

Glossary

A

acaricide a pesticide that kills mites and ticks

acinar pertaining to the smallest division of a gland; a group of secretory cells surrounding a cavity

acute the clinical term is used for a disease having a short and relatively severe course; in rodent testing, usually pertains to administration of an agent in a single dose

acute lymphocytic leukemia (also called acute lymphoblastic leukemia, acute lymphoid leukemia, acute lymphatic leukemia) a group of neoplasms composed of immature precursor B or T lymphocytes (lymphoblasts)

acute myeloid leukemia (also called acute myelogenous leukemia or acute nonlymphocytic leukemia) a group of neoplasms composed of immature precursor cells of the bone marrow which are not of the lymphocyte lineage, i.e., erythrocyte, granulocyte, monocyte, and platelet lineages

adduct a complex that forms when a chemical binds to a biological molecule such as DNA or a protein

adenocarcinoma a malignant neoplasm of epithelial cells with a gland-like appearance

adenoma a benign neoplasm of epithelial tissue in which the neoplastic cells form glands or gland-like structures in the stroma

adenomatous pertaining to adenoma or to nodular hyperplasia of a gland

adenomatous polyp benign neoplastic tissue originating in glandular epithelium

adipose tissue fatty tissue

adjuvant therapy therapy involving both a primary therapy and an additional treatment that enhances the action of the primary therapy

adrenal gland a hormone-secreting organ located above each kidney

aerodynamic diameter a physical property of a particle or fiber in a viscous fluid such as air that takes into account the geometric dimensions of the substance and its density

aerosol a dispersed suspension of fine particles in gas

albino an organism exhibiting deficient pigmentation in skin, eyes, and hair

alkaline basic (as opposed to acidic); a material whose index of acidity (pH) is above 7

alkyd any of several synthetic resins made by heating together a polybasic acid, such as phthalic or maleic acid, and a polyhydric alcohol, such as glycerin or a glycol; these resins are used in paints, varnishes, and lacquers

alkylating agent a substance that causes the incorporation of single-bonded carbon atoms into another molecule

allele any one of a series of two or more different genes that occupy the same position (locus) on a chromosome

alveolar/bronchiolar pertaining to the alveoli or bronchi of the lungs

alveoli usually referring to small, sac-like pouches in the portion of the lungs where gas exchange with the blood occurs; also, sac-like structures in certain glands or in the jaws where the teeth arise

alveolitis inflammation of the alveoli or an alveolus

ambient air outdoor air to which the general public is exposed

ameloblastoma a malignant jaw tumor which stems from the ameloblasts, cells which form tooth enamel

amenorrhea the absence or abnormal cessation of menstruation

amine an organic compound that may be derived from ammonia (NH₃) by the replacement of one or more hydrogen atoms (H) by hydrocarbon groups or other chemical moieties; replacing one, two, or three hydrogen atoms gives primary, secondary, or tertiary amines, respectively, and if a fourth group is added to a tertiary amine (R₃N), the compound formed is called a quaternary amine (R₄N⁺) and the nitrogen carries a positive charge

amyloidosis the accumulation of amyloid, an abnormal complex material composed of protein and carbohydrate, in body tissues

anabolic steroid a synthetic derivative of testosterone, a male sex hormone; used principally to promote growth and repair of body tissues in senility, debilitating illness, and convalescence

analgesic a pain-relieving agent that does not cause loss of consciousness

analogue 1. one of two organs or parts in different species of animals or plants that differ in structure or development but are similar in function 2. a compound that resembles another in structure; may be an isomer, but not necessarily

analytical grade the highest available purity of a chemical

anaplastic a term used to describe cancer cells that divide rapidly and have little or no resemblance to normal cells

androgen a steroid hormone that is responsible for masculine characteristics

anemia lower than normal limits of circulating red blood cells

anesthetic a substance used to prevent the sensation of pain

aneuploidy abnormal number of chromosomes

angiosarcoma a type of malignant neoplasm of a blood vessel

anion an ion that carries a negative charge, e.g., chloride (Cl⁻), sulfate (SO₄²⁻), and acetate (CH₃CO₂⁻); anions form salts with cations other than H⁺, while the corresponding acids are formed when combined with H⁺ ions

anthropogenic caused by humans

antibiotic a chemical substance, produced by or derived from an organism, which is capable of killing or inhibiting the growth of other organisms

anticonvulsant a substance that lessens the severity of convulsions

antiepileptic a substance that lessens the severity of epileptic seizures

anthelmintic (also called anthelmintic) a drug used to treat parasitic infestations caused by helminths (parasitic worms)

anti-inflammatory counteracting or suppressing inflammation, which is characterized by heat, redness, edema, and pain in the involved part of the body

antimicrobial a substance that kills microorganisms or arrests their multiplication or growth or otherwise prevents their pathogenic action; microbes include bacteria, fungi, and protozoa

antineoplastic inhibiting the survival and proliferation of malignant and benign neoplastic tumors

antioxidant a substance that inhibits chemical oxidation of another material

antiseptic a substance that inhibits the growth of microorganisms on living tissue

aplastic anemia a severe form of anemia that is characterized by decreased maturation of stem cells

apoptosis a mechanism of cellular suicide that requires energy to occur; also called programmed cell death

aquaculture the production of food by growing plants or animals in water

aqueous relating to, similar to, containing, or dissolved in water

aquifer geologic formation containing sufficient saturated porous and permeable material to transmit water

aromatic hydrocarbon an organic chemical compound formed primarily from carbon and hydrogen atoms with a structure based on benzene rings; substituents on the rings(s) may contain atoms other than carbon or hydrogen

arsenical a compound containing arsenic

arterial relating to one or more arteries or to the entire system of arteries

arteritis inflammation of an artery

ascaricide an agent destructive of round- or thread-worms which occur as intestinal parasites

aspect ratio the ratio of a fiber's length to its diameter

assay procedure whereby a property or concentration of an analyte is measured; a scientific test

astrocytoma a tumor composed of astrocytes (glial cells with fibrous protoplasmic processes); the most common type of primary brain tumor and also found throughout the central nervous system

auditory sebaceous gland a gland that secretes an oily substance and that is located in the inner layer of the ear's skin

autoignition temperature the minimum temperature required to cause self-sustained combustion without any other source of heat

autoimmune disease (also called autoimmune disorder) a condition in which one's own body or its components are subject to deleterious effects of its immune system

autoimmune hemolytic anemia anemia that occurs in some autoimmune diseases

azide a compound that contains the monovalent $-N_3$ group

azo- a prefix denoting the presence in a molecule of the group $-N=N-$ (see also diazo-)

B

bactericide an agent (e.g., heat, light, or osmotic pressure) or a chemical that kills bacteria or inhibits their growth

bacteriophage a virus with specific affinity for bacteria

bacteriostat an agent that inhibits the growth or multiplication of bacteria

bacteriostatic inhibiting the growth or multiplication of bacteria

basal-cell carcinoma an epithelial tumor of the skin that seldom metastasizes but has the potential for local invasion and destruction; it usually occurs as one or several small pearly nodules with central depressions on the sun-exposed skin of older adults

batt precut panels of insulation available in a variety of widths, lengths, and thermal resistance ratings (i.e., R-values)

benign tumor an abnormal mass of tissue that does not spread beyond normal tissue boundaries

betel quid an addictive mix of betel leaf, areca nut, and slaked lime that is chewed in some Pacific and Asian cultures; its use is associated with aggressive oral cancers affecting especially the inner lining of the cheeks and lips, but also affecting the tongue, lower lip, tonsil and floor of the mouth

bile a fluid produced in the liver and stored in the gallbladder that emulsifies fats and other hydrophobic compounds aiding in their absorption or excretion through the intestine

bile duct a tube through which bile passes from the liver or gallbladder to the small intestine, composed of the following three segments: common hepatic duct, cystic duct, and common bile duct

bilirubin a pigment produced by the breakdown of heme from red blood cells

bioaccumulation the process by which a material in an organism's environment progressively accululates within the organism

bioassay the determination of the potency or concentration of a compound by its effect upon animals, isolated tissues, or microorganisms, as compared with a chemical or physical assay

bioavailability the extent to which an organism will absorb a chemical into its blood

bioconcentrate accumulation of a chemical in tissues of a fish or other organism to levels greater than in the surrounding medium

