SAFETY PROCEDURES

HAZARD COMMUNICATION

SINCE 1963

LD DOCSA

ASSOCIATES, INC.
GENERAL CONTRACTORS

Building Sustainable Solutions

Contents

POLICY

The following hazard communication program has been established for L.D. Docsa Associates, Inc. This program is available for review by all employees. The ensuing items are to be followed to insure both compliance with the MIOSHA Hazard Communication Standard and the safety of our employees.

STORAGE

All storage areas for hazardous substances are to be secured, properly ventilated, and identified by signs.

COMPLIANCE

Any direct or intentional violation or non-compliance with this program may result in the termination of the person or persons involved, in accordance with company policy.

HAZARD DETERMINATION

L.D. Docsa Associates, Inc. will rely on SDS from suppliers to meet determination requirements.

Labeling

Each container of a hazardous chemical that is used in or around the work area must be properly labeled with the identity of the hazardous material, the appropriate hazard warnings, and the name and address of the manufacturer. Appropriate labels must be on all containers, regardless of size. Containers must be approved and recommended for storage and/or dispensing of the particular hazardous chemicals contained in them.

Worn and torn labels must be replaced. It is the responsibility of employees to report inappropriate labels to their supervisor. It is the responsibility of the Hazard Communication Officer to insure that appropriate labels are in place and that replacement labels are available. Containers for materials that will be used within a particular work shift do not require labels.

The Safety Director and/or Site Superintendent will be responsible for seeing that all containers coming in are properly labeled. All labels shall be checked for:

- Identity
- Hazard
- Name and address of responsible party

Material Safety Data Sheets (SDS)

The Safety Manager is responsible for compiling the Safety Data Sheets (SDS) file. This file will be kept in the job site trailer.

Copies of SDSs for all hazardous chemicals to which employees may be exposed will be kept in a file at the job site trailer. SDSs will be available for review to all employees during each work shift. Copies will be available upon request. The job site will also be provided with the required MIOSHA Right-To-Know posters and postings notifying employees of new or revised SDSs within five (5) days of receipt of new or revised SDSs.

SDS books and the Hazardous Chemical List must be maintained and kept up to date. As obsolete SDS's are replaced by updated copies, they must be retained in a separate file of obsolete SDS's. Do not throw them away.

If a hazardous chemical or substance is received without a proper SDS, the receiving person must immediately notify the Hazard Communication Officer. The manufacturer or distributor of the product must be contacted immediately and asked to fax the SDS and mail a copy as a follow up. If, for some reason, the manufacturer or distributor is unable to produce a SDS upon request, the Hazard Communication Officer should be notified immediately. Hazardous

materials or substances received without an SDS are to be returned to the sender.

Hazardous Chemical List

A list of hazardous materials and chemicals which are used in the course of the company's normal business activities must be maintained and continually updated. This list is to include all substances which require a SDS.

One copy of this list is to be kept in the front of each SDS book and one copy is to be kept on file with the Hazard Communication Officer. For each chemical used in the workplace, an SDS sheet must be available on that jobsite.

TRAINING

The Safety Manager shall coordinate and maintain records of training conducted for employees. Training to be completed per L.D. Docsa Associates, Inc. Safety and Health Policy.

COMMUNICATION

Hazardous Non-Routine Tasks

On occasion, employees are required to do work in hazardous areas (i.e., confined spaces). Prior to starting work in such areas, each employee will be given information about the hazards involved in these areas.

This information will include:

- Specific chemical hazards
- Protection/safety measures the employee is required to take to lessen risks

- Measures the company has taken to lessen the hazards, including ventilation, respirators, the presence of another employee, and emergency procedures.

It is the policy of L.D. Docsa Associates, Inc. that no employee will begin work in a confined space, or any non-routine task, without first receiving a safety briefing.

Informing Contractors

It is the responsibility of the Site Superintendent to provide any other contractors with employees exposed to our chemicals with the following information:

- Hazardous chemicals with which they may come in contact
- Measures the employees should take to lessen the risks
- Where to get SDSs for all hazardous chemicals

It is the responsibility of the Site Superintendent to obtain chemical information from contractors when they will expose our employees to hazardous chemicals which they may bring into our workplace.

Pipe and Piping Systems

Information on the hazardous contents of pipe and piping shall be readily available to all workers on site for their use.

HANDLING

Chemicals are often found on the job site. These chemicals should be handled in accordance with the written safety procedures associated with each type of chemical. Refer to SDS for complete care instructions.

Dry Chlorine

Dry chlorine is available in several forms: granular chlorine (HTH or PACE), tablet chlorine (Sanuril), liquid (household bleach), and gas. Dry chlorine, no matter what type – tablet or powder -- can be very volatile when mixed with other substances. It should always be kept in a dry container with the cover sealed to prevent moisture from coming into contact with the chlorine. Dry chlorine should always be handled with a clean container that is used only for handling chlorine powder. Dry chlorine should not be stored in an environment with electrical controls. If left open it can cause corrosion on electrical wiring and controls.

