GLOSSARY OF TERMS COMMONLY USED ON MSDS AND LABELS

This is a listing of terms that may be found in Material Safety Data Sheets and on labels for containers of hazardous materials in the Untied States.

ACGIH

American Conference of Governmental Industrial Hygienists, Inc.; an organization of professional personnel in governmental agencies or educational institutions engaged in occupational safety and health programs. ACGIH develops and publishes recommended occupational exposure limits (see TLV) for hundreds of chemical substances and physical agents.

Acid

A compound which dissociates in water to form an anion and a hydronium ion. An acid reacts with a base or alkali to form a salt and water. An acid turns litmus paper to red.

Acute Effect

An adverse effect on a human or animal, with symptoms developing rapidly and coming quickly to crisis. Usually occurs following a single exposure to a chemical. Also see "chronic effect."

Acute Toxicity

The adverse (acute) effects resulting from a single dose of, or exposure to, a substance.

Alopecia

Loss of hair.

Aerosol

An airborne solid or liquid substance.

Alkali

A compound that has the ability to neutralize an acid to form a salt. A substance that is bitter in a water solution, and somewhat irritating or corrosive to the skin, eyes, and mucous membranes. This type of substance turns litmus paper to blue. Common strong alkalis are sodium and potassium hydroxide. Also known as "base."

Allergic Reaction

An abnormal physiologic response to a chemical or physical stimuli by a sensitive person. Some dermatitis and asthma-like symptoms result from allergic reactions.

Analgesia

Loss of sensitivity to pain.

Anesthetic Effect

The temporary loss of feeling induced by certain chemical agents, which reduce the ability to feel pain or other sensations. For example, hydrogen sulfide has an anesthetic effect on the olfactory nerve and thus reduces one's ability to smell the gas.

Anesthesia

Loss of sensation or feeling.

Anhydride

A compound that becomes an acid in the presence of water or becomes a base when water is removed.

Anhydrous

Free of water.

Anorexia

Loss of appetite.

Anosmia

Loss of the sense of smell

Anoxia

A lack of oxygen form inspired air (literally without oxygen). See Hypoxia.

ANSI

American National Standards Institute. A private, nonprofit organization founded in 1918, it is the coordinator of voluntary standards activities in the United States. ANSI has issued voluntary guidelines for MSDS and labels.

APR

Air purifying respirators. These respirators remove contaminants by passing breathing air through a purifying element. There are two subclasses; (1) particulate APRs which use a mechanical filter element and (2) gas and vapor APRs which utilize chemical sorbents contained in a cartridge or canister.

Aqueous

A water-based solution.

Asphyxia

Lack of oxygen and thus interference with the oxygenation of the blood. Can lead to unconsciousness.

Asphyxiant

A vapor or gas that can cause unconsciousness or death by suffocation (lack of oxygen). "Simple asphyxiants" are those asphyxiants which are harmful to the body only when they become so concentrated that they reduce oxygen in the air (normally about 21 percent) to dangerous levels (19.5 percent or less). Asphyxiation is one of the principal potential hazards of working in confined spaces. See "chemical asphyxiant.

Asphyxiation

A condition that causes asphyxia; suffocation.

Aspiration Hazard

The danger of drawing a fluid into the lungs and causing an inflammatory response to occur.

Asthma

A disease characterized by recurrent attacks of dyspnea, wheezing, and perhaps coughing due to spasmodic contraction of the bronchioles.

Asymptomatic

Neither causing nor exhibiting symptoms.

Ataxia

A loss of muscular coordination.

Atrophy

A wasting or diminution in the size of tissues, organs, or the entire body.

Autoignition Temperature

The lowest temperature at which a flammable gas or vapor-air mixture will spontaneously ignite without spark or flame. Vapors and gases will spontaneously ignite at a lower temperature in oxygen than in air. The autoignition temperature may also be influenced by the presence of catalytic substances.

Barrier Cream

See "protective cream."

Base

See "Alkali."

Blasting Agents

DOT (the U.S. Department of Transportation) Hazard Classification applied to those substances which have probability of accidental initiation owing to explosion or probability of transition from deflagration to detonation.

Boiling Point

The temperature at which a liquid changes to a vapor state, at a given pressure; usually expressed in degrees Fahrenheit at sea level pressure (760 mm Hg. or one atmosphere).

Bronchitis

Inflammation of the bronchial tubes in the lungs.

C, or Ceiling

The maximum allowable human exposure limit for an airborne substance; not to be exceeded, even momentarily. Also see "PEL" and "TLV."