biodegradation the decomposition of a material by microorganisms; the conversion within an organism of molecules from one form to another, a change often associated with change in pharmacologic activity

biodurability the rate of removal of a substance, such as a fiber, from the lungs by dissolution or disintegration

biopersistence the ability of a substance, such as a fiber, to remain in the lung; biopersistence is a function of the material's solubility and the biological ability of the lung to clear the fiber

biotransformation the conversion within an organism of molecules from one form to another; a change often associated with change in pharmacologic activity

blackfoot disease a disease seen in Taiwan that is caused by exposure to arsenic via drinking water; severe damage to the blood vessels of the lower limbs leads to gangrene

boiling point the temperature of a liquid at which the vapor pressure of the liquid equals environmental pressure surrounding the liquid

bowel the intestine, or the part of the digestive tract extending from the stomach to the anus

breakdown product a chemical derived from a parent compound that has been altered, usually by heat, light, or enzymes

bronchiogenic carcinoma a carcinoma originating in the bronchi of the lung

bronchiole a small division of a bronchus (lung airway)

bronchioloalveolar derived from epithelium of terminal bronchioles

bronchoalveolar (also called bronchovesicular) relating to the bronchial tubes and alveoli in the lungs

bronchoalveolar lavage a technique used to obtain a sample of the cells, fluids, and other materials present in the very small airways and alveoli of the lung by instilling saline into the airway via a bronchoscope

bronchogenic originating in one of the larger air passages in the lung

buccal cavity the vestibule in the mouth between the teeth and the cheeks

buffer a mixture of an acid and its conjugate base that, when present in a solution, reduces any changes in pH that would otherwise occur in the solution when acid or alkali is added to it

C

calendar a process of smoothing or glazing paper or cloth by pressing it between plates or passing it through rollers

cancer a general term used to indicate any of various types of malignant neoplasms

carbonization the process of converting an organic compound to carbon or to a carbonic residue

carcinogen any cancer-producing substance

carcinogenesis the process by which normal tissue becomes cancerous

carcinogenicity the power, ability, or tendency to produce cancerous tissue from normal tissue

carcinoma a malignant neoplasm of epithelium

cardiovascular of, relating to, or involving the heart and blood vessels

carina a projection of the lowest tracheal cartilage at the bifurcation of the airway into the right and left primary bronchi

case-control study an investigation in which select cases with a specific diagnosis are compared to individuals from the same or related population(s) without the diagnosis

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catalyze to increase the rate of a chemical reaction using material that usually remains unchanged at the end of the reaction

cation an ion carrying a positive electrical charge

causalgia a complex regional pain syndrome characterized by burning pain and marked sensitivity to touch in the distribution of an injured peripheral nerve

C-cell a cell type of the thyroid gland, with numerous small secretory granules and a light colored cytoplasm; they also are the source of calcitonin and are also called clear cells

cecum sac-like part of the large intestine between the small intestine and the colon

ceiling limit maximum allowable human exposure concentration of an airborne substance that should not be exceeded, even for an instant

central nervous system the part of the nervous system consisting of the brain and spinal cord

centromere the point of attachment of the two chromatids of a chromosome

cerebral ependymoma a neoplasm that forms from the cells lining the spinal cord's central canal or the ventricles of the brain

cervix a neck-like structure or constriction; most often used to refer to the neck of the uterus

cetane number a measure of ignition quality of diesel fuel; the higher the cetane number the easier the fuel ignites when injected into an engine (the cetane number is the diesel equivalent to octane)

chelating agent a substance used to reduce the concentration of free metal ion in solution by complexing it; often used to remove toxic metals from the body

chelation a complex formation involving a metal ion and two or more polar groupings of a single molecule; chelation can be used to remove an ion from participation in biological reactions, as in the chelation of Ca^{2+} in blood by EDTA

chemical intermediate a chemical formed or used during the process of producing another chemical

chemosterilant 1. a chemical compound that causes an organism to become sterile after exposure to it 2. a chemical that kills microorganisms

chemotherapy the treatment of disease with chemical agents

chirality the property of nonidentity of an object with its mirror image; used in chemistry with respect to stereochemical isomers

cholangiocarcinoma a malignant bile-duct neoplasm

cholangiocellular of or pertaining to the gallbladder or bile duct

cholesteatoma a cyst lined by stratified squamous epithelium, which is filled with desquamating debris and cholesterol; also called pearl tumor

choroidal melanoma a neoplasm in the choroid (a layer of vascular tissue enveloping most of the eye that arises from melanocytes)

chromatid each of the two strands formed by the duplication of a chromosome during mitosis or meiosis

chromatin the genetic material of the nucleus, consisting of DNA and nuclear proteins found in chromosomes

chromophobe adenoma an adenoma of the chromophobe cells of the anterior pituitary gland that is hormonally inactive

chromosomal aberrations any abnormality of a chromosome's number or structure

chronic continuing for a long period of time; in rodent testing, pertains to dosing schedules longer than 3 months

chronic lymphocytic leukemia a slowly progressing lymphoid leukemia arising usually from B cells, but occasionally from T cells or NK cells

chronic myelogenous leukemia a group of slowly progressing neoplasms composed of immature precursor cells of the bone marrow which are not of the lymphocyte lineage, i.e., erythrocyte, granulocyte, monocyte, and platelet lineages

circulatory system the cardiovascular and lymphatic systems make up the circulatory system involved in circulating blood and lymph throughout the body; the cardiovascular system consists of blood, blood vessels, and the heart, while the lymphatic system consists of lymph, lymphatic vessels, and lymph nodes

cirrhosis replacement of normal liver tissue with bands of fibrous tissue surrounding nodules of regenerating liver tissue; characterized by inflammation, pain, and jaundice or icterus (i.e., yellow discoloration of the skin)

Clara cells unciliated cells found in the epithelium of the respiratory and terminal bronchioles which secrete some components of pulmonary surfactant

clastogen an agent capable of causing breakage of chromosomes

clear-cell adenocarcinoma a rare tumor, usually of the female genital tract, which looks clear when viewed under a microscope

clitoral gland (also called preputial gland of the clitoris) sebaceous glands of the female prepuce (folds of skin covering the clitoris equivalent to the foreskin of the penis); the male equivalent is called preputial gland or Tyson's gland

co-carcinogen an agent that is not carcinogenic itself, but enhances the activity of another agent that is carcinogenic

codon a sequence of three nucleotides in a strand of DNA or RNA that provides genetic code information for a specific amino acid

cohort studies a study of a group of people matched against a second group similar to it except for one factor (usually the suspected cause of a disease)

colitis inflammation of the colon

colon the part of the large intestine extending from the cecum to the rectum

colorectal relating to the colon and rectum, or to the entire large intestine

commercial grade less than the purest available form of a chemical; the purity normally produced for and adequate for commercial uses

confounding a relationship between the effects of two or more causal factors observed in a set of data such that it is not logically possible to separate the contribution of any single causal factor to the observed effects

congener one of two or more things that are similar or closely related in structure, function, or origin

congenital existing from birth

conjugated bound together; in organic chemistry, conjugated refers to a molecular structure or substructure containing alternating double and single bonds between pairs of adjacent atoms

conjunctiva the membrane that lines the eyelid and covers part of the eyeball

connective tissue a tissue that connects, supports, or surrounds other tissues or organs

contaminant an impurity; in the environment, a chemical that is not ordinarily present and that may have deleterious effects

copolymers a polymer of two or more different monomers

cortical having to do with the cortex, the outer portion of an organ

corticosteroids adrenal cortex hormones

covalent binding a bond in which each atom of a bound pair contributes one electron to form a pair of electrons

creatinine a waste product of muscle metabolism that is found in blood and urine; blood and urinary levels can be used to measure creatinine clearance to determine kidney function

