

GLOSSARY

**Abduction.** Moving a body part away from the medial plane (to the left or right).

**Absorption.** The collection of molecules into a sorbent material through chemical attractions and interactions.

**Accelerometer.** A device used to measure vibration.

**Acne.** An inflammatory disease of the sebaceous glands and hair follicles in the skin, leads to pimples and pustules (white-centered bumps) on the surface of the skin.

**Acrocynosis.** A condition caused by exposure to cold characterized by a reduced level of hemoglobin in the blood and by the hands and feet acquiring a slightly blue, purple, or gray coloring.

**Activity.** Often used as a shortened form of radioactivity; refers to the radiating power of a radioactive substance.

**Acute health effects.** Health effects that show up a short period of time after exposure.

**Adduction.** A motion that moves a body part toward the body.

**Adsorption.** The collection of molecules on the surface of a sorbant granule by physical attraction.

**Aerodynamic diameter.** The diameter of a unit density sphere that settles at the same velocity as the particle in question.

**Air-line respirator.** A respirator that delivers compressed grade D (at a minimum) breathing air directly through a tubing system to the worker.

**Air monitoring.** The sampling for and measuring of pollutants in the atmosphere.

**Air-purifying respirator.** A respirator that uses filters or sorbents to remove harmful substances from the air.

**Air-supplied respirator.** A respirator that provides a supply of breathable air from a clean source outside of the contaminated work area.

**Allergic contact dermatitis.** An inflammation of the skin caused by an immunologic reaction triggered by dermal contact with a skin allergen.

**Alpha-particle (alpha-ray, alpha-radiation).** Small, positively charged particle made up of two neutrons and two protons and of very high velocity, thrown off by many radioactive materials, including uranium and radium.

**Anatomical barriers.** Barriers to pathogens including the skin, gastrointestinal tract, respiratory tract, and eyes.

**Anemometer.** A device to measure air speed.

**Anthropometry.** The science that defines physical measures of a person's size, form, and functional capacities.

**Anticipation.** Foreseeing potential hazards associated with an industry or workplace based upon prior knowledge or experiences.

**Asbestosis.** Disease of the lungs caused by inhalation of fine airborne asbestos fibers.

**Assigned Protection Factor (APF).** The level of respiratory protection expected from a respirator that is properly functioning, has been properly fitted, and is worn by a worker trained in its use.

**Atomic mass.** The sum of the number of protons and neutrons found in the nucleus of an atom. This sum is also called *mass number*.

**Atomic number.** The number of protons found in the nucleus of an atom.

**Audiogram.** Record of hearing loss or hearing level measured at several different frequencies—usually 500 to 6,000 Hz.

GLOSSARY

**Audits.** Evaluations that are conducted to evaluate a specific aspect of a program over a specific timeframe.

**Autoignition temperature.** The lowest temperature at which a flammable gas-air or vapor-air mixture ignites from its own heat source or a contacted heated surface without necessity of spark or flame.

**Avogadro's number.** The number of molecules in a mole of any substance; it equals  $6.022173 \times 10^{23}$ . At 0°C and 29.92 in. Hg, 1 mole of any gas occupies 22.414 liters of volume.

**Becquerel (Bq).** A measure of the rate of radioactive disintegration. One disintegration per second; there are 37 billion Bqs per curie.

**Benign neoplasms.** Abnormal cells which are unable to form metastatic growths.

**Beta-emitter.** Radioisotopes that eject electrons (negative beta-particles) from the nucleus.

**Beta-particle.** An electron or positron that is ejected from the nucleus during a nuclear transformation.

**Biohazard.** An abbreviation of biological hazard, which are organisms or products of organisms that present a risk to humans.

**Biological half-life.** The amount of time it takes for the body to eliminate one half of a chemical or material from the body through normal metabolic processes.

**Biological Safety Cabinets (BSCs).** Specially designed hoods used to protect workers, the environment, and the products that are being manipulated from hazardous materials and viable contaminants.

