

GLOSSARY

Absorption	The passing of a substance into the circulatory system of the body. Also used specifically to refer to entry of toxicants through the skin.
Acute Exposure	An exposure to a toxic substance which occurs in a short or single time period.
Acute Toxicity	Any poisonous effect produced by a single short-term exposure. The LD_{50} of a substance (the lethal dose at which 50 percent of test animals succumb to the toxicity of the chemicals) is typically used as a measure of its acute toxicity.
Additive Effect	A biological response to exposure to multiple chemicals which is equal to the sum of the effects of the individual agents.
Adsorption	The bonding of chemicals to soil particles or other surfaces.
Aerosol	A solid particle or liquid droplet suspended in air. An aerosol is larger than a molecule and can be filtered from the air.
Antagonism	The situation in which two chemicals interfere with each other's actions, or one chemical interferes with the action of the other.
Aquifer	An underground bed, or layer, of earth, gravel, or porous storage that contains water.
Asphyxiants	Chemicals that starve the cells of an individual from the life-giving oxygen needed to sustain metabolism.
Biodegradable	Capable of decomposing quickly through the action of microorganisms.
Biomagnification	The tendency of certain chemicals to become concentrated as they move into and up the food chain.
Boiling Point	The temperature at which a liquid will start to become a gas, and boil. A chemical with a low boiling point can boil and evaporate quickly. If a material that is flammable also has a low boiling point, a special fire hazard exists.
Carcinogen	A chemical or physical agent that encourages cells to develop cancer.
Central Nervous System Depressants	Toxicants that deaden the central nervous system (CNS), diminishing sensation.
CERCLA	The Comprehensive Environmental Response, Compensation, and Liability Act of 1980—the Federal statute that authorized “Superfund.” Administered by EPA, the law provides funding for cleanups and emergency response actions for hazardous substances at the worst

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CERCLA (continued)	hazardous waste sites in the United States, CERCLA is also significant because it set the first criteria for notification of emergencies involving hazardous substances. Superfund regulates abandoned waste disposal sites; for active disposal site regulation, see RCRA .
CHEMTREC	Chemical Transportation Emergency Center, a service operated by the Chemical Manufacturers Association to provide information and other assistance to emergency responders.
Chronic Exposure	Process by which small amounts of toxic substances are taken into the body over an extended period.
Command Post	A centralized base of operations established near the site of a hazardous materials incident.
Corrosive	A chemical that destroys or irreversibly alters living tissue by direct chemical action at the site of contact.
Decontamination	The process of removing or neutralizing contaminants that have accumulated on personnel and equipment. This process is critical to health and safety at hazardous waste incidents.
Dermal Exposure	Exposure to toxic substances by entry through the skin.
Dose	The quantity of a chemical absorbed and available for interaction with metabolic processes.
Epidemiology Studies	Investigation of factors contributing to disease or toxic effects in the general population.
Evaporation Rate	The rate at which a chemical changes into a vapor. A chemical that evaporates quickly can be a more dangerous fire or health hazard.
Exercise	A simulated emergency condition carried out for the purpose of testing and evaluating the readiness of a community or organization to handle a particular type of emergency.
Explosive	A chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperatures.
Extremely Hazardous Substance (EHS)	Any one of over 300 hazardous chemicals on a list compiled by EPA to provide a focus for State and local emergency planning activities.
Fate	The transport and transformation of a pollutant.
Hazard Class	A group of materials, as designated by the Department of Transportation, that share a common major hazardous property such as radioactivity or flammability.

Hazardous Materials Response Team (HMRT)	A team of specially trained personnel who respond to a hazardous materials incident. The team performs various response actions including assessment, firefighting, rescue, and containment; they are not responsible for cleanup operations following the incident.
Incident Commander	The person in charge of on-scene coordination of a response to an incident, usually a senior officer in a fire department.
Inversion	An atmospheric condition caused by a layer of warm air preventing cool air trapped beneath it from rising, thus holding down pollutants that could otherwise be dispersed.
Irritant	Chemicals which inflame living tissue by chemical action at the site of contact, causing pain or swelling.
LD₅₀	The calculated dosage of a material that would be fatal to 50% of an exposed population (Lethal Dose 50%).
Leachate	Material that pollutes water as it seeps through solid waste.
Leaching	The process by which water dissolves nutrient chemicals or contaminants and carries them away, or moves them to a lower layer.
LEPC	Local Emergency Planning Committee.
LOAEL	The Lowest Observed Adverse Effect Level, i.e., the lowest dose which produces an observable adverse effect.
Medium	The environmental vehicle by which a pollutant is carried to the receptor (e.g., air, surface water, soil, or groundwater).
Melting Point	The temperature at which a solid material changes to a liquid. Solid materials with low melting points should not be stored in hot areas.
MSDS (Material Safety Data Sheet)	A worksheet required by the U.S. Occupational Safety and Health Administration (OSHA) containing information about hazardous chemicals in the workplace. MSDSS are used to fulfill part of the hazardous chemical inventory reporting requirements under the Emergency Planning and Community Right-to-Know Act.
Mutagen	A chemical or physical agent that induces a permanent change in the genetic material.
NOAEL	No Observable Adverse Effect Level.
Organic Compound	Chemicals that contain carbon. Volatile organic compounds vaporize at room temperature and pressure. They are found in many indoor sources, including many common household products and building materials.
OSHA	The Occupational Safety and Health Administration, part of the Department of Labor.