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cross-linking the extension of chemical bonds in more than one direction (not just linearly); serves to strengthen polymers

cystadenocarcinoma a malignant glandular neoplasm that forms cysts

cystadenoma a benign glandular neoplasm that forms cysts

cytochrome a class of hemoproteins whose principal biological function is electron and/or hydrogen transport

cytogenetic the cellular constituents concerned in heredity

cytotoxic an agent that is toxic to cells

D

D- (or **L-**) used separately, prefixes of **D-** for dextrorotary (rotated to the right) or **L-** for levorotary (rotated to the left) before the same chemical name refer to designations for optically active isomers that are chemically identical but that rotate plane polarized light in opposite directions, the isomers are mirror images of each other; when used together, **DL-** designates a racemic mixture of the two isomers whose optical activities cancel each other

dam female parent

defoliant a chemical spray or dust that causes leaves to drop off plants prematurely

dehydrogenation the removal of one or more hydrogen ions or protons from a molecule

deliquescent tending to melt or dissolve; especially tending to undergo gradual dissolution and liquefaction by the attraction and absorption of moisture from the air

density amount of mass per unit volume; the density for solids and liquids is typically expressed in grams per cubic centimeter (g/cm^3) and is generally assumed to refer to temperatures near room temperature unless otherwise stated, while the values for gases generally are the calculated ideal gas densities in grams per liter at 25°C and 101.325 kPa

dermatitis an inflammation of the skin

dermatomyositis an inflammation of the skin, subcutaneous tissue, and muscles, involving death of muscle fibers

dermis the sensitive inner layer of the skin

diabetes a disease in which the body's ability to use sugar is impaired and which usually involves the abnormal appearance of sugar in the urine

diamine an organic compound containing two amine groups, e.g., ethylenediamine, $\text{H}_2\text{NCH}_2\text{CH}_2\text{NH}_2$

diazo- a prefix denoting a compound containing the $-\text{N}'\text{N}'-$ or $-\text{N}\equiv\text{N}^+$ group (see also azo-)

differentiated cells cells which have lost or have a limited capacity to transform into other cell types which have functions different from the cell it originated from (pluripotency); this is the opposite of stem cells which have the ability to transform into other cell types, though there are multiple cell types between the two extremes which have different capacities of pluripotency

diffusion coefficient the rate at which a substance moves from an area of high concentration to an area of low concentration

dimer a compound or unit produced by the combination of two like molecules

dissociation constant ($\text{p}K_a$) the equilibrium constant for the breaking apart of a weak acid into its hydrogen and conjugate base in a water solution

dissolution the act or process of dissolving

distant tumor a tumor located far from the point at which abnormal growth originated

distillation the separation or purification of the components of a material by gradually increased heating and removal of the components that vaporize at different boiling points

DL- designates a racemic mixture of two isomers whose optical activities cancel each other

dorsal relating to the back or posterior of an organ or organism

dose-response relationship a relationship between several doses or concentrations of a chemical, biological, or physical agent to which an organism is exposed and the degree of the monitored effect

duodenum the first division of the small intestine, which is about 25 cm in length

dysfunctional uterine bleeding abnormal bleeding of the uterus

dysplasia abnormal tissue growth or development

E

eczema an inflammation of the outer layer of skin, characterized by redness, itching, crusting, and scaling

edema an accumulation of an excessive amount of watery fluid in cells, tissues, or serous cavities

effluent wastewater discharged from a treatment plant, sewer, or industrial outfall into the environment, usually to surface waters

electrolyte a substance, such as sodium chloride (NaCl), that dissociates into ions when fused (melted) or in solution, thereby becoming capable of conducting an electric current

electrophile the electron-attracting atom or agent in an organic reaction

electrophilic relating to an electrophile

emulsifier an agent that causes the dispersion of one insoluble fluid into another fluid

enantiomer one of a pair of compounds having a mirror image relationship (stereoisomers)

endogenous originating within an organism

endogenously derived or produced internally

endometrium the mucous membrane lining of the uterus

end use the final intended purpose for a chemical or an item

Entamoeba histolytica a microorganism that causes disease, particularly of the digestive tract

environmental fate the distribution and transformation of a chemical from its first release until its ultimate removal from or recycling through the environment

enzyme a protein produced in organisms capable of accelerating a particular biochemical reaction; a biological catalyst

eosinophil a granular leukocyte with a nucleus that usually has two lobes connected by a slender thread of chromatin and is readily stained by eosin

epidemiology science concerned with the occurrence and distribution of disease in populations

epidermis the outer layer of skin

epidermoid tumor (also called epidermoid carcinoma) another name for squamous cell carcinoma

epididymis a coiled segment of the spermatic ducts that serves to store and transport spermatozoa between the testis and the vas deferens

epigenetics changes in phenotype (appearance) or gene expression caused by mechanisms other than changes in the underlying DNA sequence

epilepsy a neurological disease usually characterized by seizures involving convulsions and loss of consciousness

epithelial relating to or consisting of epithelium

epithelium tissue that lines the surface and cavities and is a part of glandular structures in the body

erythema redness of the skin produced by congestion of the capillaries

Report on Carcinogens, Twelfth Edition (2011)

erythrocytes cells that carry oxygen to all parts of the body (red blood cells)

esophagus the passage through which food travels from the throat to the stomach

esthesioneuroepithelioma a tumor consisting of undifferentiated cells of sensory nerve epithelium

esthesioneuroma (also called olfactory neuroma) a nasal cavity tumor of nervous tissue from olfactory epithelium

estrogen any of a group of female sex hormones

estrogen-sensitive tissues those tissues affected by the presence of estrogens

estrus the recurrent, restricted period of sexual receptivity in female mammals, other than humans, marked by intense sexual urge

eukaryote an organism whose cells contain a limiting membrane around the nuclear material and which undergoes mitosis

eukaryotic pertaining to a eukaryote

Ewing's sarcoma a malignant tumor of the bone, accompanied by pain and fever

exogenous developed or originating outside the body

extrahepatic outside of or unrelated to the liver

exposure-response relationship a relationship between several doses or concentrations of a chemical, biological, or physical agent to which an organism is exposed and the degree of the monitored effect

F

Fanconi anemia (also called Fanconi's anemia) a congenital disorder affecting all bone marrow elements, resulting in anemia, leucopenia, and thrombopenia, and is associated with cardiac, renal, and limb malformations as well as dermal pigmentary changes; spontaneous chromosome breakage is a feature of this disease along with predisposition to leukemia

feedstock the raw material supplied to a processing plant that eventually create an end product

Fenton reaction the iron(II)-salt-dependent decomposition of hydrogen peroxide generating a highly reactive hydroxyl radical

ferruginous body a mineral particle to which pulmonary macrophages have added an iron protein coat; ferruginous bodies are used as an indicator of exposure to specific dusts or fibers

fiber a particle with a length to width ratio of at least 3:1

fibroadenoma a benign neoplasm formed of glandular and connective tissue

fibroblasts the most common connective tissue cell type

fibroma a benign neoplasm derived from fibrous connective tissue

fibrosarcoma a type of soft tissue sarcoma that begins in fibrous tissue that holds bones, muscles, and other organs in place

flammable that which will burn readily or continuously

flash point the lowest temperature at which enough vapor of a combustible liquid forms to ignite momentarily in air

flocculation precipitation from solution in the form of fleecy masses; the process of becoming flocculent

flux the rate of mass flow across a unit area

follicular cell a modified epithelial cell that secretes fluid

forestomach a non-glandular expansion of the alimentary canal between the esophagus and the glandular stomach; rodents have a forestomach and a glandular stomach, whereas, humans have only a glandular stomach

formalin a solution of formaldehyde in water typically containing 37% formaldehyde by mass and 10% to 15% methanol as a stabilizer

fumigant a pesticide in vapor or gaseous form used to kill pests or disinfect materials

fungicide a pesticide used to control, prevent, or kill fungi

fungus a lower plant that feeds on other organic matter and lacks the chlorophyll and tissue differentiation of higher plants

G

gallbladder a reservoir for bile located near the liver

gastrointestinal tract the part of the digestive system composed of the stomach and intestine

gavage in animal experiments, the introduction of material through a tube passed through the mouth into the stomach; also called gastric, stomach, or oral intubation

gene a unit of hereditary information; the portion of a DNA molecule that contains, coded in its nucleotide sequence, the information required to determine the amino acid sequence of a single polypeptide chain

genitourinary pertaining to the genital and urinary organs

genotoxicity the amount of damage caused to a DNA molecule

genotype genetic constitution of an individual

germ cells cells which give rise to the male and female gametes (the sperm and ova)

gestation pregnancy; in mammals, the period during which the young develops between the egg's fertilization and birth