Carbon Monoxide

A chemical asphyxiant: a colorless, practically odorless, flammable, and very toxic gas produced by the incomplete combustion of carbon compounds. Also a by-product of many chemical processes.

Carcinogen

A substance determined to be cancer-producing or potentially cancer-producing by IARC, NIP, OSHA, the International Agency for Research on Cancer, or the National Toxicology Program.

Cataract

A loss of transparency of the crystalline lens of the eye or of its capsule.

C.A.S.

Chemical Abstracts Service: an organization operated by the American Chemical Society that indexes information published in "Chemical Abstracts" and provides index guides by which information about particular substances may be located in the Abstracts. C.A.S. Numbers - Identify specific chemicals.

Centigrade

(C) Also Celsius, the temperature scale in which there are 100 degrees between the freezing point (0 degree C) and the boiling point (100 degrees C) of water.

CFR

Code of Federal Regulations; the standards, regulations, and rules promulgated under U.S. law and published in the Federal Register.

Chronic Health Effect

An adverse effect on a human or animal body, with symptoms that develop slowly over a long period of time or that recur frequently.

Chemical Asphyxiant

Substances that prevent the body from receiving or using an adequate oxygen supply. Carbon monoxide and cyanide are examples.

Chemical Family

A group of compounds with related chemical and physical properties. Example: acetone, methyl ethyl ketone (MEK), and methyl isobutyl ketone (MIBK) are three members of the "ketone" family.

Chemical Pneumonitis

Inflammation of the lungs, caused by accumulation of lung liquids following chemical irritation. See "aspiration hazard."

CHEMTREC

Chemical Transportation Emergency Center: a national center established by the Chemical Manufacturers Association (now the American Chemistry Council) to relay emergency information concerning specific chemicals that have been involved in a transportation emergency.

Chronic Effect

An adverse effect on a human or animal in which symptoms develop slowly following repeated, normally low level exposures to a chemical over a long period of time, or recur frequently.

Chronic Toxicity

Adverse (chronic) effects resulting from repeated doses of, or exposures to, a substance over a prolonged period of time.

CNS

Central nervous system, composed of the brain and spinal cord.

CNS Depression

Lowered sensitivity level or loss of sensation in the central nervous system, usually due to exposure to a particular chemical hazard or anesthetic.

CO_2

Carbon dioxide; a colorless, nonflammable, and relatively nontoxic gas. Is produced by the combustion and decomposition of organic substances and as a by-product of many chemical processes. A simple asphyxiant at high concentrations.

COC

Cleveland Open Cup; a flash-point test method.

Coma

A state of deep unconsciousness from which one cannot be aroused, even by powerful stimulation.

Combustible

A substance capable of fueling a fire. Also a term used to classify certain liquids on the basis of their flash points. Also see "flammable."

Combustible Liquid

Any liquid having a flashpoint at or above 100° F (37.8° C). Combustible liquids are divided into two classes as follows:

Class II liquids include those with flashpoints at or above 100° F (37.8° C), except any mixture having components with flashpoints of 200°F (93.3°C) or higher, the volume of which make up 99 percent or more of the total volume of the mixture.

Class III liquids include those with flashpoints at or above 140° F (60° C). Class III liquids are subdivided into two subclasses:

Class IIIA liquids include those with flashpoints at or above 140° F (60° C) and below 200° F (93.3° C), except any mixture having components with flashpoints of 200° F (93.3° C), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.

Class IIIB liquids include those with flashpoints at or above 200° F (93.3° C).

Concentration

The amount of a substance in a stated unit of a mixture or solution. Example: 2 parts per million hydrogen sulfide in air, or a 50 percent caustic solution.

Contaminated

The presence of any extraneous material that may render a substance, a material (such as clothing), or a surface (such as skin) impure.

Conjunctivitis

Inflammation of the conjunctiva, the delicate membrane that lines the eyelids and covers the eyeballs.

Corneal/Conjunctival Burns

Burns to the transparent membrane covering the eyeball and lining the eyelids.

Corrosive

A liquid or solid that causes visible destruction or irreversible alterations in human skin (tissue) at the site of contact; or, in case of leakage from its packaging, a liquid that has a severe corrosion rate on steel.

Cutaneous

Pertaining to the skin.

Cyanosis

A dark purplish coloration of the skin and the mucous membrane due to the deficient oxygenation of the blood.