**Biomarkers of effects.** Observable, quantifiable data on responses of an organism to a test chemical; toxicologists use these to establish the mechanism and mode of action.

**Biomechanics.** The study of the human body as a system operating under two sets of laws: the laws of Newtonian mechanics and the biological laws of life.

**Biosafety Levels (BSLs).** Levels determined by the Centers for Disease Control and Prevention that describe the safety controls for and the techniques, facilities, and equipment to be used when handling various types of hazardous infectious agents.

**Blood-to-gas partition coefficient.** The ratio of the gas dissolved in the blood relative to the gas in the air at equilibrium.

**Bloodborne pathogens.** Infectious microorganisms in the blood that can cause diseases in humans.

**Breathing zone.** An imaginary globe with a 2-foot radius surrounding the head.

**Bronchioles.** Tube-shaped passageways that split off of the trachea to further divide the air passages of the lungs.

**Brownian motion.** The random movement of aerosol particles from regions of high concentration to low concentration due to the thermal motion of surrounding gas molecules.

**Calibration.** Setting and verifying the accuracy of a measuring system or device by comparing it with another primary standard.

**Capture velocity.** Air velocity necessary to overcome opposing air currents and to capture contaminated air by causing it to flow into the exhaust hood.

**Carpal tunnel syndrome.** A condition in which the median nerve, which runs through the carpal tunnel from the forearm into the palm of the hand, is pressed or squeezed at the wrist; the nerve can become inflamed within the small passageway of ligaments and bones and lead to tingling, loss of sensation, and pain in the hand and fingers.

GLOSSARY

**Catalyst.** A substance that influences the rate of chemical reaction between other substances.

**Cataract.** Opacity in the lens of the eye that may obscure vision.

**Ceiling limit (C).** An airborne concentration of a toxic substance in the work environment that should never be exceeded. Also, concentrations or levels that can induce immediate adverse health effects.

**Chemical hazards.** Chemicals that can cause toxic effects upon exposure, that pose a risk through their interaction with the environment, or have particularly hazardous properties such as flammability.

**Chronic health effects.** Negative health outcomes that do not become evident until a significant time after exposure to a hazardous agent.

**Chronic toxic effects.** Negative effects that take a long time to become evident after an exposure.

**Cilia.** Hair-like filaments that line the mucous membrane to help clean incoming air.

**Cleaning.** The removal of superficial substances from the outer surfaces of equipment and materials.

**Cochlea.** The auditory part of the internal ear, shaped like a snail shell. It contains the basilar membrane on which the end organs of the auditory nerve are distributed.

**Code of Federal Regulations (CFR).** The rules promulgated under U.S. law, published in the *Federal Register*, and enforced at the end of a calendar year are categorized and printed in the CFR.

**Conductive hearing loss.** Loss of hearing not caused by noise exposure but by any disorder in the middle or external ear that prevents sound from reaching the inner ear.

**Contact dermatitis.** Skin irritation caused by contact with a substance—gaseous, liquid, or solid. May be caused by primary irritation or an allergy.

**Continuous sampling.** Pulling a sample of air through a collection device over an extended period.

**Control.** Use of elimination, substitution, engineering systems or devices, administrative programs and procedures, and personal protective equipment to reduce worker exposure to hazardous materials or conditions.

**Convection heat exchange (C).** The heat exchanged between the air moving over a person's skin.

**Cyclone separation.** Using centrifugal force and gravity to separate larger from smaller particles in an airstream.

**Decontamination.** A general term that refers to procedures from the simple washing of surfaces up to the thorough disinfection and sterilization of surfaces, tools, and equipment.

**Density.** The ratio of mass to volume.

**Dermis.** The second layer of the skin—just beneath the epidermis—containing strong connective tissues, hair follicles, and sweat glands.

**Diffusion.** When an aerosol is deposited on a surface via random displacement caused by motion associated with thermal microscopic behavior.