Chlorine Gas

Chlorine gas is relatively stable when properly handled; however, cautions should be taken due to the large volume of gas that can be released in a short period of time. Keep chlorine cylinders stored in a proper enclosure to prevent unauthorized tampering with cylinders. Chain all cylinders to wall to prevent tipping. Open cylinder valve only ¼ turn, or as much as needed, to obtain sufficient gas flow to the chlorinator. Check for gas leak using ammonia bottle after changing cylinders. Always plan your escape from the chlorine room prior to attempting any service on a chlorinator. Keep chlorine gas mask available, outside of the chlorine room, in case of emergency.

Herbicides

Herbicides are normally used near wastewater treatment plants to control weeds around fences and equipment and to control algae in lagoons. Always mix herbicides in a clean disposable container. Use of gloves and appropriate eye protection is recommended. Apply herbicides in proper dosages using the recommended application procedures - algaecides for lagoons and weed killers for ground application. Wash hands and clothing thoroughly after each application. Clean and dispose of unused portions and packaging materials

properly. Empty containers shall be disposed of in a safe manner. They shall never be thrown into lagoons or storage tanks.

TERMS

ACUTE EFFECT - An adverse effect with severe symptoms occurring very quickly, as a result of a single excessive over exposure to a substance.

ACUTE TOXICITY - The adverse effects resulting from a single excessive overexposure to a substance. Usually a figure denoting relative toxicity.

ASPHYXIANT - A vapor or gas that can cause unconsciousness or death by suffocation. Most are associated with a lack of sufficient oxygen to promote life.

BOILING POINT - A temperature at which a liquid turns to a vapor state. This term is usually associated with the temperature at sea level pressure when a flammable liquid gives off sufficient vapors to promote combustion.

"C" OR CEILING - In terms of exposure concentrations, this is the number that should never be exceeded even for a short period, for a substance.

CARCINOGEN - A substance or agent capable of producing cancer in mammals.

CC - CUBIC CENTIMETER - A volume measurement usually associated with small quantities of a liquid. One quart has 946 cubic centimeters.

CHRONIC EFFECT - An adverse effect with symptoms that develop or reoccur very slowly, or over long periods of time. CHRONIC TOXICITY - The adverse effects resulting from prolonged or repeat exposures to a substance, usually used as an Indicator of relative toxicity for exposures over great lengths of time.

COMBUSTIBLE - A term used to classify liquids, gases, or solids that will burn readily. This term is often associated with 'flash point', which is a temperature at which a given material will generate sufficient vapors to promote combustion. •

CONCENTRATION - A figure used to define relative quantity of a particular material. Such as a mixture in air of 5 ppm Acetone in Air.

CORROSIVE - A material with the characteristic of causing irreversible ham to human skin, or steel by contact. Many acids are classified as corrosives*

DECOMPOSITION - The breakdown of materials or substances into other substances or parts of compounds. Usually associated with heat or chemical reactions.

DERMAL - Used on or applied to the skin.

DERMAL TOXICITY - The adverse effects resulting from exposure of a material to the skin. Usually associated with lab animal tests.

EVAPORATION RATE - The rate at which a liquid material is known to evaporate, usually associated with flammable materials. The faster a material will evaporate, the sooner it will become concentrated in the air, creating either an explosive/combustible mixture or toxic concentration, or both.

FLASH POINT - The temperature at which a liquid will generate sufficient vapors to promote combustion. Generally, the lover the flash point, the greater the danger of combustion.

FLAMMABLE - Any liquid that has a flash point of 100 Degree F. or below. Also, any solid that can sustain fire and ignite readily.

GENERAL EXHAUST - A term used to define a system for exhausting or ventilating air from a general work area. Not as site specific as localized exhaust.

•G* - GRAM - A unit of weight. One ounce equals about 28.4 grams.

HAZARDOUS CHEMICAL - Any chemical which is either a physical or health hazard or both.

IGNITABLE - A term used to define any liquid, gas or solid which has the ability to be 'Ignited' which means having a flash point of 140 Degree F. or less.

INCOMPATIBLE - Materials which could cause dangerous reactions from direct contact with one another.

INCESTION - Taking in of a substance through the mouth.

INHALATION - The breathing in of a substance in the form of a gas, liquid, vapor, dust, mist, or fume.

INHIBITOR - A chemical added to another substance to prevent an unwanted change from occurring.

IRRITANT - A chemical, which causes a reversible inflammatory effect on the site of contact, however is not considered a corrosive. Normally, irritants affect the eyes, skin, nose, mouth, respiratory system.