Decomposition

Breakdown of a material or substance (by heat, chemical reaction, electrolysis, decay, or other processes) into simpler substances.

Dehydrating Agent

A substance capable of depleting body fluids or removing moisture from another material.

Dermal

Of or pertaining to the skin.

Dermal Sensitization

An exposure of an agent to skin which results in an immune response. Subsequent exposure will often induce a much stronger (secondary) immune response.

Dermal Toxicity

Adverse toxic effects resulting from skin exposure to a substance.

Dermatitis

Inflammation, irritation, or reddening of the skin.

Diaphoresis

Perspiration

Dyspnea

A sense of difficulty in breathing; shortness of breath

DOL

U.S. Department of Labor: it includes the Occupational Safety and Health Administration (OSHA), the Mine Safety and Health Administration (MSHA), and other agencies.

DOT

U.S. Department of Transportation: it regulates transportation of chemicals and other hazardous and nonhazardous substances.

DOT Hazard Class

Classification by the U.S. Department of Transportation which describes the type of hazard that may be encountered in an emergency during transport. For example, flammable, combustible, poison.

Dry Chemical

A powdered fire-extinguishing agent specially treated so that it will flow properly. It may be used on fires involving flammable and combustible materials (class B and C fires). It extinguishes fires by stopping the progressive chemical reaction that take place during a fire.

Dusts

Solid particles generated by some mechanical process, such as crushing, grinding, abrasion, or blasting.

Edema

An abnormal accumulation of clear, watery fluid in the tissues.

Effects of Overexposure

Clinical signs and symptoms that may occur or be experienced when one has been overexposed to concentrations of a particular substance above established exposure limits.

Electrolyte

Any substance that conducts an electric current in solution.

Embolism

Obstruction of a blood vessel by a transported clot, a mass of bacteria, or other foreign material.

Emergency and First-Aid Procedures

This refers to the recommended first-aid procedures, based on the inherent toxicity of the product and the route of exposure to the product.

Emphysema

A swelling or inflation due to the presence of air in the connective tissues of the lungs.

Epistaxis

Nosebleed; hemorrhage from the nose.

Erythema

A name applied to redness of the skin that may result from exposure to a substance or product.

Evaporation Rate

The rate at which a particular material will vaporize (evaporate) when compared to the rate of vaporization of a known material. The know material is normal butyl acetate (NBUAC or n-Bu-Ac), with a vaporization rate designated as 1.0. Vaporization rates of other solvents or materials are then classified as: FAST

evaporating if greater than 3.0. MEDIUM evaporating if 0.8 to 3.0. SLOW evaporating if less than 0.8.

Excepted from DOT Regulations

Hazard classification applied to substances that are not included in any of the other Department of Transportation hazard classes.

Explosion Hazard

A hazard that may result from exposure of a substance to heat or flame.

Explosive

Any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion, that is, with instantaneous release of gas and heat (energy). Also, any material having the properties of an explosive.

Explosive (Class A)

Department of Transportation hazard classification for those substances that pose a detonating or otherwise maximum explosion hazard.

Explosive (Class B)

Department of Transportation hazard classification for those substances that function by rapid combustion rather than by detonation. Includes some explosive devices such as special fireworks, flash powders.

Explosive (Class C)

Department of Transportation hazard classification for those types of manufactured articles containing Class A or Class B explosives, or both, as components but in restricted quantities. Minimum hazard.

Explosive Limits

The range of concentration of a flammable gas or vapor (percent by volume in air) in which explosion can occur if an ignition source is present. Also see "flammable limits," "LEL," and "UEL."

Exposure Limit

Limit set to minimize occupational exposure to a hazardous substance. Recommended occupational exposure limits used are American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs). Mandatory limits are the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs).

Extinguishing Agents (Methods)

Agent(s) suitable for controlling or putting out a fire, when properly applied.

Eye Protection

Recommended safety glasses, shields, goggles, and other headgear to be used when handling the material - to protect against accidental eye contact.

Fahrenheit

(F) The thermometric scale in which, under standard atmospheric pressure, the boiling point of water is 212 degrees above the zero of the scale; the freezing point of water is at 32 degrees above zero of the scale.

Fetal

Of or pertaining to a fetus, the unborn young of a person or animal while still in the uterus.

Fibrosis

A condition marked by the abnormal increase in the amount of fibrous connective tissue in an organ or tissue.

Fire Hazard

A hazard that may result from exposure of the product to heat or flame.

Fire Point

The lowest temperature at which a material can evolve vapors fast enough to support continuous combustion.