**Direct-reading instrumentation.** Instruments that give an immediate indication of the concentration of aerosols, gases, or vapors or magnitude of physical hazard by some means such as a dial or meter.

**Disinfection.** Reducing the amount of pathogenic microorganisms on surfaces; it does not eliminate all microbiological agents, such as bacterial spores.

GLOSSARY

**Dose-response assessment.** Evaluation of the changes in incidence and severity of effects with increasing exposure (or dose). The assessment identifies a quantitative dose for sensitive adverse effects that serves as a starting point for derivation of the OEL. The OEL is intended to provide a quantitative estimate of the maximum air concentration that is believed to be safe for an occupational population that may be exposed daily for a working lifetime.

**Dusts.** Solid particles generated by physical impact such as crushing or grinding. Dusts do not diffuse in air but settle and disperse through other external forces such as air movement and by gravity.

**Dynamometer.** A device used to measure the force or power in the muscular effort needed to perform an activity.

**Effective half-life.** The combined effect of biological and radioactive half-lives on the duration that a radioactive material exists inside the body.

**Electrostatic precipitator.** Dust-collection systems collect effluent particles by means of their electrical charge.

**Elimination.** How the body removes agents from the body.

**Endothermic process.** A process in which heat is absorbed.

**Epidemic.** The widespread occurrence of a disease in a particular geographical area that affects an unusually large number of population members and is beyond what is normally expected or encountered.

**Epidemiology.** Broadly defined as the study of the transmission and spread of disease.

**Epidermis.** The thin, waterproof layer of collagen fibers that makes up the outer layer of the skin. This layer also contains melanin, which gives skin its color.

**Epilation.** Temporary or permanent loss of body hair.

**Ergonomics.** The study of the relationship among the human body, the human mind, and the physical environment.

**Evaluation.** Measurement and documentation of hazardous conditions and comparison with standards and guidelines for exposure limits.

**Evaporative health loss.** The rate of heat lost from the body due to evaporative cooling of sweat off the persons skin

**Exothermic process.** A process in which heat is given up.

**Exposure assessment.** The evaluation of the magnitude, duration, and frequency of exposures to a population of interest.

**Extension.** Stretching a body part toward the frontal plane.

**Fabric filters.** Simple devices to clean air; these have mesh filters that trap particles or aerosols when they interact with the structure of the filter. Commonly used in baghouse designs.

**Fibers.** Solid materials with a length-to-width ratio greater than 3:1.

**Fibrosis.** Scarring of the lungs due to fibers being lodged in place.

**Flame ionization detector (FID).** A direct-reading monitoring device that ionizes gases and vapors with a hydrogen flame and measures the differing electrical currents generated.

**Flash point.** The lowest temperature at which a liquid gives off enough vapor to form an ignitable mixture with air and produces a flame when a source of ignition is present.

**Flexion.** When a body part is bent forward or backward perpendicular to the frontal plane.

**Fog.** Condensation of vapors in air to create larger particles comprised of liquids.

GLOSSARY

**Frontal plane.** A vertical plane dividing the body into front and back halves. Also known as the coronal plane.

**Frostbite.** The freezing of the fluids around the cells of body tissues; this can occur because of inadequate circulation and insulation.

**Frostnip.** A condition that occurs when the extremities are exposed to a cold wind resulting in the skin turning white.

**Full-shift time-weighted average.** The time-weighted average over the work shift, typically an 8–10 hour period.

**Fumes.** Solid aerosol particles, about 1  $\mu\text{m}$  in size, produced from the condensation of a vaporized solid material, generally metal, during processes such as welding and smelting.

**Gamma rays.** Electromagnetic waves emitted from the nucleus during a nuclear transformation.

**Gaseous diffusion.** The movement of gases and vapors to spread out and move from locations of higher concentrations to areas of lower concentrations.

**General ventilation.** A principle that uses a clean air supply, such as from the outdoors, to mix with indoor contaminated air to dilute the contaminants.