Giardia lamblia a microorganism causing gastrointestinal infection in humans and other mammalian hosts

gland an aggregation of cells, specialized to secrete or excrete certain biologically important materials

glandular stomach the muscular sac between the esophagus and the small intestine containing glandular tissue; the glands of the stomach secrete mucous, hydrochloric acid, and digestive enzymes

glass fiber general term that may be used to refer to reinforcing glass filament, glass wool, or superfine glass fiber

glass wool a fibrous product formed by blowing or spinning molten glass; the resultant fibers are collected as a tangled mat of fibrous product

glioma any neoplasm derived from one of the various types of cells that form the interstitial tissue of the brain, spinal cord, and retina; e.g., astroblastoma, astrocytoma, glioblastoma multiforme, ganglioglioma, spongioblastoma polare, medulloblastoma, ependymoma, oligodendroglioma, etc.

glomeruli a small intertwined group of capillaries within nephrons of the kidney that filter the blood to make urine

glomerulonephritis a disease characterized by inflammation of the glomeruli

grand mal epilepsy an extreme form of epilepsy, with seizures involving loss of consciousness and generalized convulsions

granulocyte a mature granular leukocyte; classified as either neutrophils, basophils, or eosinophils

granulosa cell a cell lining the vesicular ovarian follicle that becomes a luteal cell after ovulation

gray cast iron a cast iron alloy with a graphitic microstructure

H

half-life the time required for a substance to be reduced to one-half its present value through degradation or through elimination from an organism

hamartoma a focal malformation that resembles a neoplasm, grossly and even microscopically, but results from faulty development in an organ; it is composed of an abnormal mixture of tissue elements, or an abnormal proportion of a single element, normally present in that site, which develop and grow at virtually the same rate as normal components, and are not likely to result in compression of adjacent tissue (in contrast to neoplastic tissue)

Report on Carcinogens, Twelfth Edition (2011)

Harderian glands in some animals, accessory tear glands excreting a fluid that facilitates movement of the third eyelid, an extra fold of skin in the eye

hard palate the bony front portion of the partition separating the mouth from the nasal cavity

healthy-worker effect phenomenon of workers usually exhibiting overall death rates lower than those of the general population due to the fact that the severely ill and disabled are ordinarily excluded from employment

hemangioendothelioma (also called hemangiosarcoma) a malignant tumor characterized by rapidly proliferating cells derived from the blood vessels and lining irregular blood-filled spaces

hemangioendotheliosarcoma a hemangiosarcoma formed by proliferation of endothelial tissue

hemangioma a benign tumor made up of newly-formed blood vessels

hemangiosarcoma (also called hemangioendothelioma) a malignant tumor characterized by rapidly proliferating cells derived from the blood vessels and lining irregular blood-filled spaces

hematinic acting to improve the quality of blood, as by increasing hemoglobin concentration or stimulating red blood cell formation

hematocrit the volume percentage of the erythrocytes in the whole blood

hematopoietic pertaining to the formation of blood or blood cells

heme the prosthetic, oxygen-carrying, color-furnishing constituent of hemoglobin

hemoglobin the red, respiratory protein of erythrocytes; transports oxygen from the lungs to the tissues

hemolymphoreticular pertaining to the network of cells and tissues of the blood and lymph nodes found throughout the body

Henry's law the relationship that defines the partition of a soluble or partially soluble species between the gas and solution phases

Henry's law constant the ratio of the aqueous-phase concentration of a chemical to its equilibrium partial pressure in the gas phase; the larger the Henry's law constant the less soluble it is (greater tendency for vapor phase)

hepatectomy removal of the liver

hepatic pertaining to the liver

hepatitis an inflammation of the liver

hepatoblastoma a malignant neoplasm occurring in young children, primarily in the liver, composed of tissue resembling embryonal or fetal hepatic epithelium, or mixed epithelial and mesenchymal tissues

hepatocellular pertaining to cells of the liver

hepatocellular carcinoma malignant liver-cell neoplasm

hepatocyte a parenchymal liver cell

hepatotoxic a substance that is toxic to the liver

herbicide an agent that is destructive to plants

histology the branch of anatomy that deals with microscopic structure, composition, and function of tissues

histones the chief protein components of chromatin; they act as spools around which DNA is wound and play a role in gene regulation

Hodgkin's disease (also called Hodgkin's lymphoma) a form of malignant lymphoma characterized by painless progressive enlargement of the lymph nodes, spleen, and general lymphoid tissue

hormone any of various chemical substances that are produced by the endocrine glands and that have specific regulatory effects on the activity of certain organs

hydrolysis a chemical reaction in which the interaction of a compound with water results in the decomposition of that compound

hydrolyze to subject to hydrolysis

hydroxyl the atom group or radical OH

hydroxylation the placing of a hydroxyl group on a compound in a position where one did not exist before

hydroxyl radicals very reactive free radicals that can damage cellular macromolecules; formed when superoxide radicals react with hydrogen peroxide

hyperplasia the abnormal multiplication or increase in the number of normal cells in normal arrangement in a tissue

hyperthyroidism excessive activity of the thyroid gland and the resultant pathological condition characterized by increased metabolism, enlargement of the thyroid gland, rapid heart rate, and high blood pressure

hypertrophy increase in volume of a tissue or organ produced entirely by enlargement of existing cells

hypnotic sleep-inducing; a drug that induces sleep

hypogonadism (also called hypogonadism) a condition resulting from or characterized by abnormally decreased functional activity of the gonads, with retardation of growth and sexual development

I

ileum the third portion of the small intestine, about 12 feet long, extending from the junction with the jejunum to the ileocecal opening

immunosuppression artificial prevention or diminution of the natural immune response (e.g., by irradiation or by administration of substances such as pharmaceutical antimetabolites or specific antibodies to prevent sensitization); immunosuppression or immunodeficiency may also be used to describe the condition of acquired or congenitally lowered immune response

implantation the insertion of a mass of material into an organism at a fixed site from which the mass does not move except by dissolving in the body fluids

incidence rate at which new cases occur

inhalation the drawing of air or other substances into the lungs

initiator a chemical that permanently alters a cell or group of cells and, in the case of carcinogens, can cause tumors if the cells divide

injection site the site, usually in the skin, at which an agent is injected into an organism; this site may exhibit effects resulting from exposure to the agent combined with tissue injury from the injection syringe

inorganic pertaining to materials or chemicals that do not contain carbon (for instance, glass or table salt)

in situ Latin phrase meaning confined to the site of origin; a cancer that has not metastasized or invaded neighboring tissues

insoluble incapable of being dissolved in a particular solvent

insulinoma a tumor of the beta islet cells of the pancreas, which is usually benign and secretes insulin and may cause low blood glucose levels, hypoglycemia

International Organization for Standardization (ISO) a non-governmental organization made up of representatives from national standards bodies that serves as an international standard-setting body

interstitial relating to or situated in the small, narrow spaces between tissues or parts of an organ

intra-abdominal within the abdomen (the portion of the body between the thorax (chest cavity) and the pelvis)

intra-bronchial situated or occurring within a bronchus (a division of the respiratory tract below the trachea (windpipe) that leads into the lung)

intra-gastric within the stomach

intramedullary within the spinal cord, the medulla oblongata of the brain, or the bone marrow

intramuscular injection an injection into muscle tissue

intra-peritoneal injection injection within the peritoneal cavity, i.e., the area that contains the abdominal organs

intrapleural within the pleura, a membrane that secretes fluid, envelops the lungs, and lines the walls of the cavity containing them

intrapleural injection injection within the pleura, a membrane that secretes fluid, envelops the lungs, and lines the walls of the cavity containing them

intrathoracic implantation implantation within the thoracic cavity, i.e., the area that contains the heart and lungs

intratracheal within the trachea (windpipe)

intratracheal instillation instillation within the trachea

intravenous injection an injection into a vein

intravesicular within membranes or fluid-filled pouches (such as the urinary bladder or the alveoli)

in utero Latin phrase meaning within the uterus

invasive spreading beyond specific body tissues

Inventory Update Rule (IUR) the Toxic Substances Control Act (TSCA) Section 8(a) authorizes the U.S. EPA to collect certain information on chemical substances manufactured or processed in the United States, and the IUR is a periodic collection of information on the chemical substances currently in commerce; through the IUR, the Agency obtains a periodic collection of information on more than 83,000 chemical substances listed on the TSCA Inventory

in vitro Latin phrase meaning biological process taking place in a test tube, culture dish, or elsewhere outside a living organism

in vivo Latin phrase meaning biological processes taking place in a living organism

iron-deficiency anemia anemia that is characterized by low or non-existent iron stores and low concentrations of iron in the blood and that has such symptoms as pallor, mouth sores, digestive difficulties, and thin, brittle nails

islet-cell cell of the islets of Langerhans (the endocrine portion of the pancreas that is composed of alpha cells which secrete glucagons, beta cells which secrete insulin, and delta cells which secrete somatostatin)

isomer one of two or more variations of a chemical, each of which has the same chemical formula but a different structural arrangement

isozyme any of the chemically distinct forms of an enzyme that perform the same biochemical function