First-Degree Burn

A mild burn characterized by pain and reddening of the skin.

Flammable

A material that is easily ignited and burns with extreme rapidity.

Flammable Aerosol

An aerosol that yields a flame projection of more than 18" at full valve opening, or a flash back (a flame extending back to the valve) at any degree of valve opening.

Flammable Gas

A DOT hazard classification applied to a compressed gas meeting the requirements of the lower flammability limit, flammability range limit, flame projection, or flame propagation criteria.

Flammable Limits

The range of a vapor or gas concentration in air that will burn or explode if an ignition source is present. See also "explosive limits."

Flammable Liquid

As defined by the Department of Transportation, it is any liquid with a flash point, as determined by a closed cup method, below 100 degrees F (38 degrees C) and a vapor pressure not exceeding 40 psi absolute at 100 degrees F (3kg/sq cm absolute at 38 degrees C).

Flammable Solid

DOT hazard classification applied to any solid material, other than an explosive, that is liable to cause fire through friction, or retained heat from manufacturing or processing. Any solid that can readily be ignited and, when ignited, can burn so vigorously and persistently as to create a serious transportation hazard.

Flash Point

The minimum temperature at which a liquid gives off sufficient vapor to form, with air, an ignitable mixture.

Fumes

Fumes are formed by processing, such as combustion, sublimation, or condensation. The term is generally applied to the metal oxides of such metals as zinc, magnesium, or lead.

Gangrene

Death of tissue combined with putrefaction.

Gas

Normally formless fluids that occupy the space of their enclosure and that can be changed to the liquid or solid state only by the combined effect of increased pressure and decreased temperature.

Gastroenteritis

Inflammation of the stomach and intestines.

General Exhaust

Removal of contaminated air from a large area by use of an air-circulation or exchange system. See also "local exhaust."

Gingivitis

Inflammation of the gums.

Hazardous Material

Any substance or mixture of substances having properties capable of producing adverse effects on the health or safety of a human being.

Hazardous Reaction/Decomposition

An indication of the relative hazards of the by-products, including the generation of heat or explosion that may result from a chemical change of the product.

Hematuria
The presence of blood in the urine.

Hepatic
Pertaining to the liver.

Highly Toxic
A chemical that:

- has a median lethal dose (LD_{50}) of 50 milligrams or less per kilogram of body weight.
- has an LD_50 of 200 milligrams per kilogram of body weight when administered by continuous contact for 24 hours.
- has a median lethal concentration (LC_{50}) in air of 200 ppm by volume of gas or vapor, or 2 milligrams per liter or less of mists, fumes or dust, administered by continuous inhalation for one hour.

Hygroscopic
Readily absorbs moisture from the air.

Hypergolic
Describing rocket fuel or propellant that consists of combinations of fuels and oxidizers that ignite spontaneously on contact.

Hypoxia
Insufficient oxygen, especially applies to body cells.

Ignitable
A solid, liquid, or compressed gas that exhibits a "characteristic of ignitability," as defined by the Resource Conservation and Recovery Act (RCRA), and may be regulated (by the Environmental Protection Agency) as a hazardous waste.

Ignition Source
Anything that provides heat, sparks, or flame sufficient to cause combustion or explosion.

Incendiary Spark
A small, hot glowing particle of a substance thrown out by a body in combustion, or remaining when combustion is nearly complete. This particle is capable of igniting other combustible or flammable materials, gases, vapors, or dusts.

Incompatible
Materials that could cause dangerous reactions from direct contact with one another are described as incompatible.

Inflammation

A series of reactions produced in the tissues by an irritant, injury, or infection characterized by redness and swelling caused by an influx of blood and fluids.

Ingestion

Taking a substance into the body (stomach) through the mouth; swallowing.

Inhalation

Drawing a substance into the body (lungs) through the nose, mouth, and breathing passages, in the form of a gas, vapor, fume, mist, or dust.

Irritant

A substance that will cause an inflammatory response or reaction of the eye, skin, or respiratory system, following single or multiple exposures.

Irritating Material

As defined by the Department of Transportation, is a liquid or solid substance which upon contact with fire or when exposed to air, gives off dangerous or intensely irritating fumes (not including poisonous material). (See Poison, Class A and Poison, Class B.)

Jaundice

Yellowish discoloration of tissues (skin), whites of eyes

Lacrimation

Secretion and discharge of tears.