**Genotoxic.** Agents that can induce breaks in the DNA, can cause chromosomes to distribute unequally during cell division, can inhibit or alter the repair mechanisms that correct mistakes and repair damage of the DNA, or can in other ways cause damage to the DNA.

**Goniometers.** Devices used to measure joint angles and ranges of motion of the body

**Grab samples.** Samples taken at a relative moment in time.

**Half-value layer (HVL).** The thickness of a material that can reduce the intensity of

the radiation beam to one-half of its original value.

**Hand-arm vibration syndrome.** The loss of sensory perception, numbness in fingers, and muscle weakness due to excessive exposure to vibrating tools or equipment such as power drills, chainsaws, and power presses.

**Hazard characterization.** Systematic process for weighing the totality of the data to identify health effects caused by exposure to the chemical that are relevant to humans for the scenario being evaluated.

**Hazard quotient (HQ).** The ratio of measured or estimated exposure to the OEL derived for a similar exposure scenario.

**Heat.** The measure of energy.

**Heat capacity.** The amount of heat necessary to raise one unit mass of a substance 1°C.

**Heat cramps.** A heat-related illness characterized by spastic contractions of the voluntary muscles (mainly the hands, arms, feet, and legs). It is generally associated with insufficient salt intake and profuse sweating with no significant body dehydration.

**Heat exhaustion.** A heat-related illness characterized by muscular weakness; distress; nausea; vomiting; dizziness; pale, clammy skin; and fainting. It is generally associated with an inadequate water intake, lack of heat acclimatization, and poor physical fitness.

**Heat of fusion.** The quantity of heat necessary to melt one unit mass of a solid without changing its temperature

**Heat of vaporization.** The quantity of heat required to vaporize one unit mass of a liquid without changing its temperature

**Heat rash.** The inflammatory response when sweat glands are plugged with retention of sweat.

GLOSSARY

**Heatstroke.** A serious illness characterized by an excessive rise in body temperature and a failure of the body's temperature-regulating mechanism. Symptoms of this acute medical emergency include a sudden and sustained loss of consciousness preceded by vertigo, nausea, headache, cerebral dysfunction, bizarre behavior, and possible death.

**High-level disinfection.** Eliminates vegetative microorganisms and viruses. It can reduce, but not entirely eliminate, bacterial spores. Because high-level disinfection can be effective within 10 to 30 minutes, it is especially suited for use on medical devices and instruments.

**Histopathology.** The study of the body's tissue and fluids.

**Hood.** The part of a ventilation system designed to capture the contaminated air of interest.

**Horizontal standards.** Rules that can apply to nearly any workplace or industry across the board.

**Humidity.** The amount of water vapor in the air.

**Hydrophilic.** Highly soluble in water.

**Hypodermis.** The third and deepest layer of the skin comprised of fat and connective tissue.

**Hypothermia.** A condition that occurs when the core temperature drops below the normal range.

**IAQ.** Indoor air quality.

**IDLH.** Immediately dangerous to life or health.

**Impaction.** When inertial forces cause a particle to collide with another solid surface.

**Impinger.** A device containing an absorbing liquid used in air sampling for the collection of gaseous or particulate constituents of an airstream directed by

the device through the liquid. The impinger draws air at high velocity through a glass nozzle or jet.

**Infectiveness.** A measure of an agent's ability to colonize and cause an infection.

**Infrared.** Wavelengths of the electromagnetic spectrum longer than those of visible light and shorter than radio waves, 10<sup>-4</sup>–10<sup>-1</sup> cm wavelength.

**Inhalable.** Particles less than 100 μm.

**Interception.** When an aerosol comes close to a surface and is deposited because of its size.

**Intermediate-level disinfection.** Kills vegetative microorganisms and fungi and can inactivate most viruses. This level of disinfection is typically used in laboratories and some health care areas.