J

jaundice a yellowish staining of the integument (skin), sclerae (whites of the eyes), and deeper tissues caused by an excess of bilirubin in the blood

jejunum the portion of small intestine, about 8 feet in length, between the duodenum and ileum

K

Kaposi's sarcoma a multifocal malignant or benign neoplasm of primitive vasoformative (relating to the formation of blood or lymphatic vessels) tissue, occurring in the skin and sometimes in lymph nodes or viscera; development of this neoplasm is associated with HIV infection and especially co-infection with Kaposi's sarcoma herpesvirus (human herpesvirus type 8)

K_{dis} the dissolution rate (K) of a fiber *in vitro*; it is typically determined by elemental analysis of the flow-through solution to measure the mass of material leached from the fibers over a given time, and expressed in units of ng/cm² per hour

keratinizing squamous-cell types squamous cells with keratin in the cytoplasm

keratoacanthoma a rapidly growing skin tumor having a central keratin mass and usually occurring on exposed areas, invading the dermis but remaining localized and usually healing spontaneously

K_{ow} (octanol-water partition coefficient) a measure of the equilibrium concentration of a compound between octanol and water

L

L- (or D-) used separately, prefixes of L- for levorotary (rotated to the left) or D- for dextrorotary (rotated to the right) before the same chemical name refer to designations for optically active isomers that are chemically identical but that rotate plane polarized light in opposite directions, the isomers are mirror images of each other; when used together, DL- designates a racemic mixture of the two isomers whose optical activities cancel each other

labile refers to the ability of a particular complex ion to participate rapidly in reactions that result in replacing one or more ligands in its coordination sphere (the opposite of labile is inert); "inert" and "labile" are not to be confused with "stable" and "unstable" which refer to the thermodynamic tendency of chemical species to exist under equilibrium conditions

lactation the secretion of milk

laminating separating or arranging in layers

large intestine the lower portion of the intestine; a membranous tube extending from the small intestine to the anus; includes the cecum, colon, and rectum

laryngeal cancer cancer of the larynx

larynx also called the voice box, it is located below the pharynx in the neck

latency the time between the instant of stimulation (exposure to a substance) and the beginning of a response (disease)

leachate the liquid produced in a landfill from the decomposition of waste within the landfill

leiomyoma a benign tumor of smooth muscle, the type of muscle that is found in the heart and uterus; a leiomyoma of the uterus is commonly called a fibroid

leiomyosarcoma a malignant tumor of smooth muscle cells that can arise almost anywhere in the body, but is most common in the uterus, abdomen, or pelvis

leukemia a cancer of the blood-forming tissues that is characterized by a marked increase in the number of abnormal white blood cells (leukocytes) in the bone marrow and peripheral blood

leukocyte white blood cell; includes lymphocytes, granulocytes, monocytes

levorotatory of or relating to an optically active chemical that rotates the plane of polarized light to the left, or counterclockwise

Leydig cell a cell in the testes that secretes the hormone testosterone

ligand any molecule or ion that binds to the surface of a protein by noncovalent bonds

lipid any of various fats or waxes, which, along with proteins, carbohydrates, and nucleic acids, form the principal constituents of living cells

lipophilic having a strong affinity for fats

lipophilicity the affinity of a molecule or a moiety for a lipophilic environment

log octanol-water partition coefficient (log K_{ow}) the ratio of concentrations of a substance in octanol and in water when dissolved in a mixture of octanol and water (for convenience, the logarithm of K_{ow} is used); the octanol-water partition coefficient of a substance is useful as a means to predict soil adsorption, biological uptake, lipophilic storage, and bioconcentration

lupus erythematosus an autoimmune disease of two forms: (1) discoid lupus erythematosus, in which chronic inflammation is limited to the skin and is characterized by scales that leave scars, and (2) systemic lupus erythematosus, which affects many other organs such as the joints, kidneys, nervous system, and mucus membranes

lymph a clear liquid that is collected from the tissues throughout the body and that flows in lymphatic vessels

lymphatic pertaining to the lymph, lymph nodes, or vascular vessels that transport lymph to the lymph nodes

lymphocyte a mononuclear leukocyte that is primarily a product of lymphoid tissue and participates in humoral and cell-mediated immunity

lymphocytic leukemia a neoplasm composed of premature lymphocytes growing in the bone marrow, usually of B-cell lineage

lymphohematopoietic of, relating to, or involved in the production of lymphocytes and cells of blood, bone marrow, spleen, lymph nodes, and thymus

lymphoid resembling lymph or lymphatic tissue

lymphoma a neoplasm of the lymphatic tissue

lymphopoietic relating to the formation of lymph

lymphoreticular pertaining to reticuloendothelial cells (monocytes and resident tissue macrophages)

lymphosarcoma any of various malignant neoplastic disorders of lymphoid tissue, excluding Hodgkin's disease

M

macrophage a large cell that is present in blood, lymph, and connective tissues, removing worn out cells and cell products, harmful microorganisms, and foreign material from the bloodstream

malignant tending to become progressively worse; life-threatening

mammary pertaining to the breast or mammary glands

mastodynia a pain in the breast

mastomys a small rodent (multimammate mouse of the genus *Mastomys*) used in certain laboratory experiments

medulla the inner core of certain organs or body structures, such as the marrow of bone

megakaryocyte a large cell of the bone marrow that gives rise to platelets, the blood cells which function in blood clotting

meiosis process of cell division that results in the formation of gametes, consisting of two nuclear divisions in rapid succession that result in the formation of four gametocytes each containing half the number of chromosomes found in somatic cells

melanocyte cells of the skin that produce the pigment melanin

melanoma a neoplasm derived from cells that are capable of forming the pigment melanin

melanotic schwannoma a neoplasm of a Schwann cell (a cell that wraps around the axon of peripheral nerves forming a myelin sheath) that contains granules of melanin, melanosomes, and is usually benign

melting point 1. the melting point of the substance at atmospheric pressure (101.3 kPa); 2. when there is a significant difference between the melting point and the freezing point, a range is given; 3. in the case of hydrated substances (i.e., those with crystal water), the apparent melting point is given; 4. if the substance decomposes at or below its melting point, this is noted (dec)

meningioma a slow-growing tumor of the meninges, often creating pressure and damaging the brain and adjacent tissues; occurs most often in adults

menopause the cessation of menstruation

mesenchymal referring to cells of the embryonic mesoderm that give rise to connective tissue, blood cells, blood vessels, lymphatic cells, and reticuloendothelial cells

mesenchymoma a mixed mesenchymal tumor composed of several cellular elements, excluding fibrous tissue

mesentery in the lining of the abdominal cavity, a fold that attaches the small intestine to the posterior abdominal wall by which the viscera are supported

mesothelioma tumors of the lining of the chest or abdomen

meta- in chemistry, a prefix denoting that a compound is formed by two substitutions in the benzene ring separated by one carbon atom, i.e., linked to the first and third, second and fourth, etc., carbon atoms of the ring; usually abbreviated *m-*

meta-analysis pooled statistical analysis of several similar studies

metabolism the whole range of biochemical processes that occur within living organisms, consisting both of anabolism and catabolism (the buildup and breakdown of substances, respectively)

metabolite a substance produced by metabolism

metaplasia a change in morphology of one differentiated cell type to a differentiated cell type that does not normally occur in that tissue

metastasis the appearance of a neoplasm in a part of the body remote from the site of its origin

