

Scorecard

THE POLLUTION INFORMATION SITE

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Term	Definition	More
Acute Toxicity	Adverse health effects from a single dose or exposure to a toxic chemical or other toxic substance.	
Air Releases	Releases to air that include TRI or NPRI pollutants emitted by a plant from both its smock stack (s) as well as "fugitive" sources (e.g. leaking valves).	
Adverse Health Effect	Abnormal or harmful effect to an organism (e.g., a person) caused by exposure to a chemical. It includes results such as death, other illnesses, altered body and organ weights, altered enzyme levels, etc.	
Ambient	Surrounding, as in the surrounding environment. The medium surrounding or contacting an organism (e.g., a person), such as outdoor air, indoor air, water, or soil, through which chemicals or pollutants can be carried and can reach the organism.	
Antagonism (chemical)	When the adverse effect or risk from two or more chemicals interacting with each other is less than what it would be if each chemical was acting separately.	
Attainment Area	A geographic area that meets the National Ambient Air Quality Standard (NAAQS) is called an attainment area. An area with too much of a pollutant to meet the NAAQS for that pollutant is called a nonattainment area. NAAQSs are concentration levels for each of six criteria air pollutants, above which adverse	more

effects on human health may occur. The six criteria pollutants are used as indicators of air quality.

Authoritative Scientific or Regulatory Organization

Organizations that either have regulatory authority over a subject (such as control of certain chemicals in certain contexts) or are widely recognized as using the best available scientific practices and peer review processes in developing their policies and recommendations about that subject. Our lists of recognized health hazards come from lists already put together by authoritative organizations.

Benzene-Equivalents

Our common unit of comparison for carcinogens, so that the seriousness of a release of one carcinogen can be compared to a release of another. The scoring system takes into account both a chemical's toxicity and the amount of exposure resulting from a release. It uses benzene as the standard for comparison and converts releases of other carcinogens into pounds of benzene-equivalents. [more](#)

Bin

A range of values used for grouping purposes. In statistics, values are often grouped into bins to make generalizations, or to draw comparisons. For example, Our system usually places chemicals in bins based on their toxicity using 10 bins. Bin 1 includes the 10% of chemicals with the lowest toxicity, while bin 10 includes the 10% of chemicals with the highest toxicity .

Bioaccumulation

Bioaccumulation is the process by which chemicals concentrate in an organism. For example, DDT concentrates in fish and birds that eat fish. This concentration effect is expressed as the ratio of the concentration of the chemical in

	<p>an organism (like a fish) to its concentration in the surrounding medium (usually water). Bioaccumulation refers to the uptake of chemicals both from water (bioconcentration) and from ingested food and sediment.</p>
Canada's Priority Substances List	<p>Substances (e.g. chemical, group of chemicals, effluents or wastes) on this list are of the highest priority for assessment to determine whether environmental exposure to them poses a risk to the health of Canadians or to the environment.</p>
Cancer	<p>Cancer is a group of more than 100 different diseases that occur when a cell, or group of cells, grows in an unchecked, uncontrolled, or unregulated manner. It can involve any tissue of the body and can have many different forms in each body area. Most cancers are named for the type of cell or the organ in which they begin, such as leukemia or lung cancer. more</p>
Cancer Potency Estimate	<p>An estimate of a chemical's likelihood to cause cancer, generally derived from animal studies and extrapolated to humans. more</p>
Cancer Risk Score	<p>How a chemical's estimated cancer risk compares with the cancer risk from other chemicals, after being converted into a common unit of comparison. more</p>
Carcinogen	<p>A chemical or physical agent capable of causing cancer. more</p>
Cardiovascular and Blood Toxicity	<p>The adverse effects on the heart or blood systems which result from exposure to toxic chemicals. more</p>
CAS Registry Number	<p>A unique number assigned to a chemical by the Chemical Abstracts Service, a division of the American Chemical Society.</p>

