, alkaline - earth metal; readily fabricated by all standard methods; lightest of the structural metals.

MANIFEST, UNIFORM HAZARDOUS WASTE:

A document required by 40 CFR 262 to accompany any shipment of hazardous waste from the point of generation to the point of final disposal/destruction. (See Shipping Papers, and Hazardous Waste Manifest, Uniform (EPA).)

MARKING:

The required descriptive name, instructions, cautions, weight, or specifications or combination thereof on containers of hazardous materials/hazardous waste.

MASS:

The maximum combined mass (weight) of inner packages, or single packages intended for solids, and the contents thereof.

MATERIAL SAFETY DATA SHEET (MSDS):

A document which contains information regarding the specific identity of hazardous chemicals, including information on health effects, first aid, chemical and physical properties, and emergency phone numbers.

MEAN:

An Average.

MEDIAN:

The middle value in a population distribution, above and below which lie an equal number of individual values; midpoint.

MELTING POINT:

The temperature at which a material changes from a solid to a liquid.

METRIC TON.

Approximately 1.1 U.S. Tons (2205 pounds).

MICROCURIE.

Unit of radioactivity, equal to 1 millionth of a picocurie, or 3.7 x $10^{(-6)}$. See Picocurie).

MICROORGANISM:

A living organism not discretely visible to the unaided eye.

MIDNIGHT DUMPING:

Illegal disposal of hazardous materials.

MILLIGRAM:

One one thousandth $^{(10-3)}$ of a gram.

MISCIBLE:

The ability of a liquid or gas, to dissolve uniformly in another liquid or gas.

MIST:

Suspended liquid droplets generated by condensation from the gaseous to the liquid state or by breaking up a liquid into a dispersed state, such as by splashing, foaming, or atomizing. A mist is formed when a finely divided liquid is suspended in air.

MITIGATION:

Any action employed to contain, reduce, or eliminate the harmful effects of a spill or release of a hazardous material.

MOLECULAR FORMULA:

The formula which identifies the atoms and the number of each kind in the molecules of a compound. Elements in the molecular formula are listed according to the Hill convention (C,H, then other elements in alphabetical order).

MOLECULAR WEIGHT:

The sum of the atomic weights of the atoms in a molecule. For example, methane (CH_4) is 16.043, the atomic weights being carbon = 12.011, hydrogen = 1.008.

MONITORING:

The act of systematically checking to determine contaminant levels and atmospheric conditions.

MONITORING ENVIRONMENTAL CONTAMINATION:

Use of instruments and other techniques to determine the presence or levels of hazardous materials.

MONITORING EQUIPMENT:

Instruments and devices used to identify, qualify, and/or quantify contaminants.

MONITORING WELL:

1. **A well used to obtain water quality samples or measure groundwater levels.**
2. **A well drilled at a hazardous waste management facility or Superfund site to collect groundwater samples for the purpose of physical, chemical, or biological analysis to determine the amounts, types, and distribution of contaminants in the groundwater beneath the site.**

MSDS:

(See Material Safety Data Sheet.)

MUNITIONS:

A general term applying to all types of armament, including weapons utilized during combat or designed for training of the armed forces for inflicting or aiding in inflicting damage to or for the neutralization of enemy personnel, equipment, or facilities. It includes such items as bombs, rockets, missiles, small arms and ammunition, bulk explosives. smoke agents, incendiaries, and nonexplosive practice and training devises.

MUTAGEN:

A substance capable of causing genetic damage.

MUTUAL AID:

An agreement to supply specifically agreed upon aid or support in an emergency situation between two or more agencies, jurisdictions, or political subdivisions.

N

n-:

An abbreviation for "normal". It refers to the arrangement of carbon atoms in a chemical molecule.

N-:

A symbol used in some chemical names indicating that the next section of the name refers to a chemical group attached to a nitrogen atom.

N/A:

An abbreviation for Not Applicable.

NANOGRAM:

One billionth $^{(10-9)}$ of a gram.

NARCOSIS:

Stupor or unconsciousness produced by chemical substances.

NATIONAL CONTINGENCY PLAN (NCP):

Created by CERCLA to define the federal response authority and responsibility for oil and hazardous material spills.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA):

An international voluntary membership organization to promote improved fire protection and prevention, establish safeguards against loss of life and property by fire, and writes and publishes the American National Standards.

NATIONAL INTERAGENCY INCIDENT MANAGEMENT SYSTEM (NIIMS):

A standardized systems approach to incident management that consists of five major subdivision collectively providing a total systems approach to all-risk incident management.