methemoglobin a compound formed from hemoglobin by oxidation of the iron atom from the ferrous (Fe²⁺) to the ferric (Fe³⁺) state with essentially ionic bonds, rendering it incapable of functioning reversibly as an oxygen carrier; methemoglobin is present in small amounts in blood normally, but injury or toxic agents can increase the conversion

microbe a microorganism; microbes include bacteria, fungi, and protozoa

microglioma an intracranial neoplasm of microglial cell origin that is structurally similar to reticulum cell sarcoma

micronucleus nucleus separate from, and additional to, the main nucleus of a cell, produced during the telophase of mitosis or meiosis by lagging chromosomes or chromosome fragments derived from spontaneous or experimentally induced chromosomal structural changes; the plural is micronuclei

microsome fragmented endoplasmic reticulum containing ribosomes formed from sheared eukaryotic cells; contain cytochrome P450

mineral wool may refer to either slag wool or rock wool depending on the raw material from which it is produced

miscible capable of being mixed without separation into distinct components

mitogen a substance that induces mitosis

mitosis process of cell reproduction consisting of a sequence of modifications of the nucleus that result in the formation of two daughter cells with exactly the same chromosome and DNA content as that of the original cell

molecular weight the molecular weight of a substance is the weight in atomic mass units of all the atoms in a given molecular formula

molluscicide pesticide used against mollusks, which usually is used in agriculture or gardening to control gastropod pests like slugs and snails that can damage crops by feeding on them

monocyte a mononuclear phagocytic leukocyte

monomer a chemical subunit that is joined to other similar subunits so as to produce a polymer

multiple myeloma cancer of leukocytes (plasma cells) in the bone marrow; bone-marrow cancer

mutagen any agent that causes the production of a mutation

mutagenicity the capability to induce mutation, or permanent change, in genetic material

myasthenia gravis a neurological disorder causing muscular weakness and fatigue, especially in the face, eyes, lips, tongue, throat, and neck

mycosis fungoides a rare, chronic, malignant T-cell lymphoma, first of the skin and in later stages of the lymph nodes and internal organs

myelocytic leukemia a leukemia arising from non-lymphocyte white blood cells in the bone marrow

myelodysplastic syndromes a group of clonal stem cell disorders associated with defects in cell differentiation, ineffective hematopoiesis, and associated cytopenias; may further develop into acute myelogenous leukemia

Report on Carcinogens, Twelfth Edition (2011)

myeloid pertaining to or derived from cells of myeloid lineage of the bone marrow, such as red blood cells, monocytes, granulocytes, and platelets; sometimes used with reference to the spinal cord

myeloid leukemia a heterogeneous group of neoplasms that originate from hematopoietic progenitor cells of the myeloid lineage (red blood cells, monocytes, granulocytes, and platelets)

myeloma a tumor composed of cells normally found in the bone marrow

N

nasal cavity air-filled space above and behind the nose

nasal turbinates (nasal conchae, nasoturbinates) scrolled spongy bones in the posterior part of the nasal cavity

nasopharynx the upper part of the pharynx, posterior to the nasal cavity and above the soft palate

National Priorities List (NPL) a list of hazardous waste sites eligible for long-term remedial action financed under the U.S. EPA Superfund program; EPA regulations outline a formal process for assessing hazardous waste sites and placing them on the NPL

necrosis the pathologic death of one or more cells, or of a portion of tissue or organ, resulting from irreversible damage and which does not require energy to proceed, as opposed to apoptosis which does require energy

neonatal relating to or affecting the first four weeks after birth

neoplasia abnormal proliferation of cells

neoplasm an abnormal group of cells; a tumor

neoplastic pertaining to new and abnormal cell growth

nephroblastoma see Wilms' tumor

nephrotic syndrome a kidney disorder characterized by swelling, excessive proteins in the urine, and extreme susceptibility to infections

neural pertaining to the nerves

neuroblastoma a malignant tumor of the nervous system occurring chiefly in infants and young children

neurogenic 1. originating in the nervous tissue 2. forming nervous tissue

neutrophil a granular leukocyte having a nucleus with three to five lobes connected by slender threads of chromatin

nodule a swelling or protuberance

non-Hodgkin's lymphoma a heterogeneous group of malignant lymphomas; the only common feature being an absence of the giant Reed-Sternberg cells characteristic of Hodgkin's disease

nucleic acid a polymer of nucleotides in which the phosphate of one of the repeating nucleotide subunits is linked to the sugar of the adjacent one; functions in the storage and transmission of genetic information and is found in chromosomes, nucleoli, mitochondria, and cytoplasm of all cells and in viruses

nucleotide the molecular subunit of nucleic acids; consists of a purine or pyrimidine base, a sugar, and phosphoric acid

nucleus a large spherical or oval, membrane-bound cell organelle present in most cells; contains most of the cell's DNA and some of its RNA

O

oat-cell carcinoma (also called small-cell carcinoma or small-cell bronchogenic carcinoma) a type of lung cancer

octanol-water partition coefficient (K_{ow}) a measure of the equilibrium concentration of a compound between octanol and water

odds ratio a way of comparing whether the probability of a certain event is the same for two groups; it is often used as a statistical measure of the likelihood of developing a disease given a certain factor, such as exposure to an agent

odontoma a benign tumor consisting of cementum, dentin, enamel, and pulp tissue that may form anomalous miniature teeth

offgassing the release of gaseous chemicals from a solid material

olfactory nerves the nerves associated with the sense of smell

oligodendrogloma a neoplasm derived from oligodendrocytes (glial cells of the central nervous system which wrap around individual nerve axons to form a myelin sheath)

oncogenes genes associated with cancer; malignant transformation of tissue appears to be associated with either the turning-on of these genes, or an increase in the rate at which they form their specific proteins

oncogenicity the capacity to induce tumors

optical rotation rotation of the plane of polarization of plane-polarized light, or of the major axis of the polarization ellipse of elliptically polarized light by transmission through a substance or medium

oral administration administration of a drug or test substance via the mouth

oral cavity the cavity of the mouth, bounded above by the hard and soft palates and below by the tongue and the mucous membrane connecting it with the inner part of the mandible

organic in chemistry, relates to the chemistry of the compounds of carbon

oropharynx soft palate, tonsils, and back of the tongue and throat

ortho- in chemistry, denoting that a compound has two substitutions on adjacent carbon atoms in a benzene ring; usually abbreviated *o-*

osteoporosis an abnormal loss of bone substance

ovary one of the two female reproductive organs in which eggs are formed

ovulation the discharge of an egg from an ovary

oxidant the substance that is reduced and that, therefore, oxidizes the other component of an oxidation-reduction system

oxidase one of a group of enzymes now termed oxidoreductases that bring about oxidation by the addition of oxygen to a metabolite or by the removal of hydrogen or of one or more electrons

oxidation chemical reaction that causes the loss of electrons, usually involving the addition of oxygen to a chemical; always occurs accompanied by reduction

oxidize to lose electrons, which usually causes a chemical to combine with oxygen

P

palate the partition separating the nasal and oral cavities

pancreas a large gland behind the stomach that secretes both hormones and enzymes involved in digestion and metabolism

papilloma a benign tumor derived from epithelium that can arise from skin, mucous membranes, or glandular ducts and projects from the surrounding surface

para- in chemistry, a prefix designating two substitutions in the benzene ring arranged symmetrically, i.e., linked to opposite carbon atoms in the ring; usually abbreviated *p-*

paraformaldehyde a polymer of formaldehyde

paranasal alongside the nose

paranasal sinuses air-filled cavities surrounding the nasal cavity; there are 4 pairs of paranasal sinuses: maxillary, frontal, ethmoid, and sphenoid

parathyroid gland any of four small glands situated beside the thyroid gland

parenchyma the distinguishing or specific cells of a gland or organ, contained in and supported by the connective tissue, framework, or stroma

Report on Carcinogens, Twelfth Edition (2011)

parenteral not through the alimentary (food) canal, but any subcutaneous, intramuscular, or intravenous injection, as well as through inhalation or contact with the skin