Census Subdivision	Geographical unit used by Statistics Canada for census data collection and reporting.
CEPA	Canadian Environmental Protection Act. The Canadian Environmental Protection Act, 1999, sections 46 and 48, establish the National Pollutant Release Inventory (NPRI). more
CEPA Toxics List	List of substances classified by the Canadian federal government under Canadian Environmental Protection Act as having the potential to cause under the Canadian Environmental Protection Act as having the potential to cause immediate or longer-term harmful effects on the environment or human health.
Chemical Carcinogenesis	Cancer caused by exposure to a chemical or chemicals.
Chemical Interaction	When two or more chemicals interact with each other, resulting in either antagonistic or synergistic effects.
Chronic Toxicity	Adverse health effects from repeated doses of a toxic chemical or other toxic substance over a relatively prolonged period of time, generally greater than one year.
Connective Tissue	One of the four basic types of tissue in the body; a material consisting of fibers (e.g., tendons or ligaments) that form a framework to support other body tissues (e.g., muscles).
Contaminant	Any substance or material in a system (the environment, the human body, food, etc.) where it is not normally found; or, a substance in a system where it is naturally occurring, but found in an unusually high concentration.
Dermal	Referring to the skin. Dermal absorption means absorption through the skin.

Developmental Toxicity	Adverse effects on the developing child which result from exposure to toxic chemicals or other toxic substances. Adverse effects can include birth defects, low birth weight, and functional or behavioral weaknesses that show up as the child develops.	more
Disease Incidence	The rate of new occurrences of a disease.	
Dose-Response Assessment/Relationship	The amount of a chemical that an organism (such as a person) is exposed to is called the dose, and the severity of the effect of that exposure is called the response. A dose-response assessment is a scientific study to determine the relationship between dose and response, and how much dose is correlated with how much response.	
EC	Environment Canada. The federal department of the environment in Canada.	
Ecological Health Ranking	How a chemical's adverse effect on plants and animals compares with that of other chemicals in a relative ranking system.	
Ecological Risk Assessment	A process used to estimate how likely it is that there will adverse effects on plants or animals from exposure to chemicals (or to other potential stress, such as the draining of a wetland). The process includes problem formulation, characterization of exposure, characterization of ecological effects, and risk characterization.	
Ecotoxicity	Being poisonous or harmful to plants or animals in some degree.	
Endocrine Toxicity	Any adverse structural and/or functional changes to the endocrine system (the system that controls hormones in the body) which may result from	more

	exposure to chemicals. Endocrine toxicity can harm human and animal reproduction and development.
Energy Recovery	The combustion or burning of a waste stream to produce heat.
Environmental Fate	Where a substance ends up after it is released into the environment. Environmental fate depends on many factors, including transport (e.g., wind, runoff) and transformation processes (e.g., degradation).
EPA or U.S. EPA	United States Environmental Protection Agency.
Epithelial Tissue	One of the four basic tissues of the body. The cell linings covering most of the internal and external surface of the body and its organs, e.g. stomach lining.
Exposure Assessment	Identifying the ways in which chemicals may reach individuals (e.g., by breathing); estimating how much of a chemical an individual is likely to be exposed to; and estimating the number of individuals likely to be exposed. more
Exposure Potential	An estimate of the total dose of a chemical received by an exposed organism (e.g., a person) or by a population, not just via one pathway or medium but from all likely pathways.
Fate and Exposure Modeling	The scientific process used to predict where chemicals "end up" after being released into the environment. For example: a chemical may be emitted into the air, but most of it might end up in groundwater, because of the chemical's particular physical properties.
Fugitive Emissions	Air emissions that are not released through stacks, vents, ducts, pipes, or any other confined air stream. Examples are equipment leaks or

