



NORTHEAST STATE

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HAZARDOUS CHEMICAL
RIGHT-TO-KNOW PROGRAM

July 2013

Office of Environmental Health and Safety
423.354.5224

Hazardous Chemical Right-To-Know Program

The Northeast State Community College Hazardous Chemical Right-To-Know Program is modeled after the Tennessee Hazardous Chemical Right-To-Know Act passed by the Tennessee General Assembly on May 23, 1985. The Tennessee Right-To-Know Law was enacted because of the expressed concern relative to the proliferation and variety of chemicals present in our society and their effect on the safety, health, and welfare of persons living and working in Tennessee.

The intent and purpose of Northeast State Community College's Right-To-Know Program is to provide necessary information that will enable the college employees and students to become knowledgeable of the chemicals they work with and to which they may be exposed.

The college's Right-To-Know Program centers on the completion of the following:

1. Assigning an individual responsible for implementing the program in each department, or, if necessary, in each work area.
2. Making a list of all chemicals and by-products used, stored, or produced in each department or area.
3. Obtaining a current Material Safety Data Sheet (MSDS) or Safety Data Sheet (SDS) for each chemical, substance, or by-product listed.
4. Determining which chemicals, by-products, or substances are hazardous.
5. Preparing the Workplace Hazardous Chemical List.
6. Submitting the hazardous chemical list to the Health and Safety office for compilation and submission to the Tennessee Occupational Safety and Health Administration (TOSHA). In order to meet the TOSHA suspense date of January 31, the Safety and Security Office must receive lists no later than the 1st day of December each year.
7. Ensuring that all containers are properly labeled.
8. Training the employees.

Notification

The Occupational Safety Health Administration (OSHA) poster "You Have a Right to a Safe and Healthful Workplace" will be the means of informing

employees about their rights under the Tennessee Hazardous Chemical Right-To-Know Act. These posters, available from the Office of Police and Safety, must be displayed in a conspicuous location for each area.

Material Safety Data Sheets or Safety Data Sheets*

*It should be noted that the plan will refer to both Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS) due to the Hazard Communication Standard (HCS) conforming to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). The plan will change to reflect SDS only upon the deadline for implementation of the new standard.

All manufactures and distributors supplying Northeast State Community College with products that contain hazardous chemicals must provide the college with a Material Safety Data Sheet (MSDS) or Safety Data Sheet (SDS) for that product. The MSDS or SDS must be provided prior to or with the initial shipment of the product to the college. If a MSDS or SDS is updated, a copy should be forwarded with the first shipment of chemicals after occurrence of the update. If a product is not considered hazardous, the supplier must provide a statement to that effect. If an MSDS or SDS is not shipped with the product or received within five (5) days after shipment, the department should request the MSDS or SDS in writing.

Material Safety Data Sheets or Safety Data Sheets are not required for products that are:

1. Packaged in small containers (such as spray cans), **and**
2. Used infrequently, **and**
3. Obtained from general retail stores.

Note: The hazardous chemical must meet **all three** requirements to be exempt from the Material Safety Data Sheet or SDS rules.

Each department must maintain a copy of the current Material Safety Data Sheets or Safety Data Sheets on each hazardous chemical in the workplace. Material Safety Data Sheets or Safety Data sheets are also maintained by the Office of Environmental Health and Safety.

Material Safety Data Sheets must be maintained on a current basis and must be readily accessible to employees at all times. MSDS's can be located on the EH&S website at NortheastState.edu If an employee seeks a Material Safety Data Sheet or Safety Data Sheet and it is not available, they may submit a written request through their department representative to the Environmental Health and Safety Office or through the EH&S website. The Health and Safety

Office is required to furnish a copy within three (3) business days after receiving the written request. If the Material Safety Data Sheet is not available, the Health and Safety Office will notify the requestor that an effort has been made to obtain the MSDS or SDS. If after two weeks, the Environmental Health and Safety Office is still unable to obtain the requested Material Safety Data Sheet or Safety Data Sheet, the employee shall not be required to work with the hazardous chemical for which the MSDS or SDS was requested. There shall be no penalty for not doing such work. Reassignment of the employee to other work, at equal pay and benefits, shall not be considered a penalty under this section.

Employee Rights

The following statements of rights are reproduced from Tennessee House Bill 731 – Hazardous Chemical Right-To-Know Law:

- 1. Employees who may be exposed to hazardous chemicals shall be informed of such exposure and shall have access to the workplace chemical list and Material Safety Data Sheets for the hazardous chemicals.*
- 2. No non-manufacturing employer, manufacturing employer, or distributor shall discharge, or cause to be discharged, or otherwise discipline, or in any manner discriminate against an employee because the employee has filed a complaint, assisted an inspector of the commissioner who may make or is making an inspection under Section 16(b) of the Act, or has instituted or caused to be instituted any proceeding under or related to this Act or has testified or is about to testify in any such proceeding or because of the exercise of any rights afforded pursuant to the provisions of this Act on behalf of the employee or on behalf of others, nor shall pay, position, seniority or other benefits be lost for exercise of any right provided by this Act.*
- 3. Any waiver by a person of the benefits or requirements of this Act shall be against public policy and be null and void. Any employer's request or requirement that a person waive any rights under this Act as a condition of employment shall constitute a violation.*

Container Labeling

All containers of hazardous chemicals must be properly labeled, tagged, or marked. Proper labels should indicate the following:

1. Identity of the hazardous chemical, i.e., the common and/or chemical name as well as any chemical ingredients.

2. The name and address of its manufacturer, importer, or other responsible party.
3. Its potential physical hazards (If not handled properly, it might burn, explode, react, etc.).
4. Its potential health hazards (e.g., overexposure may irritate the skin, burn the eyes, cause dizziness, cause cancer, etc.).

