Hazardous Waste Vacabulary

acceptable daily intake (ADI) — the daily intake of a chemical that is considered to be without appreciable risk

ACGIH — American Conference of Governmental Industrial Hygienists

acute exposure — short term exposure usually involving a single dose or exposures less than two weeks in duration

acute toxicity — the adverse effect occurring within a short time of administration of a single dose of a substance or multiple doses given within 24 hours

ambient — surrounding. When applied to air, it means outdoor air.

aqueous — watery, or pertaining to a water solution

aquifer — includes any soil or rock formation that has sufficient porosity and water yielding ability to permit the extraction or injection of water at reasonably useful rates

aromatic — in organic chemistry, compounds that contain one or more benzene rings

aspirate — to inhale liquid into the lungs

atom — the smallest unit of an element that still maintains the physical and chemical properties of the element

BCG No — see consignor identification number

becquerel (Bq) — unit of measuring emitted radiation

bioaccumulative — that property of a substance that causes it to accumulate in the tissues of an organism

biochemical — a chemical produced by a living process

biochemical oxygen demand (BOD) — the amount of oxygen required by biological organisms to break down organic matter under aerobic conditions.

biodegradable — capable of being metabolized by a biologic process or organism

biological monitoring — an analysis of the amounts of potentially toxic substances or their metabolites present in body tissues and fluids, as a means of assessing exposure to these substances and aiding timely action to prevent adverse effects. The term is also used to mean assessment of the biological status of populations and communities of organisms at risk in order to protect them and to have an early warning of possible hazards to human health.

biomagnification — the process that occurs when substances become concentrated as they pass to higher levels in the food chain

CANUTEC Guide — Canadian Underwriters Technical Guide

carcinogenic — capable of causing cancer

chlorinated — pertaining to the presence of one or more atoms of the element chlorine

chlorobiphenyls — see PCB

chromosome — one of the group of structures that form the nucleus of a cell during cell division. Chromosomes, composed of DNA, carry the genetic code for the organism.

chronic toxicity — the effect of a chemical following prolonged and repeated exposure (e.g. over 7 years in humans as used by the US EPA). For testing under laboratory conditions, this exposure is for the major part of the lifetime of the species used for the test. Chronic exposure studies over two years are often used to assess the carcinogenic potential of chemicals.

-cide — a suffix meaning killer

combustible Liquid or Class III Liquid — Flash point > 60.5 degC but < 93 degC

compound — a chemical substance composed of molecules all of the same kind

concentration — the amount of chemical or substance in a given environmental medium. Concentration is typically expressed in units such as mg/L (in water), mg/kg (in soil or food), and mg/m3 (in air)

cytotoxic — damaging to plant and animal cells

DDT — dichloro diphenyl trichloroethane, a chlorinated hydrocarbon pesticide

DNA — the biochemical molecules (deoxyribo nucleic acids) from which chromosomes are made. Chromosomes, located in the cell nuclei, carry the genetic code.

doses — the regulation of doses, that is, how often, for how long

dose — the quantity of chemical administered at one time

dose-response curve — a graphic representation of the relationship between the dose administered and the effect produced.

epidemiology — originally, the science that studied the cause and control of epidemics, outbreaks of a communicable disease in a region. Now, its subject matter includes diseases caused by chemicals and other environmental factors.

etiology — the study of the causation of any disease

explosive limits — same as "flammability limits" and is the concentration range of vapour in air between which propagation of a flame occurs on contact with a source of ignition. L.E.L is the lower explosive limit and U.E.L. is the upper explosive limit.

fetotoxic — toxic to the fetus

flash point — The lowest temperature at which vapours above a volatile substance will ignite in air when exposed to a flame. A liquid sample is heated, its vapour is mixed with a controlled flow of air, and the mixture is fed into spark chamber. As the liquid sample temperature, and therefor its vapour concentration is increased, the mixture will finally be ignited by the spark. The temperature at this point is the flash point.

flammable liquid — flash point < 60 degF and a vapour pressure of not more than 2.8 bar absolute at 38 degC

Class I FP< 38 degC
Class II FP in range 38 to 60 degC

friable asbestos — asbestos material that can be crumbled, pulverized, or reduced to powder in the hand, readily releasing fibres with minimal mechanical disturbance. Typically, friable asbestos may have the following characteristics — fluffy or spongy appearance (always applied by spraying); irregular, soft surface (usually applied by spraying); or textured, dense, fairly firm surface (usually applied by trowelling).