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH):

A Federal agency, which among other activities, tests and certifies respiratory protective devices, air sampling detector tubes, and recommends occupational exposure limits for various substances.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA):

Agency responsible to serve as scientific support coordinator for a federal on scene coordinator. Assists in oil spill and air toxics modeling and meteorological monitoring and oceanic research.

NATIONAL PESTICIDE TELECOMMUNICATIONS NETWORK (NPTN):

The 24-hour national hotline (1-800/858-PEST) operated by the Texas Tech University School of Medicine providing toll-free information about pesticide safety, application, chemistry and toxicology to callers in the U.S., Puerto Rico and the Virgin Islands. Questions are answered directly or via next day mail.

NATIONAL PRIORITIES LIST (NPL):

The U. S. EPA s list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended.

NATIONAL RESPONSE CENTER (NRC):

A communications center operated by the United States Coast Guard headquarters located in Washington, DC. They provide information on suggested technical emergency actions, and must be notified by the spiller within 24 hours of any spill of a reportable quantity of a hazardous substance.

NECROSIS:

Death in a particular part of a living tissue.

NEPHROTOXIC:

A substance that negatively affects the kidneys.

NEUROTOXIC:

A substance that negatively affects the nervous system.

NEUTRALIZATION:

The process by which acid or alkaline properties of a solution are altered by addition of certain reagents to bring the hydrogen and hydroxide concentrations to equal value (pH 7 is neutral).

NON-FLAMMABLE GAS:

Any material or mixture, in a cylinder or tank, other than poison or flammable gas, having an absolute pressure in the container exceeding 40 psi at 70°F, or having an absolute pressure exceeding 104 psi at 130°F. (49 CFR)

NORTH AMERICAN (NA) NUMBER:

A four-digit number used in the United States and Canada to identify a hazardous material or group of hazardous materials in transportation.

NOT OTHERWISE SPECIFIED (NOS OR N.O.S.):

In shipping regulations, the term is used for classes of substances to which restrictions apply, but for which the individual members of the class are not listed in the regulations.

NUCLEAR REGULATORY COMMISSION:

The federal agency that ensures that the uses of nuclear materials and facilities are consistent with National Security, public health and safety, environmental quality and Anti-Trust Laws.

o-:

An abbreviation for "ortho". Referring to a particular arrangement of elements within a chemical molecule.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA):

Component of the United States Department of Labor; an agency with safety and health regulatory and enforcement authorities for most United States industries, businesses and states.

ODOR THRESHOLD:

The lowest concentration in the atmosphere which can be detected by the human sense of smell. Often a poor indicator of toxicity risk.

OFFICE OF HAZARDOUS MATERIALS SAFETY (OHMS):

A Federal agency tasked with the research and recommended revisions to 49 CFR.

OIL:

Any of numerous mineral, vegetable, and synthetic substances and vegetable and animal fats that are generally slippery, combustible, viscous, liquid or liquefiable at room temperature.

OIL SPILL CLEAN-UP AGENT:

Any material used in removing oil from the environment, including inert sorbent materials, approved chemical dispersants, surface collecting agents, sinking agents, and biological additives.

OLFACTORY:

Pertaining to the sense of smell.

ON-SCENE COORDINATOR (OSC):

As explained in the National Contingency Plan, it is the pre-designated Federal official who coordinates Federal activities at a hazardous material incident, and monitors the incident for compliance with Federal pollution laws.

OPERATIONS:

That organizational level within the Incident Command System (ICS) immediately subordinate to the Incident Commander. When established, this position is responsible for the direct management of all incident tactical activities. (NIIMS)

ORAL TOXICITY:

Adverse effects resulting from taking a substance into the body through the mouth.

ORDNANCE:

Generally refers to military supplies of all kinds, including weapons, ammunition, combat vehicles, and maintenance equipment.

ORGANIC CARBON:

Carbon originating from organic processes (e.g. carbon originating from a bodily organ).

ORGANIC PEROXIDE:

Strong oxidizers which are often chemically unstable, containing the -o-o structure. They react readily with solvents or fuels resulting in an explosion or fire.