**Irritant contact dermatitis.** A nonimmunologic reaction that results from direct damage following exposure to a hazardous agent and manifests as inflammation of the skin.

**Key event.** An empirically observable step that is a necessary element of the mode of action or is a biologically based marker for such an element.

**Laser.** Light amplification by stimulated emission of radiation.

**Lateral epicondylitis.** An inflammation of the tendons that connect to the forearm muscles around the lateral elbow, sometimes called tennis elbow.

**Limit of detection (LOD).** The point when the measurement of an agent first becomes possible.

**Limit of quantitation (LOQ).** The concentration at which quantitative results can be reported with a high degree of confidence.

**Linear energy transfer (LET).** The amount of energy deposited per unit path length for a given radiation traveling through matter.

**Lipophilic.** Highly soluble in oils or fats.

GLOSSARY

**Local emphasis programs.** Enforcement strategies designed and implemented at the 10 OSHA regional offices and/or area office levels. They are intended to address hazards or industries that pose a particular risk to workers in that area's jurisdiction.

**Local exhaust ventilation.** A system designed specifically to draw off the contaminated air as close to the source as possible and remove it from the area.

**Low-level disinfection.** Reduces or eliminates most vegetative bacteria and fungi. It can also inactivate some viruses.

**Lower back strain.** When the muscles and ligaments that hold the bones and spinal column in place are stretched too far causing tiny tears in the tissue.

**Lowest observable adverse effect level (LOAEL).** The highest dose that does not cause an adverse effect.

**Mechanism of action.** A detailed description of the process involved in an agent's toxic response from initial exposure to the development of adverse effects.

**Medial plane.** A vertical plane dividing the body into left and right halves. Also known as the sagittal plane.

**Medical screening.** A subset of medical surveillance that involves early diagnosis and treatment of individuals with symptoms or illnesses associated with hazardous agent exposures.

**Medical surveillance.** A preventive practice used to detect and eliminate exposures to hazardous agents.

**Metabolic heat gain (M).** The basal heat, which is generated as cells perform their functions; and work heat, which is generated as a byproduct of muscular activity.

**Metabolism.** The process by which the body changes the form of a molecule.

**Metal fume fever.** A complex allergic condition caused by exposure to metal fumes.

**Metastasis.** The movement of neoplastic cells to locations that are secondary to the primary site of origin.

**Mists.** Liquid particles generated by physical impact on a liquid such as mixing or falling onto a hard surface.

**Mode of action.** A series of key events that lead to a toxic response that can be measured or in some way observed.

**Musculoskeletal hazards.** Conditions that put excessive stress or strain on the worker due to the task rate, repetitiveness, duration, force, or the need to maintain awkward postures.

**Nasal septum.** Cartilage in the nose that divides the nasal cavity into two passageways.

**Nasopharyngeal region.** Comprised of the nose and pharynx.

**Necrosis.** Cell death.

**Neoplasia.** The process of inheritable changes in cell growth that have lost normal control processes.

**No observable adverse effect level (NOAEL).** The highest dose that does not cause an adverse effect.

**Noise.** Unwanted sound.

**Normal temperature and pressure (NTP).** Used for gas and vapor calculations is 25°C and 760 mmHg. At NTP, 1 mole of any gas will occupy 24.45 L.

**Occupational Safety and Health Review**

**Commission.** An independent federal agency created under the Occupational Safety and Health Act that provides fair and timely adjudication of workplace safety and health disputes between the Department of Labor and employers.

### GLOSSARY

**Organ of Corti.** Transmits electrical signals through the auditory nerves to the brain.

**Organogenesis.** The period of development from implantation through gestation.

**Pandemics.** Epidemics that spread to geographical areas where the disease is not typically expected to occur.

**Parasite.** An organism that derives its nourishment from a living plant or animal host; does not necessarily cause disease.

**Pathways of exposure.** The means by which materials move through the environment including air, water, surfaces of materials, or living beings.