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Pathway	A history of the flow of a pollutant from source to receptor, including qualitative descriptions of emission type, transport, medium, and exposure route.
PEL	Permissible Exposure Limits set by OSHA as a guide to acceptable levels of chemical exposure.
Percent Volatile	The percentage of a chemical that will evaporate at ordinary temperatures. A high volatile percentage may mean there is more risk of explosion, or that dangerous fumes can be released. Evaporation rates are a better measure of the danger than the percent volatile measure.
pH	The pH is a measure of how acidic or caustic a chemical is, based on a scale of 1 to 14. A pH of 1 means the chemical is very acidic. Pure water has a pH of 7. A pH of 14 means the chemical is very caustic. Both acidic and caustic substances are dangerous to skin and other valuable surfaces.
Poison	A chemical that, in relatively small amounts, is able to produce injury by chemical action when it comes in contact with a susceptible tissue.
RCRA	The Resource Conservation and Recovery Act (of 1976). A Federal statute which establishes a framework for proper management and disposal of all wastes. Generation, transportation, storage, treatment, and disposal of hazardous wastes are all regulated under this Act.
Risk Assessment	<p>Broadly defined as the scientific activity of evaluating the toxic properties of a chemical and the conditions of human exposure to it, with the objective of determining the probability that exposed humans will be adversely affected. Its four main components are:</p> <ol style="list-style-type: none">1. Hazard Identification—Does the agent cause the effect?2. Dose-Response Assessment--What is the relationship between the dose and its incidence in human beings?3. Exposure Assessment—What exposures are experienced or anticipated, and under what conditions?4. Risk Characterization-The total analysis producing an estimate of the incidence of the adverse effect in a given population.
Runoff	Water from rain, snow melt, or irrigation that flows over the ground surface and returns to streams.
SARA	Superfund Amendments and Reauthorization Act of 1986.
SERC	State Emergency Response Commission.

Volubility in Water	An indicator of the amount of a chemical that can be dissolved in water, shown as a percentage or as a description. A low percent of volubility (or a description of "slight" volubility or "low" volubility) means that only a small amount will dissolve in water. Knowing this may help firefighters or personnel cleaning a spill.
Specific Gravity	A comparison of the weight of the chemical to the weight of an equal volume of water. Chemicals with a specific gravity of less than 1 are lighter than water, while a specific gravity of more than 1 means the chemical is heavier than water. Most flammable liquids are lighter than water.
Synergistic Effect	A biological response to exposure to multiple chemicals which is greater than the sum of the effects of the individual agents.
Systemic Toxicants	Chemical compounds that affect entire organ systems, often operating far from the original site of entry.
Teratogen	A material that produces a physical defect in a developing embryo.
Threshold	The lowest dose of a chemical at which a specific measurable effect is observed. Below this dose, the effect is not observed.
Title III	The third part of SARA, also known as the Emergency Planning and Community Right-to-Know Act of 1986.
TLV	Threshold Limit Values, which are the calculated airborne concentrations of a substance to which all workers could be repeatedly exposed eight hours a day without adverse effects.
Totally Encapsulated Suits	Special protective suits made of material that prevents toxic or corrosive substances or vapors from coming in contact with the body.
Toxicity	The degree of danger posed by a substance to animal or plant life.
Toxicology	The study of the adverse effects of chemicals on biological systems, and the assessment of the probability of their occurrence.
Transformation	The chemical alteration of a compound by processes such as reaction with other compounds or breakdown into component elements.
Transport	Hydrological, atmospheric, or other physical processes that convey pollutants through and across media from source to receptor.
Vapor Density	The measure of the heaviness of a chemical's vapor as compared to the weight of a similar amount of air. A vapor density of 1.0 is equal to air. Vapors that are heavier than air may build up in low-lying areas, such as along floors, in sewers, or in elevator shafts. Vapors that are lighter than air rise and may collect near the ceiling.

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Vapor Pressure	The measure of how quickly a chemical liquid will evaporate. Chemicals with low boiling points have high vapor pressures. If a — chemical with a high vapor pressure spills, there is an increased risk of explosion and a greater risk that workers will inhale toxic fumes.
Volatilization	Entry of contaminants into the atmosphere by evaporation from soil or water.
Workers Right-to-Know	Legislation mandating communicating of chemical information to employees. A regulatory initiative by OSHA, and an antecedent to Community Right-to-Know.