fume — very small solid particles generated by condensation of a vaporized solid

fungicide — an agent that kills fungi, for example, molds, mildews and mushrooms

gene — the smallest subunit of a chromosome that contains a genetic message

generator — the person who by nature of ownership, management or control, is responsible for causing or allowing to be caused, the creation of hazardous waste

genome — a complete single set of chromosomes, the genetic basis of life forms

giardiasis — a sickness caused drinking water contaminated by fecal matter from animals such as beavers or muskrats

grey — unit of measuring absorbed radiation

half-life — the length of time required for the quantity of the matter or property in question to be reduced by half

halogenated — bonded with one or more of the elements — bromine, chlorine, fluorine, iodine

heavy metal — any of the following elements — antimony, arsenic, beryllium, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, or zinc.

herbicide — an agent that kills plant life

histpathology — the study of microscopic abnormalities produced by diseases

ignition temperature — (equivalent to the autoignition temperature) the minimum temperature at which the substance will ignite without a spark or flame being present. It depends on the fuel to air ratio. Ignition is usually easier with richer fuel to air mixtures.

in-situ management facility — a facility for preventing or controlling the movement or release of special waste contaminants, or for treating or destroying such contaminants at a contaminated site but done in such a way that the site or contaminants are not substantially physically altered

isotopes — atoms of the same element that differ in weight

in utero — in the uterus (womb)

in vitro — in glass (test tube) or otherwise outside of a living organism

in vivo — in a living organism

kg — kilogram

lab pack — a drum with a maximum capacity of 454 L filled with small containers of chemically compatible special wastes which are surrounded by a sufficient quantity of inert absorbent material to completely absorb all the liquid contents of the inside containers

L — liter

LC50 — the lethal concentration of a substance in air or water necessary to kill 50% of test organisms within a specified time under standardized conditions

LD50 — the lethal dose of a substance necessary to kill 50% of a sample population of test animals as determined from exposure to the substance, by any route other than inhalation, within a specified time under standardized conditions

leachable toxic waste — a liquid or a solid which when exposed to acidified water produces a liquid, which has levels of contaminants greater than specified in the Special Waste Regulation or the Transportation of Dangerous Goods Regulation (there are some differences between levels specified in these regulations)

leachate — liquid containing contaminants, generated by percolation of water through materials

LEL — lower explosive limit

manifest — a form specified by the Special Waste Regulation to document and track the movement of special waste shipments

metabolism — the sum total of the biochemical reactions that a chemical undergoes in an organism

metastasis — the spread of a disease to another part of the body

millirem — a thousandth of a rem (roentgen equivalent man), a unit of X-ray or gamma ray radiation

molecular weight — the weight of a molecule, calculated by adding the individual weights of all the component atoms

molecule — the smallest unit of a compound that still retains the physical and chemical properties of the compound

morphology — the biological study of the form and structure of living organisms

mutagenic — pertaining to the ability to produce change, particularly genetic change

mutant — an organism that has undergone genetic change

narcosis — a state of stupor or unconsciousness produced by a chemical

neutron — a neutrally charged particle in the nucleous of an atom

NIOSH — National Institute for Occupational Safety and Health (US)

notification — the process of advising government agencies in advance of a shipment of special waste. The shipment may be leaving, going to or passing through the notified jurisdiction.

OSHA — Occupational Safety and Health Administration (US)

ozone — a gas composed of molecules of triatomic oxygen (O3), the most reactive form of oxygen

PCB — polychlorinated biphenyls

PCB liquid — any liquid containing more than 50 ppm by weight of PCB

PCB solid — any material or substance other than a liquid containing more than 50 ppm by weight of PCB. Absorbents or soils contaminated by PCB are typical examples.