	evaporation from surface impoundments.
Genotoxicity	The adverse health effect a chemical has on genes and chromosomes, primarily gene mutations, chromosome aberrations and changes in chromosome number. Genotoxicity may be indicative of cancer-causing chemicals.
Good Neighbor Agreement	A Good Neighbor Agreement (GNA) is one important way that a community and a company with a facility in that community can work towards improving the environmental performance of the company's facility. more
Half-life	The time in which the concentration of a chemical in the environment is reduced by half.
Hazard Identification	The first step in the risk assessment process. This step includes the identification of a chemical of concern and its potential adverse effects. more
Hazard Indicator	A quantitative measurement of a chemical's hazard. The site includes hazard indicators for numerous endpoints, including human health, ecological health, and combined human and ecological health. These are based on different combinations of factors, such as toxicity, persistence, and exposure potential.
Hazard Ranking	How a chemical's adverse effects compare with other chemicals in a ranking system.
Health Hazard	Adverse effects to a living organism.
Human Health Ranking	How a chemical's adverse health effects on humans compare with the same effects from other chemicals, in a ranking system.
Immunotoxicity	Adverse effects on the normal functioning of the immune more

	<p>system, caused by exposure to a toxic chemical. Changes in immune function could produce higher rates of infectious diseases or cancer, or more severe cases of those diseases. Immunotoxic chemicals can also cause auto-immune disease or allergic reactions.</p>
Incineration	<p>A method of treating solid, liquid, or gaseous wastes by burning.</p>
Industrial Sector	<p>U.S. Standard Industrial Classification (SIC) codes and Canadian North American Industrial Classification (NAIC) codes are systems of numerical codes that categorize industrial facilities by the type of activity in which they are engaged. For example, SIC code 2911 refers to petroleum refineries and NAIC code 1111 represents the soft drink industry. Each code number represents an industrial sector.</p>
Ingestion	<p>Swallowing (such as eating or drinking). Chemicals can get into or onto food, drink, utensils, cigarettes, or hands where they can then be ingested.</p>
Inhalation	<p>Breathing. Once inhaled, contaminants can be deposited in the lungs, taken into the blood, or both.</p>
Integrated Health Ranking	<p>How a chemical's adverse human and ecological health effects compare with those of other chemicals, in a relative ranking system.</p>
Kidney Toxicity	<p>Adverse effects on the kidney, urethra or bladder caused by exposure to a toxic chemical. Some such chemicals can cause acute injury to the kidney; others can produce chronic changes that can lead to kidney failure or cancer. more</p>
Land Treatment	<p>Disposal method by which a waste containing a listed TRI or</p>

	NPRI pollutant is applied or incorporated into soil for biological degradation.
Landfills	Land disposal sites in which wastes containing pollutants are disposed.
Leukemia	Any of several cancers of blood-forming organs (usually bone marrow cells) which cause the uncontrolled production of abnormal white blood cells (leukocytes).
Liver and Gastrointestinal Toxicity	Adverse effects to the structure and/or function of the liver, gall bladder or gastrointestinal tract caused by exposure to a toxic chemical. The liver is frequently subject to chemical-induced injury because of its role as the body's principal site of metabolism. Chemicals that damage the liver can cause diseases such as hepatitis, jaundice, cirrhosis and cancer. more
Musculoskeletal Toxicity	Adverse effects to the structure and/or function of the muscles, bones and joints caused by exposure to a toxic chemical. Exposures to coal dust and cadmium, for example, have been shown to cause adverse changes to the musculoskeletal system. Examples of musculoskeletal diseases which can be caused by exposure to toxic chemicals include the bone disorders arthritis, fluorosis, and osteomalacia. more
Mutagenicity	A change in the genetic material of a living organism, usually in a single gene, which can be passed on to future generations.
NAIC Code	North American Industrial Classification (NAIC) codes are a system of numerical codes that categorize industrial facilities by the type of activity in which they are engaged. For example, NAIC code 3261 refers to Plastic Product more