Parkinson's syndrome a neurological disease characterized by muscular rigidity, tremor, expressionless face, abnormal posture, and salivation

pars distalis the major portion of the anterior lobe of the pituitary gland

particulate fine liquid or solid particles such as dust, smoke, mist, fumes, or smog suspended in air or atmospheric emissions

pathologist an expert in pathology (the study of disease)

pathology the study of the nature of diseases, especially of the structural and functional changes in body tissues, organs, or fluids caused by disease, physical and biological agents, and toxic substances

pelvis the lower portion of the trunk of the body, bounded anteriorly and laterally by the two hipbones and posteriorly by the sacrum and coccyx; also, the funnel-shaped part of the kidney leading into the ureter

pemphigus diseases any of a group of chronic, relapsing autoimmune skin diseases that cause blisters and erosions of the skin and mucous membranes

perched aquifer an aquifer that has a confining layer below the groundwater and sits above the main water table

perinatal of, involving, or occurring during the period closely surrounding the time of birth

perirenal of, relating to, occurring in, or being the tissues surrounding the kidney

perithecium in fungi, a flask-shaped fruiting body, one of the many shapes that bear asci and ascospores, and that are used as an aid in identifying a fungus; the plural is perithecia

peritoneum the lining surrounding the abdominal cavity and containing the viscera (internal organs in the body's trunk)

permissible exposure limit (PEL) any of three OSHA-enforceable limits of airborne exposure to chemicals or particulates: 1. PEL-TWA (time-weighted average) — air concentration that must not be exceeded during any 8-hour work shift of a 40-hour work week; 2. PEL-STEL (short-term exposure limit) — air concentration that must not be exceeded during any 15-minute interval; and 3. PEL-C (ceiling) — air concentration that must never be exceeded, even for an instant

peroxide that oxide of any series that contains the greatest number of oxygen atoms; applied most correctly to compounds containing an -O-O- link, as in hydrogen peroxide (H-O-O-H)

peroxy- prefix denoting the presence of an extra O atom, as in peroxides, peroxy acids (e.g., hydrogen peroxide, peroxyformic acid)

pesticide as defined by the Federal Insecticide, Fungicide and Rodenticide Act, a pesticide includes any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant, and any nitrogen stabilizer

petroleum distillate a material produced by a combination of vaporization and condensation of petroleum

pH a numeric scale of acidity and alkalinity, ranging from 0 to 14, that expresses the negative logarithm of the hydrogen ion concentration

phagocyte cells that ingest microorganisms, other cells, and foreign particles

phagocytosis the process of ingestion and digestion by cells of solid substances, such as other cells, bacteria, bits of necrosed tissue, or foreign particles

pharmacokinetics movements of drugs within biological systems, as affected by absorption, distribution, elimination, and biotransformation

pharynx the passageway connecting the oral and nasal cavities to the larynx and esophagus

phenotype in genetics, a category or group to which an individual may be assigned on the basis of one or more characteristics observable clinically or by laboratory means that reflect genetic variation or gene-environment interaction; a phenotype may include more than one genotype

pheochromocytoma (also called pheochromoblastoma) a neoplasm, usually benign, derived from cells in the adrenal medullary tissue

phlebotomy incision of a vein for the removal or withdrawal of blood

photodecomposition chemical breaking down by means of light

photolysis the decomposition or separation of molecules by the action of light

photosensitizers substances that sensitize an organism, cell, or tissue to light

pituitary gland a small gland at the base of the brain that secretes several important hormones

placenta the organ in most mammals that connects the fetus with the mother's uterus

plant extract material recovered from a plant usually by subjecting the plant to treatment(s) with a solvent such as water, alcohol, or ether

plasma the fluid part of blood or lymph, as distinguished from suspended material (red and white blood cells); blood plasma contains platelets and clotting factors

platelet an irregularly shaped disk-like fragment of megakaryocytes found in blood that has a major role in clotting; it is about one-third to one-half the size of an erythrocyte, and contains no hemoglobin or nucleus

pleomorphic occurring in various distinct forms

pleura pertaining to the membrane surrounding the lungs and lining the chest cavity

polycyclic containing more than one benzene ring in a condensed form

polycythemia vera a disease characterized by an absolute increase in red cell mass and total blood volume

polymer a chemical formed by the joining together of similar chemical subunits

polymorphism a variation in the DNA that is too common to be due merely to new mutation

polyp a protruding growth from mucous membrane

polypoid resembling a polyp

positive control in an experiment, an agent known to have a positive effect and used as a standard for measuring a tested substance's effect and to verify that the experiment is functioning correctly

postpartum occurring after childbirth

prenatal existing or occurring before birth

primary cancer the original cancer developed in an organism

primate any of an order of mammals including man, apes, monkeys, and related forms

progenitor cell a precursor cell, one which differentiates into other cell types

prokaryote a primarily unicellular microorganism that lacks a cell nucleus or any other membrane-bound organelles such as mitochondria; its genome consists of a single large molecule of DNA not enclosed within a membrane, and it does not undergo mitosis during replication

promoter a chemical that, though not carcinogenic itself, serves to dramatically potentiate the effect of a carcinogen

promyelocytic the developmental stage of a granular leukocyte between the myeloblast and myelocyte

prostate a gland in males that surrounds the neck of the urinary bladder and the urethra and secretes a milky fluid that is discharged at the time of emission of semen

psoriasis a chronic, hereditary, recurrent skin disease characterized by bright red elevations covered with silvery scales

pulmonary of or relating to the lungs

pyrolysis decomposition of a substance by heat in the absence of air

pyrrole a heterocyclic aromatic organic compound consisting of a five-membered ring with four carbon and one nitrogen atoms

Q

quaternary in chemistry, the term describes a substance with four chemical groups attached to a central atom; when the central atom is a trivalent nitrogen atom (N), adding the fourth group places a positive charge on N and compounds thus formed are called quaternary ammonium compounds

R

R- designation of a particular enantiomer of a stereoisomeric chemical, similar to D- and L-, but instead of being determined by rotating planes of polarized light, it is determined by the chemical structure

racemic denoting a mixture that is optically inactive, being composed of an equal number of dextro- and levorotary substances (see DL-)

radioactive having the property of emitting radiation (such as alpha, beta, or neutron particles or gamma rays) from an atomic nucleus

radiotherapy the treatment of disease by means of radioactive emissions or materials

renal pertaining to the kidney

reportable quantity (RQ) under CERCLA and EPCRA, the quantity of a hazardous substance that triggers mandatory immediate reports to the National Response Center, State Emergency Response Commissions, and Local Emergency Planning Committees if equaled or exceeded in releases to the environment; certain exemptions are listed in 40 CFR 302.6

resin any of a class of solid or semisolid viscous substances obtained either as exudations from certain plants or prepared by polymerization of simple molecules

respirability the relative amount of airborne particles or fibers reaching the alveolar region of the lung

respirable fiber fibers that can reach the deepest part of the lung; respirable fibers usually are defined as particles with an aerodynamic diameter less than 3 μm and length greater than 5 μm and with an aspect ratio of greater than 3:1

respirable fraction that portion of dust or fibers that can reach the alveolar or gas exchange region of the respiratory system

respiratory tract the structures and organs involved in breathing; includes the upper respiratory tract (nose, pharynx, larynx) and lower respiratory tract (trachea and lungs [bronchi, bronchioles, alveoli])

reticulum cell a cell in the reticuloendothelial system (also called the mononuclear phagocytic system and lymphoreticular system) that has endothelial and reticular attributes; the cells are primarily macrophages and monocytes found in the spleen and lymph nodes, Kupffer cells in the liver, and histiocytes found in tissue

retrospective study an epidemiological study that collects information about past events that may be related to the present distribution of disease

rhabdomyosarcoma malignant tumor of striated muscle cells

rheumatoid arthritis a chronic disease of the joints, marked by inflammatory changes of joint structures

rhinitis inflammation of the mucous membrane of the nose

rodenticide any substance or mixture of substances used to kill rodents or to prevent them from damaging food, crops, etc.