PCC — poison control center

pesticide — an agent used to kill pests

pH — a term used to express the degree of acidity or alkalinity of a solution. A pH of 7 is neutral. Acid solutions have a pH below 7 and alkaline solutions have a pH greater than 7.

phenology — study of periodic biological phenomena, e.g. flowering, breeding & migration, especially as related to climate

PIC — product of incomplete combustion, a carbon containing compound other than carbon dioxide present in the exhaust stream of a thermal treatment facility

PIN or product identification number — an identifying number assigned to dangerous goods by the Transportation of Dangerous Goods Regulations

pneumonitis — inflammation of the lungs

poison — a chemical that is very highly toxic acutely. Legally, a chemical with an oral LD50 of 50 mg/kg or less.

polycyclic aromatic hydrocarbon TEQ or PAH TEQ — polycyclic aromatic hydrocarbon toxicity equivalent. A single number used to compare the toxicity of substances containing various polycyclic aromatic hydrocarbons. Also known a polynuclear aromatic hydrocarbons

polyelectrolyte — long chain water soluble polymers that are used to flocculate and help settle particles from water by gravity

potable — suitable for drinking

ppb — parts per billion

ppm — parts per million

protocol — a defined procedure for carrying out a test

proton — a positively charged particle in the nucleous of an atom

qualitative — pertaining to kind or type

quantitative — pertaining to amount or degree

respirable — capable of being inhaled

risk (human health) — The likelihood or probability that toxic effects associated with a chemical will be produced in populations of individuals under their actual conditions of exposure. Risk is usually expressed as the probability of occurrence of an adverse effect, i.e., the expected ratio between the number of individuals that would experience an adverse effect in a given time, and the total number of individuals exposed to the factor. Risk is expressed as a fraction, without units, and takes values from 0 (absolute certainty that there is no risk, which can never by shown) to 1.0, where there is absolute certainty that a risk will occur.

risk analysis — The process and techniques that are used to identify and evaluate the nature and magnitude of a risk, as well as methods to best use the resulting information. Risk analysis includes risk assessment, risk communication and risk management.

risk assessment (human health) — the process whereby all available scientific information is brought together to produce a description of the nature and magnitude of the risk associated with exposure of people to an environmental chemical. This information includes: identifying the chemicals present in the environment, toxicity assessment, exposure assessment and risk characterization.

respirable — capable of being inhaled

SBS — sick building syndrome

scrological — medical study of the scrotum

serological — medical study of serum, the clear yellowish fluid obtained upon separating blood into its liquid and solid components

sievert (Sv) — unit of measuring absorbed dose of radiation weighted for the destructive potential of a given type of radiation

special waste — any waste that is determined to be a special waste under section 1 of the Special Waste Regulation

specific gravity — the ratio of the weight of a solid or liquid to the weight of an equal volume of water at some specified temperature. If the specific gravity is less than 1, the chemical will float on water; if higher, it will sink.

statistically significant — when the difference between a background and an observed value within an area of concern is so large that it is deemed improbable that it could be attributed to chance

synergism — an interaction between two chemicals that results in one enhancing the toxic effects of the other

synthetic — made by humans

TDG Act or Regulations — Transportation of Dangerous Goods Act or Regulations (Canada)

temporary storage — storage for a period less than 14 days

teratogenic — pertaining to the ability to produce birth defects

threshold — as used in these notes, the point on a dose-response curve, above which effects occur and below which no effect occurs

threshold limit value (TLV) — a workplace number used as a guide to the maximum average exposure to a chemical for 8-hour days and 5 days per week

tolerance — the concentration of a pesticide residue or food additive permitted by federal regulations to be in a specific food product

tolerance limit or median tolerance limit — the concentration (mg/l) in water at which 50% of the test population will show abnormal behavior (including death)

trophic — pertaining to nutrition or nourishment

uterine — pertaining to the uterus (womb)

vapour density — the ratio of the weight of vapour to the weight of an equal volume of dry air at the same pressure and temperature. A vapour density of less than 1 implies that the vapour will be buoyant and rise in air. Acetylene, ammonia, ethylene, hydrogen, and methane are common gases that have a vapour density of less than 1.

vapour pressure — the pressure that vapour exerts on its surroundings. A substance with a high vapour pressure "gives off" more vapours than a substance with a low vapour pressure at the same temperature and thus would require consideration as a gas as well as a liquid or solid in a spill situation.

volatile — readily convertible to a vapour or gas form

waste — includes air contaminants, litter, effluent, refuse, special wastes and any other substances designated by the Lieutenant Governor-in-Council whether or not it has any commercial value or is capable of being used for a useful purpose

waste oil — automotive lubricating oil, cutting oil, fuel oil, gear oil, hydraulic oil, any other refined petroleum based oil, synthetic oil, or materials containing 3% or more such oils, where the oils through use, storage or handling have become unsuitable for their original purpose due to the presence of impurities or loss of original properties.

xenobiotic — foreign to life