	<p>Manufacturing. All companies conducting the same type of business, regardless of their size, have the same NAIC code. The basic NAIC code is two digits long.</p>
Nephrotoxicity	Same as kidney toxicity.
Neurotoxicity	Adverse effects on the structure more or function of the central and/or peripheral nervous system caused by exposure to a toxic chemical. Symptoms of neurotoxicity include muscle weakness, loss of sensation and motor control, tremors, cognitive alterations and autonomic nervous system dysfunction.
NIOSH	The U.S. National Institute for Occupational Safety and Health, a federal agency that conducts research on occupational safety and health questions and makes recommendations to federal OSHA about new standards for controlling toxic chemicals in the workplace.
Noncancer Risk Score	How a chemical's non-cancer risk compares with the non-cancer risk from other chemicals, after being converted into a common unit of comparison. more
NPRI	National Pollutant Release Inventory. The NPRI inventory is, at present, the only source of information used by PollutionWatch on environmental releases of toxic chemicals and waste management of those chemicals. more
NPRI Chemicals	A list of substances included in the National Pollutant Release Inventory (NPRI). In general, NPRI chemicals are chemicals can be reasonably anticipated to cause acute or chronic adverse human health effects, or adverse environmental effects. more

NPRI Facilities	Facilities required to report their environmental releases and off-site transfers of a prescribed list of 246 toxic chemicals to the National Pollutant Release Inventory (NPRI). There are over 2,000 facilities included in the NPRI in 1999.	more
OECD	The Organization of Economic Cooperation and Development (OECD), a Paris-based intergovernmental organization with 29 member countries. A forum in which governments can develop common solutions to various social problems, including issues of toxic chemical management.	
Off-site transfers	Chemicals in waste that are moved off the grounds of the facility, including transfers of waste sent to other facilities or other locations, such as hazardous waste treatment facilities, municipal sewage treatment or landfills.	
On-site	Within the boundaries of the facility, including areas where wastes may be stored, treated or disposed of that are separate from the production processes but still within the boundaries of the reporting facility.	
Ozone Depleting Substance	Ozone in the stratospheric layer of the Earth's atmosphere keeps 95-99% of the Sun's ultraviolet radiation from striking the Earth. Various chemicals deplete the ozone layer by accelerating processes that destroy ozone, increasing the amount of ultraviolet radiation that reach the surface. This radiation can cause genetic damage, eye damage and damage to marine life.	more
Persistence	On this site, persistence generally refers to environmental persistence: the length of time a chemical stays in the environment, once	

	introduced. Persistent chemicals do not break down easily in the environment.	
Persistent Organic Pollutants (POPs)	Persistent Organic Pollutants (POPs) are chemicals, chiefly compounds of carbon, that persist in the environment, bioaccumulate through the food chain, and pose a risk of causing adverse effects to human health and the environment.	more
Photosensitization	Sensitization or heightened reactivity of the skin to sunlight, usually due to the action of certain drugs.	
Point Source	The origin of known or deliberate environmental releases from fixed points such as smokestacks and wastewater discharge pipes.	
Pollution Prevention	An approach that avoids creating toxic chemical emissions and waste in the first place; it reduces the amount of toxic chemicals that businesses need to use in their operations.	more
Postnatal	Occurring sometime after birth, with reference to the newborn infant.	
Prenatal	Preceding birth, with reference to the fetus.	
Proposition 65	Formally known as the Safe Drinking Water and Toxics Enforcement Act , Proposition 65 was enacted in California by direct ballot initiative in November 1986. Generally, it requires warnings to citizens when they are exposed to chemicals known to cause cancer or birth defects or other reproductive harm, and also forbids the discharge of those same chemicals into sources of drinking water in California.	more
Recognized Human Health Hazard	Authoritative national and international scientific and regulatory agencies have identified some chemicals that	more