LC_{50}

Lethal Concentration 50; the concentration of a material in air, which, on the basis of laboratory tests, is expected to kill 50% of a group of test animals when administered as a single exposure (usually of 1 or 4 hours' duration).

LD_{50}

Lethal Dose 50; a single dose of material which, on the basis of laboratory tests, is expected to kill 50% of a group of test animals. The material may be administered by mouth (oral) or applied to the skin (dermal or cutaneous).

LEL or LFL

Lower Explosive Limit or Lower Flammable Limit of a flammable vapor or gas in air (usually expressed in percent by volume) below which propagation of a flame will not occur in the presence of an ignition source. Also see "UEL."

Lesion

Abnormal change, injury, or damage to tissue or an organ.

Leukemia

A progressive, malignant disease of the blood-forming organs.

Local Exhaust

A system for capturing and removing airborne contaminants (gases, particulates) at the point at which they are released. Not to be confused with general exhaust.

Malaise

A feeling of general discomfort, distress, or uneasiness; and out-of-sorts feeling.

mg/kg

Milligrams per kilogram**.** An expression of toxicological dose. See "g/kg."

mg/m^3

Milligrams per cubic meter of air; a unit for measuring concentrations of particulates in the air (a weight per unit volume).

Mist

Suspended liquid droplets in the air generated by condensation from the gaseous to the liquid state, or by breaking up a liquid into a dispersed state by splashing, foaming, or atomizing.

Mixture

A combination of two or more substances that may be separated by mechanical means. The components may not be uniformly dispersed. Also see "solution."

Mucous Membrane

Mucous-secreting membrane lining the hollow organs of the body, for example, the nose, mouth, stomach, intestines, bronchial tubes, and urinary tract.

Mutagen

A substance or agent capable of altering the genetic material of a living cell.

Narcosis

Stupor or unconsciousness produced by some narcotic drug.

Nasal Cavity

Either of the pair of cavities in the nose separated by a septum, the thin wall between the two halves of the nose.

Nausea

Tendency to vomit, feeling of sickness in the stomach.

Neoplasm

A new or abnormal growth of tissue in which the growth is uncontrollable and progressive.

Neutralize

To render chemically neutral or harmless; neither acid nor base; to counteract the activity or effect of. The addition of a base (sodium hydroxide) to an acid hydrochloric acid) results in water and a salt (sodium chloride); thus the acid has been "neutralized" or rendered harmless.

NFPA

National Fire Protection Association. Founded in 1896, it is an independent, voluntary membership, nonprofit organization dedicated to the safeguarding of people and their environment from destructive fire using scientific and engineering techniques and education.

NIOSH

National Institute for Occupational Safety and Health. Part of the Centers for Disease Control and Prevention in the U.S. Department of Health and Human Services (DHHS); a Federal agency which, in addition to other activities, tests and certifies respiratory protective devices and air sampling detector tubes, recommends occupational exposure limits for various substances, and assists OSHA in occupational safety and health investigations and research.

Noncombustible

A material that will not ignite, burn, support combustion, or release flammable vapors when subjected to heat or fire.

Non-Flammable Gas

DOT hazard classification applied to any compressed gas other than a flammable compressed gas.

Nystagmus

Spastic, involuntary motion of the eyeballs in a horizontal, rotary, or vertical direction.

Odor

Odor is described in comparison to common, familiar "smells." Odor threshold refers to the concentration required in the air before vapors are detected or recognized.

Oil-Impervious Garments

Clothing that does not allow the entrance or passage of oil to the skin, as with oil-impervious (protective) gloves.

Oil Mist

Oil, in the form of fine particles, formed by atomization floating or falling in the atmosphere; a fine spray of oil particles suspended in the air.

Olfactory

Relating to the sense of smell. The olfactory region of the nasal mucosa is the area that detects odors and transmits information to the brain via the olfactory nerves.

Oliguria

Scanty or low volume of urine.

Oral LD 50

Oral Lethal Dose 50; the concentration of a substance administered by mouth that will produce death in 50 percent of the animals tested.

Oral Toxicity

Adverse effects that result from taking a substance into the body via the mouth.

Organic Peroxide

A Department of Transportation hazard classification applied to an organic compound containing the bivalent -00- structure and that may be considered a derivative of H_2O_2 in which one or more of the hydrogen atoms have been replaced by organic radicals.

ORM-A

A Department of Transportation hazard classification applied to a material which has an anesthetic, irritating, noxious, toxic, or other similar property and which can cause extreme annoyance or discomfort to passengers and crew in the event of leakage during transportation.