**Percutaneous.** Passage through a puncture or hole in the skin.

**Performance standards.** Laws that state the acceptable levels of exposure.

**Personal monitoring.** Measurement of an employee's exposure to airborne contaminants through collection of air samples near the employee's breathing zone and subsequent analysis of the collected sample.

**Personal protective equipment (PPE).** Devices worn by workers to protect against hazards in the environment. Respirators, gloves, and hearing protectors are examples.

**Pharynx.** The throat; a tubelike structure that connects the mouth and the nasal cavity.

**Photoionization detector (PID).** A direct-reading monitoring instrument that operates by detecting and distinguishing between ions of vapors and gases following ionization by the instrument's ultraviolet light source.

**Photon.** Bundle (quantum) of radiation such as x-rays, gamma-rays, and light.

**Physical hazards.** Conditions or materials that can cause injury or damage when they interact with workers including such

agents as excessive noise, vibration, radiation, extreme temperatures.

**Pinna.** The part of the ear that projects from the head. Also known as the auricle.

**Pitot tube.** A device consisting of two concentric tubes, one serving to measure the total pressure and the other to measure the static pressure, thus allowing the calculation of velocity pressure in a duct.

**Pneumoconiosis.** The accumulation of dust in the lungs leading to tissue damage.

**Pneumoconiosis.** The generic name for the group of lung disorders associated with inhaling inorganic dust.

**Point of departure.** The dose at which adverse health effects are first observed.

**Portal of entry.** The site of a chemical's entry into the body.

**Positron.** A particle that has the same mass as an electron but is positively charged.

**Positrons (positive beta-particles).** The antimatter versions of electrons; they have a charge of +1 and a mass equal to an electron's mass.

**Presbycusis.** Hearing loss caused by age.

**Probability.** A branch of mathematics that is used to measure and describe the likeliness that an event will occur. It studies the relative likelihoods or frequency of an event and looks at the distributions of occurrence within a given population.

**Program reviews.** Comprehensive analyses of the regulations and written documents within the organization.

**Psychrometric chart.** A diagram designed to indicate the relationship between ambient air temperature ( $t_a$ ), wet-bulb temperature ( $t_w$ ), relative humidity, water vapor pressure, and dew point.

### GLOSSARY

**Pulmonary region.** The lower part of the lung where the alvoli are located and gas molecules in the air enter and leave the blood stream.

**Qualitative fit-testing.** A method of assessing the effectiveness of a particular size and brand of respirator based on an individual's subjective response to a test atmosphere.

**Quantitative fit-testing.** A method of assessing the effectiveness of a particular size and brand of respirator on an individual. Instrumentation is used to measure both the test atmosphere (a gas, vapor or aerosol, such as DOP) and the concentration of the test contaminant inside the facepiece of the respirator.

**Radiant heat exchange (R).** The heat exchange between a person and the surrounding solid objects.

**Radioactive.** The property of an isotope or element that is characterized by spontaneous decay to emit radiation.

**Radioactive half-life.** The time required for one-half of the radioactive material to decay away.

**Radioisotope.** A radioactive isotope of an element.

**Radionuclide.** An unstable element that has the capability of spontaneously emitting radiation.

**Radiosensitive.** Tissues that are more easily damaged by radiation.

**Raynaud's phenomenon.** The blanching of the distal portion of the digits due to excessive vibration and cold. Numbness, itching, tingling, or a burning sensation may occur during intermittent attacks.

**Recognition.** Observation and understanding of hazardous conditions in the workplace or through research.

**Recommended exposure limit (REL).** An exposure limit, generally a time-weighted

average, to a substance; developed by NIOSH based on toxicological and industrial hygiene data.

**Relative biological effectiveness.** The relative effectiveness of the same absorbed dose of two ionizing radiations in producing a measurable biological response.

**Relative humidity.** The amount of moisture in the air compared to the total amount that the air could contain at saturation at the same temperature.