S

S- designation of a particular enantiomer of a stereoisomeric chemical similar to D- and L-, but instead of being determined by rotating plane polarized light, it is determined by the chemical structure

salivary gland any of several exocrine glands in the mouth that secrete saliva, a fluid that keeps the mouth moist and aids in digestion

sarcoma a malignant neoplasm derived from connective tissue

schwannoma a peripheral glioma originating from schwann cells

scleroderma a chronic hardening and shrinking of connective tissue; affects such parts of the body as the skin, heart, esophagus, kidneys, and lungs

scrotum the pouch that contains the testes and their accessory organs

sebaceous referring to a gland in the skin which forms an oily secretion into the hair follicle near the surface of the skin

secondary cancer a cancer arising through metastasis of primary cancer

sedative an agent that relieves excitement or anxiety and induces sleep

sensitizer a substance that initiates the process of developing an allergic response to that substance on subsequent exposures

sinonasal pertaining to the nasal and sinus cavities

sintering forming a coherent bonded mass by heating metal powders without melting

sister chromatid exchange the exchange during mitosis of homologous genetic material between sister chromatids; increased as a result of inordinate chromosomal fragility due to genetic or environmental factors

small intestine the smaller diameter tube of the intestine, about 20 feet long, extending from the opening of the stomach to the large intestine

smelter an establishment used to separate or refine a metal from its ore, often with accompanying chemical change

solubility the ability of a substance to dissolve in another substance and form a solution

soluble capable of being dissolved; able to pass into solution in a particular solvent such as water, alcohol, or oil, and form a clear mixture

somatic affecting or characteristic of the body as opposed to the mind or spirit; somatic chromosomes include the non-sex chromosomes

SOS chromotest a bacterial test for detecting DNA-damaging agents consisting of a colorimetric assay based on the induction by these agents of the SOS function *sfIA*, whose level of expression is monitored by means of a *sfIA::lacZ* operon fusion; the name SOS for this repair process is based on its nature as a response to distress (analogous to the SOS signal in Morse code)

specific gravity the ratio of the density of a substance to the density of a standard substance; for liquids and solids the standard substance is usually water, for gases the standard substance is air

spindle cell a cell that is tapered at both ends

spleen a large, vascular, lymphatic organ in the upper abdominal cavity that stores blood cells, removes worn out red blood cells and other debris, and serves to initiate immune responses to antigens circulating in the blood

squamous cell thin, flat epithelial or endothelial cell; multiple layers of squamous cells are called stratified squamous cells

standardized incidence ratio (SIR) the ratio of observed to expected new incidences of a specific health outcome (e.g., cancer); the figure for expected incidence reflects the number of incidences for the larger population from which the study sample has been taken, e.g., national level incidences

Report on Carcinogens, Twelfth Edition (2011)

standardized mortality ratio (SMR) the ratio of observed to expected deaths to a specific health outcome (e.g., cancer); the figure for expected deaths reflects the number of deaths for the larger population from which the study sample has been taken, e.g., national level of mortality attributed to a particular health outcome

stereoisomer a molecule containing the same number and kind of atom groupings as another but in a different arrangement in space, by virtue of which it exhibits different properties

steroid hormone any of the various hormones secreted by the adrenal cortex, testes, ovaries, and placenta

stromal referring to the supporting tissue of an organ, as opposed to the parenchyma, the functional portion of an organ

subacute denoting the course of a disease of moderate duration or severity (i.e., between acute and chronic); in rodent testing, usually pertains to a dosing schedule of less than one month

subchronic in rodent testing, generally refers to a dosing schedule lasting from one to three months

subcutaneous beneath the skin

subcutaneous injection injection beneath the skin

synergism the aspect of two agents interacting to produce an effect greater than the sum of the agents' individual effects

T

target organ the organ affected by a specific chemical in a specific species

technical grade a purity standard applied to a chemical that may contain multiple impurities

teratogen a drug or other agent that causes abnormal development

teratology the study of malformation or serious deviations from the normal development of organisms

testes the male gonads; they are situated in the scrotum and they produce sperm and the male sex hormone testosterone

thorax the part of the body that lies between the neck and the respiratory diaphragm and that is encased by ribs; the chest

threshold limit value (TLV) the maximum permissible concentration of a material, generally expressed in parts per million in air for some defined period of time

thymus a lymphoid gland located in the upper chest or the base of the neck and serving to help in developing the T-cell component of the adaptive immune system of most young vertebrates

thyroid gland a large gland situated at the base of the neck and producing hormones that are involved in regulating the rate of metabolism

time-weighted average (TWA) the average exposure concentration of a chemical measured over a period of time (not an instantaneous concentration)

topical designed for direct application to a specific part of the body

toxemia the condition resulting from the spread of bacterial products (toxins) by the blood stream

toxic of or pertaining to a poison

trachea (also called the windpipe) the cartilage-ringed tube that connects the larynx and bronchi

transgenic an animal that carries a foreign gene that has been deliberately inserted into its genome

transplacental through the placenta

trichofolliculoma a benign, usually solitary, dome-shaped nodular lesion with a central pore that frequently contains a woolly hair-like tuft; usually occurs on the head or neck and derived from a hair follicle

trioxane a trimer of formaldehyde used as fuel and in plastics manufacture

tuberculosis a communicable disease caused by bacteria and principally affecting the lungs

tubular cell a cell which has a tubule or small tube-like structure

tumor growth of abnormal tissue resulting from excessive cell division; also called a neoplasm

tumorigenic causing or producing tumors

tunica albuginea a dense white fibrous sheath that encloses a part or organ, such as the testicle or ovary

tunica vaginalis serous membrane that covers the testis and duct leading out of the testis

U

ubiquitous present everywhere at once

ulcerative colitis the chronic, recurrent breaking of tissue in the colon, with such symptoms as abdominal pain and rectal bleeding

unpigmented schwannoma a neoplasm of a Schwann cell (a cell which wraps around the axon of peripheral nerves forming a myelin sheath), that does not contain granules of melanin, melanosomes, and is usually benign

upper respiratory tract consists of the nasal and oral cavities, pharynx, larynx, and trachea

urinary bladder the sac, situated in the front pelvic area, that serves as a reservoir for urine

urinary tract the organs and ducts involved in producing and eliminating urine

urothelial pertaining to the urothelium, the lining of the urinary tract, including the renal pelvis, ureters, urinary bladder, and urethra

urticaria (also called hives) a vascular reaction of the skin marked by the transient appearance of smooth, slightly elevated patches (wheals) and often attended by severe itching

uterus in female animals, the hollow muscular organ in which the developing embryo and fetus lives and is nourished

V

vagina the passage leading from the uterus to the outside of the female body

vaginal trichomoniasis an infection of the vagina caused by a microorganism and involving vaginal discharge that is difficult to treat

valence a numerical measure of combining capacity of an atom/ion with other atoms/ions to form chemical bonds; valence is the relative combining capacity with respect to that of the standard hydrogen atom (valence = 1) and depends on the electronic configuration of the atoms

vapor density the ratio of the weight of a given volume of one gas to the weight of an equal volume of another gas at the same temperature and pressure

vapor density, relative a value that indicates how many times a gas (or vapor) is heavier than air at the same temperature; if the substance is a liquid or solid, the value applies only to the vapor formed from the boiling liquid

vapor pressure the pressure exerted by a vapor in equilibrium with its solid or liquid phase

vascular pertaining to vessels or ducts that convey fluids such as blood, lymph, or sap; in human or veterinary medicine, vascular pertains to blood vessels

vehicle the substance in which a compound is dissolved or mixed prior to an animal's being dosed with that compound

vesicant blister-inducing agent

viscera organs of the digestive, respiratory, urogenital, and endocrine systems, as well as the spleen, the heart, and great vessels

viscosity the resistance to flow

Report on Carcinogens, Twelfth Edition (2011)

vitiligo an autoimmune disorder in which areas on various parts of the skin are depigmented from the loss of melanocytes

W

Wegener's granulomatosis a progressive disease characterized by tumor-like lesions of the respiratory tract, inflammation of the minute branches of the arteries, and, in the later stages, inflammation of all the organs of the body

Weston cells a standard voltaic cell (trademark Weston) producing a constant and accurately known electromotive force that can be used to calibrate voltage-measuring instruments

white pulp a minor portion of the spleen, which is composed of lymphocytes and may form germinal centers, which serve an immune function similar to the follicles of lymph nodes

Wilms' tumor a rapidly developing malignant tumor of the kidneys, usually affecting children under age five

X

xenobiotic a pharmacologically, endocrinologically, or toxicologically active substance not endogenously produced and therefore foreign to an organism

Z

Zymbal gland any of several sebaceous glands surrounding the external ear canal in rodents