	<p>cause specific adverse health effects with enough certainty to consider the effect a recognized hazard of the chemical. To date, such efforts have been focused on cancer, reproductive toxicity, and developmental toxicity. This site uses lists developed under California's Proposition 65 (which combine the hazard identification efforts of various authoritative bodies) as its primary reference for identifying these chemicals.</p>
Recycling	<p>Extraction of a chemical from a manufacturing process stream that would otherwise have been treated as waste, with the extracted chemical being reused in the original production process, in another process, or sold as a separate product.</p>
Reference Concentration (RfC)	<p>An estimate of the daily inhalation dose, expressed in terms of an ambient concentration, that can be taken daily over a lifetime without appreciable risk. more</p>
Reference Dose (RfD)	<p>An estimate of the daily ingestion dose, expressed in terms of amount per unit of body weight, that can be taken daily over a lifetime without appreciable risk. more</p>
Reproductive Toxicity	<p>Adverse effects on the male and/or female reproductive systems caused by exposure to a toxic chemical. Reproductive toxicity may be expressed as alterations in sexual behavior, decreases in fertility or fetal loss during pregnancy. Some official definitions of reproductive toxicity, for example in California's Proposition 65, include developmental toxicity as part of reproductive toxicity. more</p>
Respiratory Toxicity	<p>Adverse effects on the structure or function of the respiratory system caused by exposure to a more</p>

toxic chemical. Respiratory toxicants can produce a variety of acute and chronic pulmonary conditions, including local irritation, bronchitis, pulmonary edema, emphysema and cancer.

Right to Know

The public's right to information about the amounts, location and potential effects of hazardous chemicals present in their community.

Risk

The probability that damage to life, health, and/or the environment will occur as a result of a given hazard (such as exposure to a toxic chemical). Some risks can be measured or estimated in numerical terms (e.g., one chance in a hundred).

Risk Assessment

An organized process used to describe and estimate the amount of risk of adverse human health effects from exposure to a toxic chemical (how likely or unlikely it is that the adverse effect will occur). How reliable and accurate this process is depends on the quantity and quality of the information that goes into the process. The four steps in a risk assessment of a toxic chemical are hazard identification, dose-response assessment, exposure assessment, and risk characterization.

[more](#)

Risk Assessment Value

Risk assessment values are numbers that help define the level of health risk, both cancer and noncancer, posed by a toxic chemical. They are derived from dose-response assessments of animal or human studies that indicate a chemical can cause an adverse health effect.

[more](#)

Risk Characterization

An organized process used to evaluate, summarize, and communicate information about the likelihood of adverse health

[more](#)

or ecological effects from particular exposures to a toxic chemical in the environment, i.e. how individuals or populations may be affected. It includes discussion of the kind of evidence it uses and how strong that evidence is. Risk characterization is the final step in the process of risk assessment.

Risk Management

The process of actually trying to reduce risk, e.g., from a toxic chemical, and/or of trying to keep it under control. Risk management involves not just taking action, but also analyzing and selecting among options and then evaluating their effect.

Route of Exposure

The avenue by which a chemical comes into contact with an organism (such as a person). Possible routes include inhalation, ingestion, and dermal contact.

Safety Assessment

The process of evaluating the safety (or lack of safety) of a chemical in the environment based upon its toxicity and current levels of human exposure.

[more](#)**Screening Level**

Screening level information about a chemical's toxicity or exposure potential is derived from readily available information using methods that do not require extensive analyses to support preliminary evaluations of chemical safety. Screening level information is useful and necessary for ranking potential problems, directing more detailed investigations, and taking preventative action.

Screening Risk Assessment

A risk assessment performed using available data and many assumptions to identify toxic chemical releases that have a higher probability of posing health risks. If potential health

[more](#)

risks are identified, further investigation or risk reducing actions may be warranted.

SIC Code

The U.S. Standard Industrial Classification (SIC) codes are a system of numerical codes that categorize industrial facilities by the type of activity in which they are engaged. For example, SIC code 2911 refers to petroleum refineries. All companies conducting the same type of business, regardless of their size, have the same SIC code. The basic SIC code is two digits long.

SIDS

The Screening Information Data Set created by the member countries of the Organization for Economic Cooperation and Development (OECD) in 1990, for purposes of screening high-production-volume chemicals used in those countries (including the U.S.). The purpose of the SIDS program is to complete initial screening tests on those chemicals to identify their potential hazards to human health and the environment, so that risk assessments can then be done for the chemicals with sufficient hazard potential. The data set is a list of the tests and other information about a chemical that OECD considers to be the necessary minimum for purposes of this preliminary screening.