**Respirable.** Particles less than 4 mm

**Respirator.** A device to protect the wearer from inhalation of harmful contaminants.

**Respirator fit-testing.** Qualitative or quantitative measures of the efficiency of a respiratory protection device

**Respiratory system.** The nose, mouth, nasal passages, nasal pharynx, pharynx, larynx, trachea, bronchi, bronchioles, air sacs (alveoli) of the lungs, and muscles of respiration.

**Risk.** The product of the probability of a harmful event occurring and the severity of the outcome.

**Risk characterization.** The integration of the OEL derived from the dose-response assessment and the exposure assessment to support conclusions about the level of risk.

**Rotameter.** A secondary calibration standard used in measuring air flow.

**Route of entry.** A path by which chemicals or infectious agents can enter the body. There are four main routes of entry: inhalation, ingestion, dermal and percutaneous.

**Routes of exposure.** The ways infectious organisms enter the body, including inhalation into the respiratory tract, dermal absorption, or injection through the skin.

GLOSSARY

**Safety Data Sheet (SDS).** A document that communicates information about the hazards of a particular substance.

**Sampling and analytical error (SAE).** The total error for a sample collected including laboratory and pump errors.

**Sampling train.** The series of pumps and tubing used to draw an air sample into a filter or collection device.

**Scrubbers.** Air filtration systems that use water or other liquids to clean exhaust airflows of contaminants.

**Sedimentation.** The depositing of a particle under the effect of gravity.

**Severity.** A measure of how harmful or hazardous an event or occupational exposure can be.

**Short-term exposure limit (STEL).** The time-weighted average over a short duration, typically 15 minutes, that can generate significant health effects

**Six Sigma.** A quality improvement system that uses a variety of management techniques and statistical analyses to evaluate and guide organizational performance.

**Smoke.** An air suspension (aerosol) of particles originating from combustion or sublimation.

**Smokes.** Complex mixtures of solid and liquid aerosols, together with gases and vapors, that range in size from 0.01  $\mu\text{m}$  to 1  $\mu\text{m}$  and result from incomplete combustion of carbon-containing materials.

**Sound.** An oscillation in pressure, stress, particle displacement, particle velocity, and so on, propagated in an elastic material, in a medium with internal forces (elastic or viscous, for example); or, the superposition of such propagated oscillations.

**Special emphasis programs.** Areas that warrant more OSHA oversight, investigation, training, and enforcement

identified by industry trends and accident statistics.

**Specific gravity (SG).** The mass of a substance as compared with the mass of an equal volume of water.

**Specific heat.** The quantity of heat that is necessary to raise 1 g of material from 16.5°C to 17.5°C

**Specification standards.** Clear rules stating the engineering or design criteria that must be met to protect workers from a particular hazard.

**Standard temperature and pressure (STP).** 70°F, 29.92 in. of mercury (Hg), and dry air.

**Static pressure.** The pressure in a duct that consists of the forces exerted in all directions within the duct.

**Steatosis.** Early stages of liver damage including the accumulation of lipids in hepatocytes.

**Sterilization.** the complete elimination of all viable microorganisms, bacterial spores, and viruses.

**Supination.** Rotation of the forearm about its own longitudinal axis. Supination turns the palm upward when the forearm is horizontal, and forward when the body is in anatomical position.

**Surveillance.** The quality assurance function that tends to take place on a more frequent, sometimes scheduled, basis in order to ensure ongoing compliance with specific operating parameters.

**Temperature.** The measure of the intensity of heat.

**Temperature, wet-bulb.** Thermodynamic wet-bulb temperature is the temperature at which liquid or solid water, by evaporating into air, can bring the air to saturation adiabatically at the same temperature.

GLOSSARY

**Temporary threshold shift (TTS).** The hearing loss suffered as the result of noise exposure, all or part of which is recovered during an arbitrary period of time when one is removed from the noise.