ORM-B

A Department of Transportation hazard classification applied to a material (including a solid when wet with water) capable of causing significant damage to a transport vehicle or vessel by leaking during transportation.

ORM-C

A Department of Transportation hazard classification applied to a material that has other inherent characteristics not described as an ORM-A or ORM-B, but that make it unsuitable for shipment unless properly identified and prepared for transportation.

ORM-D

A Department of Transportation hazard classification applied to a material such as a consumer commodity which, though otherwise subject to the regulations of the DOT hazard classification system, presents a limited hazard during transportation due to its form, quantity, and packaging.

ORM-E

DOT hazard classification applied to a material which is not included in any other hazard class but which is subject to the requirements of the DOT regulations. Materials in this class include "Hazardous Waste" and other hazardous materials.

OSHA

Occupational Safety and Health Administration of the U.S. Department of Labor; a Federal agency with safety and health regulatory and enforcement authority for most U.S. industries and businesses.

Oxidation

Literally, oxidation is a reaction in which a substance combines with oxygen provided by an oxidizer or oxidizing agent. An oxidation reaction may occur even when oxygen is not present. However, it may be defined; an oxidation reaction is always accompanied by an offsetting (balancing) reduction reaction.

Oxidizer

Department of Transportation defines an oxidizer or oxidizing materials as a substance that yields oxygen readily to stimulate the combustion (oxidation) of organic matter. Chlorate (ClO3) permanganate (MnO4), and nitrate (NO3) compounds are examples of oxidizers.

OXY

NFPA special hazard rating for oxidizer.

Particulate

Airborne solids or liquids. Dusts, fumes, smokes, mists, and fogs are all examples of particulates.

Palpitation

Irregular, rapid heartbeat.

PEL - Permissible Exposure Limit: an exposure limit established by OSHA's regulatory authority. May be a time weighted average (TWA) limit or a ceiling concentration exposure limit.

pH

The value that represents the acidity or alkalinity of an aqueous solution. Pure water has a pH of 7.

Phlegm

Thick mucous from the respiratory passages.

Photosensitization (contact) - After exposure to some chemical substance(s), the skin, upon exposure to light, may swell or exhibit dermatitis.

PMCC

Pensky-Martens Closed Cup; a flash-point test method.

Pneumoconiosis

Respiratory tract and lung condition caused by inhalation and retention of repairable material.

Pneumonitis

Inflammation of the lungs, which may be caused by inhalation of chemical irritants.

Poison, Class A

A Department of Transportation term for extremely dangerous poisons; that is, poisonous gases or liquids of such nature that a very small amount of the gas, or vapor of the liquid, mixed with air, is dangerous to life. Some examples: phosgene, cyanogen, hydrocyanic acid, nitrogen peroxide.

Poison, Class B

A Department of Transportation term for liquid, solid, paste, or semisolid substances-other than Class A poisons or irritating materials-that are known (or presumed, on the basis of animal tests) to be so toxic to man as to afford a hazard to health during transportation.

Polymerization

A chemical reaction in which one or more small molecules combine to form larger molecules. A hazardous polymerization is such that a reaction takes place at a rate that it releases large amounts of energy.

Ppb

Parts per billion: a unit for measuring the concentration of a gas or vapor in air; parts (by volume) of the gas or vapor in a billion parts of air. Usually used to express measurements of extremely low concentrations of unusually toxic gases or vapors. Also used to indicate the concentration of a particular substance or solution.

Ppm

Parts per million: a unit for measuring the concentration of a gas or vapor in contaminated air. Also used to indicate the concentration of a particular substance in a liquid or solid.

Precautionary Statements

Statements warning product users of potentially harmful hazards that may be attributed to the product, even though a complete toxicological evaluation of the product has not been performed.

Product/Material

Name of the product or material; usually found at the beginning of the MSDS.

Prostration

Physical exhaustion and incapacitation.

Protective Cream

A protective skin cream provides an invisible flexible protection for the hands from soils, solvents, dusts, powders, oils, greases, paints, epoxies, resins, inks, and irritants. It can be easily removed by washing with any cleansing product.

Protective Garment

Specially manufactured clothing designed to provide protection to the wearer against contamination from chemical, biological, radiation, or physical hazards.

Pulmonary Edema

The abnormal accumulation of fluid in the tissues and air spaces of the lungs.

RAD

NFPA special hazard rating for radiation.

Radioactive

The property of an isotope of an element that is characterized by giving off radiant energy in particles or rays by the disintegration of atomic nuclei.