OTHER REGULATED MATERIALS A - ORM A:

A material which has an anesthetic, irritating, noxious, toxic, or other similar property and which can cause extreme annoyance or discomfort to passengers and crew in the event of leakage during transportation. (49 CFR 173.500(b)(1))

OTHER REGULATED MATERIALS B - ORM B:

A material (including a solid when wet with water) capable of causing significant damage to a transport vehicle from leakage during transportation. (49 CFR 173.500(b)(2))

OTHER REGULATED MATERIALS C - ORM C:

A material which has other inherent characteristics not described as an ORM A or ORM B but which make it unsuitable for shipment, unless properly identified and prepared for transportation. (49 CFR 173.500(b)(4))

OTHER REGULATED MATERIALS D - ORM D:

A material, such as a consumer commodity, which presents a limited hazard during transportation due to its form, quantity and packaging. (49 CFR 173.500(b)(4))

OTHER REGULATED MATERIALS E - ORM E:

A material that is not included in any other hazard class, but is subject to the requirements of 49 CFR 173.500, and includes hazardous waste.

OUTER PACKAGING:

The outermost packaging or enclosure of a combination or composite packaging along with any other cushioning or absorbent material and other components necessary to protect and contain inner packages or receptacles.

OVERPACK:

An enclosure used to provide protection or convenience in handling of a package or to consolidate two or more packages. The package being overpacked must be eligible to be transported by itself, and properly prepared for shipment with the proper markings and labeling. The marking and labeling on each of the packages being overpacked must be reproduced on the outside of the overpack unless visible from outside of the overpack.

OXIDATION:

A reaction in which oxygen combines chemically with another substance.

OXIDATION POND:

A man-made (anthropogenic) body of water in which waste is consumed by bacteria, used most frequently with other waste-treatment processes; a sewage lagoon.

OXIDIZER:

A chemical, other than a blasting agent or explosive, that initiates or promotes combustion in other materials thereby causing fire either of itself or through the release of oxygen or other gases. (49 CFR 173.151)

OXYGEN DEFICIENCY:

A concentration of oxygen insufficient to support life.

OXYGEN DEFICIENT ATMOSPHERE:

An atmosphere which contains an oxygen content less than 19.5 % by volume at sea level.

OZONE DEPLETION:

Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.

OZONE HOLE:

A thinning break in the stratospheric ozone layer. Designation of amount of such depletion as an ozone hole is made when the detected amount of depletion exceeds fifty percent. Seasonal ozone holes have been observed over both the Antarctic and Arctic regions, part of Canada, and the extreme northeastern United States.

OZONE LAYER:

The protective layer in the atmosphere, about 15 miles above the ground, that absorbs some of the sun s ultraviolet rays, thereby reducing the amount of potentially harmful radiation that reaches the earth s surface.

P

p-:

An abbreviation for "para". Referring to a particular arrangement of elements within a chemical molecule.

PACKAGE:

The end result of the packaging process, which includes all of the hazardous contents, and all of the packages properly closed and prepared for proper marking and labeling.

PACKAGING:

Containers, receptacles and all components necessary for the container or receptacle to perform its containment function and meet the requirements of CFR 49, parts 171-180. In general, these receptacles and components and other requirements are contained within CFR 49, part 173.

PACKING GROUP:

The degree of hazard. Within each hazard classification there are three packing groups (I, II, and III). Packing Group I represents the greatest hazard, Group II a moderate hazard, and Group III the least hazard. In the marking of packages, Group I corresponds to "X", Group II corresponds to "Y", and Group III corresponds to "Z".

PALLETS:

A low portable platform constructed of wood, metal, plastic, or fiberboard, built to specified dimensions, on which supplies are loaded, transported, or stored in units.

PARTICULATES:

1. **Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog, found in air or emissions.**
2. **Very small solids suspended in water; they can vary in size, shape, density and electrical charge and can be gathered together by coagulation and flocculation.**

PARTS PER BILLION (PPB):

A unit for measuring the concentration of a particular substance equal to one (1) unit combined with 999,999,999 other units.

PARTS PER MILLION (PPM):

A unit for measuring the concentration of a particular substance equal to one (1) unit combined with 999,999 other units.

PATHOGEN:

Any disease producing organism including viruses.

PCB CONTAMINATED ELECTRICAL EQUIPMENT:

Any electrical equipment, including transformers, that contains at least 50 ppm but less than 500 ppm of PCBs. (40 CFR 761.3)

PCB ITEM:

An item containing PCBs at a concentration of 5 ppm or greater. (40 CFR 761.3)

PCB TRANSFORMER:

Any transformer that contains 500 ppm of PCBs or greater. (40 CFR 761.3)

PENETRATION:

The movement of liquid molecules through a chemical protective clothing, suit, garment or material.

PERFORMANCE ORIENTED PACKAGING:

A set of criteria establishing the acceptability of a packaging to be used for hazardous materials based on its performance in established test procedures.

PERMEATION:

The movement of vapor or gas molecules through a chemical protective garment material.