LC - LETHAL CONCENTRATION. In lab animal tests, this is the concentration of a substance which is sufficient to kill the tested animal. LC, - Lethal Concentration. - In lab animal tests, this is the concentration of a substance required to kill 50% of the group of animals tested.

LD - LETHAL DOSE - The concentration of a substance required to kill the lab animal used for the test with a specific material. ld.q - Lethal Dose - The single dose concentration of a substance required to kill 501 of the lab animals tested.

L.E.L. - LOWER EXPLOSIVE LIMIT - The lowest concentration, or percentage in air, of a vapor or gas, that will produce a flash fire when an Ignition source is introduced.

LOCAL EXHAUST - The system for ventilating or exhausting air from a specific area such as in welding operations. More localized than general exhaust.

MELTING POINT - The temperature ac which a solid changes Co a liquid.

MG - MILLIGRAM - A unit of measurement of weight. There are 1000 mg in one gram of a substance.

MG/M3 - MILLIGRAMS PER CUBIC METER - A unit of measurement usually associated with concentrations of dusts, gases, or mists in air.

MPPCF - MILLION PARTICLES PER CUBIC FOOT - A unit of measure usually used to describe airborne particles of a substance suspended in air.

MUTAGEN - A substance or agent capable of altering the genetic material in a living cell. Normally associated with carcinogens. NFPA - National Fire Protection Association - An organization which promotes fire protection/prevention, and establishes safeguards against loss of property and/or life by fire. The NFPA has established a series of codes Identifying hazardous materials by symbol and number for fire-fighting purposes. These codes also classify materials in there order of flammability, with 0 being not burnable up to 4 which means will burn spontaneously at room temperature.

OLFACTORY - Relating to the sense of smell.

ORAL - Used in or taken through the mouth into the body.

ORAL TOXICITY - A term used to denote the degree at which a substance will cause adverse health effects when taken through the mouth. Normally associated with lab animal tests.

OX1DIZER - A substance which yields oxygen readily to stimulate the combustion of an organic material.

OXIDIZING AGENT - A chemical or substance which brings on oxidation reactions, by providing the oxygen to promote oxidation.

PEL - PERMISSIBLE EXPOSURE LIMIT - An exposure concentration established by the Occupational Safety & Health Community which indicates the maximum concentration for which no adverse effects will follow.

PPM - PARTS PER MILLION - A unit of measurement for the concentration of a gas or vapor in air. Usually expressed as number of parts per million parts of air.

PPB - PARTS PER BILLION - As above, only expressed as number of parts per billion parts of air.

REACTIVITY - The term which describes the tendency of a substance to undergo a chemical change with the release of energy, often as heat.

REDUCING AGENT - In an oxidation reaction, this is the material that combines with oxygen.

RESPIRATORY SYSTEM - The breathing system, including the lungs, and air passages, plus their associated nervous and circulatory components.

SENSITIZER - A substance which on first exposure causes little or no reaction, however, with repeated exposure will induce a marked response not necessarily limited to the exposure site. Usually associated with skin sensitization.

SPECIFIC GRAVITY - The weight of a material compared to the weight of an equal volume of water. Usually expresses materials heaviness. A material with a specific gravity of greater than 1.0 will sink to the bottom of water, whereas a material with a specific gravity of less than 1.0 will float on top of water.

STEL - SHORT TERM EXPOSURE LIMIT - The maximum allowable concentration of a substance that one can be exposed to for less than IS minutes and not produces adverse health effects.

TERATOGEM - A substance or agent usually associated with cancer, that when exposed to a pregnant female will cause malformations to the fetus. Usually associated with lab animal tests. .

TLV - THRESHOLD LIMIT VALUE - A term used by the Occupational Safety & Health community to describe the airborne concentration of a material to which nearly all persons can be exposed to day in and day out, and not develop adverse health effects.

TOXICITY - The sum of adverse effects of exposure to materials, generally by mouth, skin, or respiratory tract.

TWA - TIME WEIGHTED AVERAGE - The airborne concentration of a material to which a person can be exposed over an 8-hour workday. (An average).

UEL - UPPER EXPLOSIVE LIMIT - The highest concentration of a gas or vapor in air that will sustain or support combustion, when an ignition source is present.

VAPOR DENSITY - A term used to define the weight of a vapor or gas as compared to the weight of an equal volume of air. Materials lighter than air

have a vapor density of less than 1.0, whereas materials heavier than air have a vapor density greater than 1.0.

VAPOR PRESSURE - A number used to describe the pressure that a saturated vapor will exert on top of its own liquid in a closed container. Usually, the higher the vapor pressure, the lower the boiling point, and therefore the more dangerous the material can be, if flammable.