Radioactive Material

DOT hazard classification applied to any material or combination of materials that spontaneously emit ionizing radiation having a specific activity greater than 0.002 microcuries/g.

Radioactivity

Emission of energy in the form of alpha, beta, or gamma radiation from the nucleus of an atom. Always involves change of one atom into a different kind. A few elements, such as radium, are naturally radioactive. Other radioactive forms are artificially induced.

Reaction

A chemical transformation or change; the interaction of two or more substances to form new substances.

Reactivity

The tendency of a substance to undergo a chemical change with the release of energy. Reactive chemicals are liable to cause fire or promote an explosion. Undesirable effects (pressure buildup, temperature increase, formation of noxious, toxic, or corrosive by-products) may occur because of a reaction to heating,

burning, direct contact with other materials, or other conditions when in use or in storage.

Reducing Agent

In an oxidation-reduction reaction, the reducing agent is the material that is oxidized or is responsible for the reduction. Reduction occurs when an atom undergoes a decrease in oxidation number.

Reproductive Toxicity Data

Information obtained through reproduction tests, which may be carried through several generations of test animals. This testing attempts to assess the changes in reproductive functions of parental animals including the fertility, the incidence of birth defects, and changes in the reproductive system as a result of parental exposure to a substance.

Respiratory Protection

Devices for use in conditions exceeding the permissible exposure limits, which, when properly selected, maintained, operated, and worn by the user, will protect the user's respiratory system from exposure to airborne contaminants by inhalation.

Respiratory System

The breathing system; includes the lungs and the air passages (trachea or windpipe, larynx, mouth, and nose) to the air supply outside the body, plus the associated nervous and circulatory systems.

RTECS

Registry of Toxic Effects of Chemical Substances; a compendium of toxicity data extracted from scientific literature. Inclusion of data in the registry does not mean endorsement of the reference. Evaluation of cited references is the responsibility of the reader.

SCBA

Self Contained Breathing Apparatus provides a substitute source of clean breathing air from a separate tank carried on the person.

Second-Degree Burn

A burn that is more severe than a first-degree burn and is often characterized by blistering, reddening of the skin, edema (swelling), and destruction of the superficial tissue.

Sensitization

An immune response reaction state in which further exposure elicits an immune or allergic response. A person previously exposed to a certain material is more sensitive when further contact with this material is encountered.

Sensitizer

A substance which, on first exposure, causes little or no reaction in man or test animals but which, on subsequent exposure(s), may cause a marked response not necessarily limited to the contact site. Skin sensitization is the most common form of the problem in the industrial setting, although respiratory sensitization to a few chemicals has been known to occur. Poison ivy is a common sensitizer outside the work setting.

Simple Asphyxiant

A substance that causes a deficiency in the supply of oxygen to the tissue by excluding oxygen from the inhaled atmosphere. Nitrogen, propane, and acetylene are examples.

"Skin"

Notation used to indicate possible significant contribution to overall exposure to a chemical by way of absorption through the skin, mucous membranes, and eyes by direct or airborne contact.

Skin Lesion

An abnormal change in the structure of the skin due to injury or disease.

Skin Protection

Refers to the recommended type of gloves, protective creams, and outerwear to be worn when handling the product.

Sox

Oxides of sulfur; undesirable air pollutants. SOx emissions are regulated by EPA under the Clean Air Act.

Spasm

An involuntary, convulsive muscular contraction.

Specific Gravity

The ratio of the weight of a volume of material to the weight of an equal volume of water, usually at 60 degrees F, unless otherwise specified

Spill and Leak Procedure

Procedures, precautions, and methods used in the cleanup of a substance.

Stability

An expression of the ability of a material to remain unchanged. A material is stable if it remains in the same form under expected and reasonable conditions of storage and use. Conditions that may cause instability are stated on the MSDS.

Static Electricity

If two objects are in close physical contact and then separated, the objects sometimes collect an electrical charge through friction or induction. Similar electrical charges can be generated by rapid flow of gases or liquids. If the objects are not bonded or grounded, they may accumulate sufficient electrical charges so that an electrostatic discharge (spark) between them may occur.

STEL

Short Term Exposure Limit; American Conference of Governmental Industrial Hygienists' terminology. See "TLV-STEL."

Stupor

Partial or nearly complete unconsciousness.

Subchronic Toxicity Data

Data resulting from "subchronic toxicological tests," in which the substance being tested is administered to animals on a daily basis, for test periods generally ranging from 2 to 13 weeks.