**Tendinitis.** The swelling of a tendon; one of the most common injuries associated with overuse.

**Teratogen.** An agent or substance that may cause physical defects in the developing embryo or fetus when a pregnant female is exposed to that substance.

**Thermal balance.** The body's ability to maintain a fairly constant core temperature of  $37 \pm 1^\circ\text{C}$ .

**Thoracic.** Particles less than 10 mm.

**Thoracic outlet syndrome.** Occurs when the nerves and blood vessels that pass through the space between the upper ribs and the clavicle are compressed and leads to pain, numbness, weakness, and swelling in the arms and hands.

**Threshold Limit Values<sup>®</sup> (TLV<sup>®</sup>).** the time-weighted average concentration under which most people can work consistently for eight hours a day, day after day, with no harmful effects.

**Time-weighted average.** The average exposure over a given period of time.

**Total pressure (TP).** The pressure in a duct that is the algebraic sum of the static pressure (SP) and the velocity pressure (VP).

**Total quality management (TQM).** A business system that began in Japan in the 1950s that uses a strategic set of organizational and process management approaches to provide the highest possible levels of service and product quality.

**Toxic effects.** Negative or detrimental effects on the body.

**Toxicokinetics.** The study of how chemicals are absorbed, distributed, metabolized, and eliminated from the body.

**Trachea.** A tube lined with cartilage rings in connective and muscle tissue to prevent its collapse. Also known as the windpipe. It extends between the larynx above and the point where it divides into two bronchi below.

**Tracheobronchial region.** Comprised of the trachea and bronchioles in the lung.

**Transvers plane.** A horizontal plane dividing the body into upper and lower halves.

**Trench foot.** A condition that occurs when a foot is exposed to persistent dampness and cold (but without freezing). Symptoms are swelling (edema), tingling, itching, severe pain, blistering, death of skin tissue, and ulceration.

**Trigger finger.** Occurs when the hand or fingers are extended and the flexor tendon becomes irritated and momentarily stuck at the mouth of the tendon sheath tunnel.

**Tuberculosis.** A contagious disease caused by infection with the bacterium *Mycobacterium tuberculosis*.

**Turbinates.** Curved projections of tissue found near the middle of the nasal cavity and both sides of the septum. Turbinates help condition the air (warming) as it passes into the lungs.

**Uncertainty factor (UF).** Factors that reflect levels of accuracy associated with estimated health effects levels

**Urticaria.** A transient skin condition that often appears as a wheal (swelling) and raised patches and is accompanied by intense itching.

**Vapor density.** A measure of how heavy a vapor is compared to air.

**Vapor pressure.** The amount of pressure that a liquid will exert on the inside of a closed container above the surface of the liquid.

GLOSSARY

At equal temperatures, chemicals with higher vapor pressures tend to evaporate more quickly than those with lower vapor pressures.

**Velocity pressure.** The pressure in a duct exerted in the direction of air flow.

**Vertical flow clean benches.** Engineering controls often found in hospital pharmacies, provide a clean area for preparing intravenous solutions. Because these are not biological safety cabinets, they meet only the minimum standards for product protection and offer no worker protection from infectious or toxic agents.

**Vertical standards.** Rules that typically apply to only one industry where a particular hazard exists.

**Viability.** The ability of an infectious agent to survive in the source, in the environment, or while in its vector of transmission.

**Virulence.** A measure of how aggressive the infectious agent is and indicates the speed with which victims become ill and how rapidly they succumb to the disease.

**Viruses.** A group of pathogens consisting mostly of nucleic acids and lacking cellular structure.

**Watt (W).** A unit of power equal to one joule per second.

**Wet-bulb globe temperature (WBGT).** A simple and suitable technique to measure the combined effects of environmental factors related to heat stress

**Wet-bulb thermometer.** A thermometer having the bulb covered with a cloth saturated with water.

**Windchill index (WI).** Indicates the cooling effect of any combination of temperature and wind velocity (air movement).

**Xenobiotics.** Molecules that are foreign to the body.