PERMEATION KITS:

Kits assembled for the purpose of testing on-site an unknown liquid substance for permeability of chemical protective clothing.

PERMISSIBLE EXPOSURE LIMIT (PEL):

The employees' permitted exposure limit to any material listed in Table Z-1, Z-2, or Z-3 of OSHA regulations, section 1910.1000, Air Contaminants.

PEROXIDE:

Chemicals which contain two oxygen atoms bound together. Often explosive.

PERSISTENT TOXIC SUBSTANCE:

A material or waste that resists natural degradation or detoxification and may present long term health and environmental hazards.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Equipment provided to shield or isolate a person from the chemical, physical, and thermal hazards that may be encountered at a hazardous materials incident. Adequate personal protective equipment should protect the respiratory system, skin, eyes, face, hands, feet, head, body, and hearing. Personal protective equipment includes: personal protective clothing, self contained positive pressure breathing apparatus, and air purifying respirators. (NFPA 472, 1-3)

PESTICIDES:

A chemical or mixture of chemicals used to destroy, prevent, or control any living organism considered to be a pest.

pH:

A numerical designation of the negative logarithm of hydrogen ion concentration. A pH of 7.0 is neutrality; higher values indicate alkalinity and lower values indicate acidity.

PHOTOCHEMICAL:

A term referring to chemical reactions brought about by the sunlight. The reaction of nitrogen oxides with oxygen in the presence of sunlight to form ozone is an example of a photochemical reaction.

PHOTOLYSIS:

Chemical decomposition induced by light or other radiant energy.

PHOTO-OXIDATION:

Oxidation by solar radiation.

PHYSICAL HAZARD:

A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable or water-reactive.

PICOCURIE:

Unit of radioactivity. A curie is equal to 3.7 x $10^{(10)}$ radioactive decay events per seconds; a picocurie is 1 trillionth of that amount, or 3.7 x $10^{(-12)}$.

PICOGRAM:

One trillionth$^{(10-12)}$ of a gram.

PITCHBLENDE:

A mineral formed by radioactive decay, often found in sulfide-bearing veins.

PLACARD:

A sign or symbol designed to be hung on a wall, container or vehicle containing warning information to convey the level of hazard.

PLUGGING AND PATCHING KITS:

Kits commercially available or privately assembled for the purpose of providing capabilities for emergency plugging and patching of leaking containers, pipes, and tanks.

PLUME:

A vapor, liquid, dust or gaseous cloud formation which has shape and buoyancy.

PNEUMONITIS:

Inflammation of the lungs characterized by an outpouring of fluid in the lungs.

POISON CLASS A:

Poisonous gases or liquids of such a nature that a very small amount of the gas, or vapor of the liquid, mixed with air is dangerous to life. (49 CFR 173.326)

POISON CLASS B:

Substances, liquids, or solids other than Poison Class A or irritating materials, which are known to be so toxic to man as to afford a hazard to health. (49 CFR 173.343)

POLLUTION:

Contamination of air, water, land, or other natural resources that will or is likely to create a public nuisance and cause health and environmental harm.

POLYCHLORINATED BIPHENYL (PCB):

Any of a family of industrial compounds produced by chlorination of biphenyl. These compounds are noted chiefly as an environmental pollutant that accumulates in organisms and concentrates in the food chain with resultant pathogenic and teratogenic effects. They also decompose very slowly.

POLYMER:

A macromolecule formed by the chemical union of five or more identical combining units called monomers.

POLYMERIZATION:

A chemical reaction, usually carried out with a catalyst, heat, or light, and often under high pressure, which generates high temperature and when uncontrolled may be violent.

POST EMERGENCY RESPONSE:

That portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and cleanup of the site has begun.

POST INCIDENT ANALYSIS:

The termination phase of an incident that includes completion of the required forms and documentation for conducting a critique.

POWERED-AIR PURIFYING RESPIRATOR (PAPR):

An APR with a portable motor to force air through the filtering/purifying cartridges for use only in atmospheres where the chemical hazards and concentrations are known.

PRE-INCIDENT PLANNING:

The process associated with preparing for the response to a hazard by developing plans, identifying resources, conducting exercises, and other techniques to improve an agency s or organization s response capabilities.

PREVENTION PLAN:

(See Risk Management Prevention Program.)

PRODUCT SUBSTITUTION:

Replacing a hazardous substance in a process with a less hazardous substance.

PROPER SHIPPING NAME:

The DOT designated name for a commodity or material. (49 CFR 172.101)

PROTECTIVE CLOTHING:

(See Personal Protective Equipment (PPE)).