Subcutaneous Systemic

Beneath the skin. Affecting the entire body.

Systemic Toxicity

The adverse effects caused by a substance that affects the body in a general rather than a local manner.

Tachycardia

Excessively rapid heartbeat. Pulse rate above 100.

Target Organ Effect

Damage caused in a specific organ following exposure to certain chemicals. For example, a "neurotoxin" is a chemical, such as mercury, that produces its primary toxic effect on the nervous system.

TCC

Tag (Tagliabue) Closed Cup - a flash-point test method.

Teratogen

A substance which, upon exposure of the parent, causes "teratogenic changes," that is, malformations or alterations in the appearance or function of the fetus.

Third-Degree Burn

The most serious type of burn, characterized by charring (blackening) of the skin and by skin necrosis (tissue death).

Tinnitus

A ringing or singing sound in the ears.

TLV

Threshold Limit Value: a term used by the American Conference of Governmental Industrial Hygienists (ACGIH) to express the airborne concentration of a material to which nearly all persons can be exposed day after day, for a normal 8-hour workday or 40-hour work-week, without adverse effects.

TLV-C

Threshold Limit Value - Ceiling Exposure Limit: the concentration that should not be exceeded, even momentarily.

TLV-STEL

Threshold Limit Value - Short-Term Exposure Limit; maximum concentration for a continuous 15-minute period (maximum of four such periods per day, with at least 60 minutes between exposure periods), provided that the daily TLV (time weighted average) is not exceeded.

TOC

Tag (Tagliabue) Open Cup; a flash-point test method.

Toxic

Describes a substance that:

- has an LD_{50} of more than 50 milligrams per kilogram but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats.
- has an LD_{50} of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours with the bare skin of albino rabbits.
- has an LC_{50} in air of more than 200 ppm but not more than 2,000 ppm by volume of gas or vapor when administered by continuous inhalation for one hour to albino rats.

Toxicity

Basic biological property of a material reflecting its inherent capacity to produce injury; adverse effects resulting from overexposure to a material, generally via the mouth, skin, eyes, or respiratory tract.

Toxicology

The study of the harmful effects of chemicals on biological systems.

Toxicology Data

This section of the MSDS contains toxicological data such as oral, dermal, inhalation toxicity; eye, skin irritation; dermal sensitization; and environmental, reproductive, genetic, chronic, subchronic, and other toxicity data.

TWA

Time Weighted Average exposure; the airborne concentration of a material to which a person is exposed, averaged over the total exposure time, generally the total workday (8 to 12 hours). It is calculated by multiplying measured concentration levels times the duration of exposure (in hours), adding these values together, then dividing by the total sampled time (in hours). Also see "TLV" and "PEL."

UN/NA Number

Numerical designation for transportation hazards:

UN = United Nations; NA = North America.

Unstable

Tending toward decomposition or other unwanted chemical change during normal handling or storage.

UEL or UFL

Upper Explosive Limit or Upper Flammable Limit - The highest concentration of a flammable vapor or gas in air (usually expressed in percent by volume) above which propagation of a flame will not occur in the presence of an ignition source. Also see "LEL."

Urticaria

Nettle-rash; hives; elevated, itching, white patches.

Vapor Density

Relative density or weight of a vapor or gas compared to weight of an equal volume of air. Materials lighter than air, such as acetylene, have vapor densities less than 1.0. Materials heavier than air, such as propane, will have densities greater than 1.0.

Vapor Pressure

The pressure exerted by a saturated vapor above its own liquid in a closed container.

Ventilation –

See "general exhaust," "local exhaust," and "mechanical exhaust." As used in the context of the MSDS, this refers to recommended air flow schemes to control airborne concentrations of hazardous substances in the atmosphere.

Vertigo

A feeling of revolving in space; dizziness, giddiness.

Viscosity

Measurement of the flow properties of a material.

Volatility

The tendency or ability of a liquid to vaporize. Liquids such as alcohol and gasoline, because of their tendency to evaporate rapidly, are called volatile liquids.

Waste Disposal Methods

Methods to be used in disposal of this product and/or materials used in the cleanup of this product as recommended by local, state, and Federal authorities.

Waterless Skin Cleanser

A commercially available paste or liquid used for the removal of hydrocarbon-based substances, dirt, and contamination from the skin without the use of solvents. It is generally recommended that, after using a waterless skin cleanser, the worker wash the contaminated skin area a second time using ordinary bath soap.