Skin and Sense Organ Toxicity

Adverse effects on the skin or sensory organs caused by exposure to a toxic chemical. Sense organs include eyes, ears, etc.

[more](#)

Stack Air Releases

Releases to the air that occur through confined air streams, such as stacks, vents, ducts or pipes.

Suspected Human Health Hazard

These are hazards to human health from a chemical that are indicated by some scientific

[more](#)

evidence, but that have not been conclusively determined by an authoritative scientific or regulatory organization. The site uses numerous reports in the scientific or regulatory literature, and information abstracted from major toxicological databases, as its sources for identifying chemicals with suspected human health hazards of different kinds. Inclusion of a chemical on a "suspected" list should be viewed as a preliminary indication that the chemical may cause this effect, rather than a definitive finding that it does.

Synergism (chemical)

When the adverse effect or risk from two or more chemicals interacting with each other is greater than what it would be if each chemical was acting separately.

Threshold

A level of chemical exposure below which there is no adverse effect and above which there is a significant toxicological effect.

Toluene-Equivalents

Our common unit of comparison for non-carcinogens, so that the seriousness of a release of one non-carcinogen can be compared to a release of another. Our scoring system takes into account both a chemical's toxicity and the amount of exposure resulting from a release. It uses toluene as the standard for comparison and converts releases of other non-carcinogen into pounds of toluene-equivalents. [more](#)

Total Environmental Releases

All reported releases to air, water and land. This total does not include any waste that is transferred off site.

Total Hazard Value

A quantitative value representing the total hazard of a chemical substance, derived by integrating the chemical's human health effects, ecological

	effects, and exposure potential.	
Toxic Equivalency Potentials	How a chemical's adverse human health effects compare with those of other chemicals, after being converted into a common unit of comparison (This site uses benzene-equivalents for carcinogens and toluene-equivalents for non-carcinogens).	more
Toxicity	The extent, quality, or degree of being poisonous or harmful to humans or other living organisms.	
Toxicity Weight	How a chemical's toxicity - either chronic, acute, or both - compares with other chemicals in a relative ranking system.	more
TRI	The U.S. Toxics Release Inventory. Under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (EPCRA), certain manufacturing facilities are required to report the amounts of approximately 650 toxic chemicals that they release into the environment or produce as waste. The TRI inventory is, at present, the only source of information used by Scorecard on environmental releases of toxic chemicals and waste management of those chemicals.	more
TRI Chemicals	A list of about 650 toxic chemicals or chemical categories included in the Toxics Release Inventory (TRI). In general, TRI chemicals are ones that U.S. EPA has found can be reasonably anticipated to cause acute or chronic adverse human health effects, or adverse environmental effects.	more
TRI Facilities	Facilities that are required to report their environmental releases and chemical waste management of a prescribed list of approximately 650 toxic	more

	chemicals to the Toxics Release Inventory (TRI). There are over 20,000 facilities included in the TRI in 1995.
TSCA	The Toxic Substances Control Act (TSCA) of 1976. In theory, this law gave U.S. EPA the power to test, regulate, and screen nearly all chemicals produced or imported into the United States. However, after more than two decades, TSCA's promise is almost entirely unrealized. more
Underground Injection	A method of land disposal in which liquid wastes are injected into known geological formations, generally at great depths.
Volatility	A chemical's tendency to evaporate into the air, usually measured in units of Pascals, atmospheres, or pounds per square inch. Chemicals with high volatility tend to evaporate readily.
Water Releases	Releases to water, including discharges to streams, rivers, lakes, oceans and other bodies of water.
Weight of Evidence	The evaluation of published information about a chemical's toxicity and exposure potential that leads to a conclusion about that chemical's safety or hazard. Important factors include the adequacy and number of available studies; the consistency of results across studies; and the biological plausibility of dose-response relationships.

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scorecard@getactive.com