PUBLIC INFORMATION OFFICER (PIO):

The individual assigned to act as the liaison between the Incident Commander and the news media.

PULMONARY:

Pertaining to the lungs.

PURGING:

Removing stagnant air or water from sampling zone or equipment prior to sample collection.

PYROPHORIC:

A substance that ignites spontaneously in dry or moist air at or below 130ºF. (49 CFR 173.115(c))

Q

QUALITATIVE ANALYSIS:

The testing of a substance or mixture to determine its chemical constituents.

QUANTITATIVE ANALYSIS:

The testing of a substance or mixture to determine the amounts and proportions of its chemical constituents.

R

RADIANT ENERGY:

Energy transferred by radiation, esp. by an electromagnetic wave.

RADIATION:

Energy radiated or transmitted in the form of rays, waves, or particles.

RADIATION ABSORBED DOSE (RAD):

A basic unit of absorbed dose of ionizing radiation.

RADIOACTIVE:

The spontaneous disintegration of unstable nuclei accompanied by emission of nuclear radiation.

RADIOACTIVE MATERIAL (RAM):

Any material, or combination of materials, that spontaneously emits ionizing radiation and has a specific activity greater than 0.002 microcuries per gram. (49 CFR 173.389)

RADIOPHARMACEUTICAL:

A material containing radioisotopes used in medical diagnosis or therapy.

RECORDER:

(See Technical Specialist - Hazardous Materials Reference.)

RECOVERY DRUM:

(See Disposal Drum.)

REFERENCE LIBRARY:

A selection of chemical textbooks, reference books, microfiche, and computer data programs typically carried by a hazardous materials response team.

REGIONAL RESPONSE TEAM:

Composed of representatives of the Federal agencies and a representative from each state in the ten Federal EPA regions as specified in the NCP.

RELEASE, THREATENED RELEASE:

The actual or potential spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including the abandonment or discarding of barrels, containers, and other closed receptacles of any hazardous material.

REMEDIAL ACTION:

Actions taken to abate the effects of a release or threatened release of a hazardous material to protect health or the environment.

REMOVAL ACTION:

(See Mitigation.)

REPORTABLE INCIDENT:

Any incident that has or may impact the public health, safety or the environment, or is otherwise required by law to be reported.

REPORTABLE QUANTITY (RQ):

The designated amount of a specific material that if spilled or released requires immediate notification to the National Response Center (NRC). (49 CFR 172.101, 40 CFR 117.3, 173. and 302.6)

RESCUE:

The removal of victims from an area determined to be contaminated or otherwise hazardous by appropriately trained and equipped personnel.

RESIDUE:

A material remaining in a package after its contents have been emptied and before the packaging is refilled, or cleaned and purged of vapor to remove any potential hazard.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA):

The Federal framework for the proper management and disposal of hazardous wastes. This program is administered by EPA.

RESPIRATORY PROTECTIVE EQUIPMENT:

(See SCBA and Air Purifying Respirators.)

RESPONSE:

That portion of incident management where personnel are involved in controlling a hazardous material incident. (NFPA 472, 1-3)

RESPONSIBLE PARTY (RP):

A legally recognized entity (person, corporation, business, or partnership, etc.) that has a legally recognized status of financial accountability and liability for action necessary to abate and mitigate adverse environmental and human health and safety impacts resulting from a non-permitted release or discharge of hazardous material; the person or agency found legally accountable for the cleanup of the incident.

RISK ANALYSIS:

A process to analyze the probability that harm may occur to life, property, and the environment and to note the risks to be taken to identify the incident objectives.

RISK MANAGEMENT:

Decision-making process which involves such considerations as risk assessment, technological feasibility, economic information about costs and benefits, statutory requirements, public concerns, and other factors.

ROENTGEN:

A measure of the charge produced in air created by ionizing radiation, usually in reference to gamma radiation.

ROENTGEN EQUIVALENT MAN (REM):

The unit of dose equivalent; takes into account the effectiveness of different types of radiation.

RUPTURE:

The physical failure of a container or mechanical device, releasing or threatening to release a hazardous material. (Sacramento Fire Department, HMRT)

SAFETY OFFICER:

Selected by the Incident Commander, a person at an emergency incident responsible for assuring that all overall operations performed at the incident by all agencies present are done so with respect to the highest levels of safety and health. The Safety Officer shall report directly to the Incident Commander.

SALIVATION:

An excessive discharge of saliva; ptyalism.

SALVAGE DRUM:

(See Recovery Drum.)

SAMPLE:

To take a representative portion of the material for evidence or analytical purposes.

SAMPLING KITS:

Kits assembled for the purpose of providing adequate tools and equipment for taking samples and documenting unknowns to create a -chain of evidence.

SARA:

(See Superfund Amendments & Reauthorization Act.)

SCBA:

(See Self Contained Breathing Apparatus.)

SCENARIO:

An outline of a natural or expected course of events.

SCENE:

The location impacted or potentially impacted by a hazard.

SCENE MANAGER:

(See Incident Commander.)

sec-:

An abbreviation for "secondary". Referring to a particular arrangement of elements within a chemical molecule.

SECONDARY MATERIALS:

Spent materials, sludges, by-products, scrap metal and commercial chemical products recycled in ways that differ from their normal use.

SEDIMENTATION:

The process by which material settles to the bottom of a liquid (i.e., the ocean).

SELECTIVE TOXICITY:

The capacity of a chemical to injure one kind of living matter without harming another, even though the two may be in intimate contact.

SELF CONTAINED BREATHING APPARATUS (SCBA):

A positive pressure, self-contained breathing apparatus (SCBA) or combination SCBA/supplied air breathing apparatus certified by the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA), or the appropriate approval agency for use in atmospheres that are immediately dangerous to life or health (IDLH). (NFPA 1991, 1-3)

SENSITIZER:

A substance which on first exposure causes little or no reaction in humans or test animals, but which on repeated exposure may cause a marked response not necessarily limited to the contact site.

SHELTERING IN PLACE/IN PLACE PROTECTION:

To direct people to quickly go inside a building and remain inside until the danger passes.

SHIPPING PAPERS:

Generic term used to refer to documents that must accompany all shipments of goods for transportation. These include Hazardous Waste Manifest, Bill of Lading, and Consists, etc. Shipping papers are intended to describe what hazardous materials are contained within the shipment, if any.

SHORT TERM EXPOSURE LIMIT (STEL):

A 15-minute time-weighted coverage exposure which should not be exceeded at any time during a work day, nor repeated more than 4 times per day, even if the 8-hour time-weighted average is within the Threshold Limit Value (TLV).

SINGLE PACKAGING:

A single receptacle into which material is loaded other than a combination or bulk packaging. A drum is an example of a single packaging.

SITE:

Any facility or location within the scope of EPCRA

SKIMMER:

Physical systems whereby a liquid phase is recovered from another liquid phase due to polarity differences and stored or transferred for further processing. Typical use is to remove petroleum products floating on a water body.

SLUDGE:

Accumulated solids, semisolids, or liquid waste generated from wastewaters, drilling operations, or other fluids.

SMOKE:

An air suspension (aerosol) of particles, often originating from combustion or sublimation.

SOLIDIFICATION:

Process whereby a contaminant is permanently immobilized in a substrate to prevent future migration away from the container.

SOLUBILITY:

The ability or tendency of one substance to blend uniformly with another.

SOLVENTS:

A liquid substance capable of dissolving or dispersing one or more other substances to form a uniformly dispersed mixture.

SPECIFIC GRAVITY:

The ratio of the density of a substance to the density of a reference substance. For solids and liquids, specific gravity is numerically equal to density. For gases, specific gravity is different because of the differences in reference substances, which are usually water ($1 g/cm^3$) for solids and liquids and air ($0.00129 g/cm^3$, or 1.29 g/L at 0^oC and 760 mmHg). The specific gravity of a gas is the ratio of its density to that of air. For example, the density of hydrogen is 0.089 g/L but its specific gravity is 0.069 (i.e., 0.089/1.29). The specific gravity of solids and liquids is the ratio of their density to that of water at 4^oC (i.e., 1), as 1 cm^3 weighs 1 gram.

SPILL:

The release of a liquid, powder, or solid hazardous material in a manner that poses a threat to air, water, ground, and to the environment. (See also Incident.)

SPILLER:

(See Responsible Party.)

SPONTANEOUSLY COMBUSTIBLE:

(See Pyrophoric.)

STCC IDENTIFICATION NUMBERS:

An acronym for Standard Transportation Commodity Code. A seven digit identification number commonly used for materials shipped by rail. Numbers beginning with 49- are hazardous materials.

STABILIZATION:

The period of an incident where the adverse behavior of the hazardous material is controlled. (NFPA 472, 1-3)

STAGING AREA:

The safe area established for temporary location of available resources closer to the incident site to reduce response time.

STATE WARNING POINT:

The center within the State Division of Emergency Management that is the reporting office for any release or threatened release of a hazardous material or spill.

STATIONARY SOURCE:

A fixed facility from which a release of hazardous materials may originate.

STORAGE:

Containment of hazardous materials on a temporary basis in such a manner as to not constitute disposal of such materials.

STRICT LIABILITY:

The responsible party is liable even though they have exercised reasonable care.

SUPERFUND AMENDMENTS & REAUTHORIZATION ACT (SARA):

Created for the purpose of establishing Federal statutes for right-to-know standards, emergency response to hazardous materials incidents, reauthorized the Federal superfund, and mandated states to implement equivalent regulations/requirements.

SUPPORT ZONE:

(See Cold Zone.)

SURFACE IMPOUNDMENT:

A natural depression, human made excavation or diked area designed to hold an accumulation of liquid wastes or waste containing free liquids.

SYM-:

An abbreviation for "symmetrical". Referring to a particular arrangement of elements within a chemical molecule.

SYNERGISTIC EFFECT:

The combined effect of two chemicals which is greater than the sum of the effect of each agent alone.

SYSTEMIC:

Pertaining to the internal organs and structures of the body.

SYSTEMIC TOXIC EXPOSURE:

Toxic effects to the body as a whole spreading via the bloodstream and often displaying delayed symptoms.

t-:

An abbreviation for "tertiary". Referring to a particular arrangement of elements within a chemical molecule.

TEAM LEADER:

(See Entry Team Leader.)

tert-:

An abbreviation for "tertiary". Referring to a particular arrangement of elements within a chemical molecule.

TECHNICAL SPECIALIST - HAZARDOUS MATERIALS REFERENCE:

Person assigned to document activities of the Hazardous Material Team and gather information relevant to the chemicals involved and their hazards.

TERATOGEN:

A substance or agent which can result in malformations of a fetus.

TERATOGENICITY:

Ability to produce birth defects.

TERMINATION:

That portion of incident management where personnel are involved in documenting safety procedures, site operations, hazards faced, and lessons learned from the incident. Termination is divided into three phases: Debriefing, Post-incident analysis, and Critique. (NFPA 472, 1-3) (See Post Incident Analysis.)

THIEVING ROD:

A glass rod used like a coliwassa, except the liquid is contained in the tube by a vacuum pressure.

Thio-:

Containing a sulfur atom.

THRESHOLD:

The point where a physiological or toxicological effect begins to be produced by the smallest degree of stimulation.

THRESHOLD LIMIT VALUE (TLV):

The value for an airborne toxic material which is to be used as a guide in the control of health hazards and represents the concentration to which nearly all workers may be exposed 8 hours per day over extended periods of time without adverse effects.

THRESHOLD LIMIT VALUE - CEILING (TLV-C):

The concentration that should not be exceeded during any part of the working exposure.

THRESHOLD LIMIT VALUE - SHORT TERM EXPOSURE LIMIT (TLV-STEL):

A 15-minute time-weighted coverage exposure which should not be exceeded at any time during a work day, nor repeated more than 4 times per day with 60-minutes between each exposure, even if the 8-hour time-weighted average is within the Threshold Limit Value (TLV).

THRESHOLD LIMIT VALUE - TIME WEIGHTED AVERAGE (TLV-TWA):

An exposure level under which most people can work consistently for 8 hours a day, day after day, with no harmful effects.

THRESHOLD PLANNING QUANTITY (TPQ):

The quantity designated for each extremely hazardous substance that triggers a required notification by facilities to the state emergency response commission that such facilities are subject to reporting under SARA Title III. Listed in appendix A or appendix B of 40 CFR 355.

TOPOGRAPHY:

The geographic surface map of a place or region.

TOTALLY ENCAPSULATED SUITS:

Special protective suits made of materials that prevent toxic or corrosive substances or vapors from coming in contact with the body. (See Fully Encapsulated Suit.)

TOXIC:

Poisonous; relating to or caused by a toxin; able to cause injury by contact or systemic action to plants, animals or people.

TOXIC CHEMICALS:

EPA uses this term for chemicals whose total emissions and releases must be reported annually by owners and operators of certain facilities that manufacture, process or otherwise use a listed toxic chemical as identified in SARA Title III.

TOXICITY:

A relative property of a chemical agent that refers to its harmful effect on some biological mechanism and the conditions under which this effect occurs.

TRAFFIC CONTROL/CROWD CONTROL:

Action(s) by law enforcement to secure and/or minimize exposure of the public to unsafe conditions resulting from emergency incidents, impediments and congestion.

trans-:

Referring to a particular arrangement of elements within a chemical molecule.

TREATMENT:

Any method, technique, or process which changes the physical, chemical, or biological character or composition of any hazardous waste, or removes or reduces its harmful properties or characteristics for any purpose.

UN (UNITED NATIONS IDENTIFICATION NUMBER):

When UN precedes a four-digit number, it indicates that this identification number is used internationally to identify a hazardous material.

UN PACKAGING:

A packaging approved and certified for hazardous materials that has passed all required performance tests.

UN RECOMMENDATIONS:

A set of recommendations proposed by the U.N. Panel of Experts regarding the packaging and shipping of hazardous materials. These are only recommendations, but have been incorporated into the regulations of most countries and carrier organizations. They form the basis of HM-181 and the changes to CFR-49.

UPPER EXPLOSIVE LIMIT (UEL):

The highest concentration of the material in air that can be detonated.

UPWIND:

In or toward the direction from which the wind blows.

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA):

The independent federal agency, established in 1970, that regulates environmental matters and oversees the implementation of environmental laws.

V

VAPOR:

An air dispersion of molecules of a substance that is normally a liquid or solid at standard temperature and pressure.

VAPOR DENSITY:

The vapor density is expressed in grams per liter (g/L) and is compared to the density of air (Air = 1).

VAPOR DISPERSION:

The movement of vapor clouds in air due to turbulence, gravity, spreading, and mixing.

VAPOR PRESSURE:

The pressure, often expressed in millimeters of mercury (mmHg), that is characteristic at any given temperatures of a vapor in equilibrium with its liquid or solid form.

VAPOR PROTECTIVE SUIT:

(See Levels of Protection.)

VOLATILE:

Readily becoming a vapor at relatively low temperature.

VOLATILE ORGANIC COMPOUNDS (VOCS):

Any compound containing at least one atom of carbon, excluding: carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and excluding the following: methane, methylene chloride, 1,1,1-trichloroethane, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), chlorodifluoromethane (HCFC-22), trifluoromethane (HFC-23), 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113), 1-chloro-1,1-difluoro-2-chloro-2,2-difluoroethane (CFC-114), chloropentafluoroethane (CFC-115), 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123), 1,1,1,2-tetrafluoroethane (HFC-134a), 1,1-dichloro-1-fluoroethane (HCFC-141b), 1-chloro-1,1-difluoroethane (HCFC-142b), 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124), pentafluoroethane (HFC-125), 1,1,2,2-tetrafluoroethane (HFC-134), 1,1,1-trifluoroethane (HFC-143a), and 1,1-difluoroethane (HFC-152a), cyclic, branched, or linear completely methylated siloxanes, the following classes of perfluorocarbons: (A) cyclic, branched, or linear, completely fluorinated alkanes; (B) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations; (C) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and (D) sulfur-containing perfluorocarbons with no unsaturations and with the sulfur bonds to carbon and fluorine, and the following low-reactive organic compounds which have been exempted by the U.S. EPA: parachlorobenzotrifluoride (1-chloro-4-trifluoromethylbenzene), ethane, and acetone.

VULNERABILITY:

The susceptibility of life, the environment, and/or property, to damage by a hazard.

W

WARM ZONE:

The area where personnel and equipment decontamination and hot zone support takes place. It includes control points for the access corridor and thus assists in reducing the spread of contamination. This is also referred to as the decontamination, contamination reduction, yellow zone, support zone, or limited access zone in other documents. (NFPA 472, 1-3)

WATER REACTIVE:

Having properties of, when contacted by water, reacting violently, generating extreme heat, burning, exploding, or rapidly reacting to produce an ignitable, toxic, or corrosive mist, vapor, or gas.

WATER SOLUBILITY:

The solubility of a substance in water provides information on the fate and transport in the environment. The higher the water solubility, the greater the tendency to remain dissolved and are less likely to volatilize from the water. Low water soluble substances will volatilize more readily in water, and will partition to soil or bioconcentrate in aquatic organisms.

WEIGHT OF EVIDENCE:

The extent to which the available information support the hypothesis that a substance causes an effect in humans. For example, factors which determine the weight-of-evidence that a chemical poses a hazard to humans include the number of tissue sites affected by the agent; the number of animal species, strains, sexes, and number of experiments and doses showing a response; the dose-response relationship, statistical significance in the occurrence of the adverse effect in treated subjects compared with untreated controls; and the timing of the occurrence of the adverse effect.

>:

A symbol meaning "greater than".

<:

A symbol meaning "less than".