Note: Existing labels on containers must not be removed or defaced.

Container Transfer

If a college employee transfers a hazardous chemical from the original container to another container to be used by another employee, all label information on the original container must be reproduced to the new container. If not, the receiving employee is not required to work with the hazardous chemical. Containers of chemicals governed by the Federal Insecticide Fungicide Rodenticide Act, or the Tennessee Application of Pesticides Act need only be labeled with the chemical or common name.

If a college employee transfers a hazardous chemical from its original container to a container for his or her own use during the workday, the container does not have to be labeled. However, if the container is transferred to another employee during the work shift or to an employee on another work shift, then labeling requirements will apply.

Education and Training Program

The department supervisor, in conjunction with the Office of Environmental Health and Safety and the Office of Human Resources, is responsible in coordinating and conducting initial training for departmental employees. The Office of Environmental Health and Safety provide the training for the departmental supervisors responsible for implementing this program. Departmental supervisors are responsible for ensuring that all elements required of the training program are implemented within their respective departments. In order to comply with Tennessee law, refresher must be provided on an annual basis. The training program shall include, as a minimum, the following:

- Information on how to interpret container labels and Material Safety Data Sheets or Safety Data Sheets, and to understand the relationship between these two methods of hazard communication.
- The location of the workplace chemical list and Material Safety Data Sheets file and employee rights of access to them.

- Places in an employee's work area where hazardous chemicals are present.
- The physical and health hazards of hazardous chemicals in the work area. The chemical long-term and short-term effect on the body and how the chemical can be detected if present.
- Measures that employees may use to protect themselves from chemical hazards. These would include proper work practices, personal protective equipment, emergency procedures, etc.
- General safety instructions on the handling, clean up, and disposal of hazardous chemicals. This would also include what to do in the event of a chemical spill. Information on chemical spills and clean-up procedures is available in the Northeast State Hazardous Waste Management Guide.

All persons currently employed at the college will be trained on the dangers of hazardous chemicals currently located in their workplaces. Whenever a new hazard is introduced in the workplace, training will be provided before or at the time of introduction of the hazardous chemicals.

Prior to beginning work, each new employee who has hazardous chemicals in their workplace will be trained in accordance with the Right-To-Know Law.

At the conclusion of a training session, an employee should be able to verbally recall the following questions in simple language:

- What is the training about?
- What hazardous chemical(s) are you exposed to or may you be exposed to during normal use or in a foreseeable emergency?
- Where is the chemical present?
- What are the long-term and short-term effects on the body?
- How can you detect if you are overexposed to the chemical(s)?
- How can you protect yourself from overexposure?
- Have the written program and Material Safety Data Sheets been explained to you?

A sign-in sheet will serve as the record of training throughout the college. Instructors ensure that sign-in sheets contain the date, title of class, and signature of all participants.

Department supervisors must maintain a record of the dates and attendance of their training sessions and the records are subject to review.

Contractors

Contractors and their employees who may be exposed to hazardous chemicals while performing work at the college will be informed of any hazards, both verbally and by means of an information sheet, prior to any work being started.

All contractors performing work, which requires the introduction of hazardous chemicals to the college workplaces, shall notify the Office of Environmental Health and Safety so that appropriate information can be distributed to affected Northeast State employees.

Most contractor services performed at the college are coordinated through the Physical Plant. However, on occasion, other college departments request contractor services. Any department or employee who requests contractor services is responsible for notifying the Office of Environmental Health and Safety if any hazardous chemicals are present, or will be introduced, that affects the safety of the Northeast State community.

Hazardous Chemical Inventory

Each department must make a Workplace Hazardous Chemical List of all chemicals within their respective areas. When chemicals are added or deleted, the list must be updated. A copy of current chemical lists must be forwarded to the Office of Environmental Health and Safety upon request.

Hazardous Determination

The college is required by the Right-To-Know Law to maintain an inventory of all hazardous chemicals/materials in the workplace. From this inventory, information is obtained to aid employee education and training, and data is compiled for submission to the Department of Labor, upon request, concerning the hazards on campus. It is essential that all departments complete inventories as accurately as possible. Material Safety Data Sheets may be used to evaluate whether the listed chemicals are hazardous chemicals. Hazardous chemicals are listed in the "Hazardous

Ingredients” section of the Material Safety Data Sheets or Safety Data Sheets.

Chemicals found in the following publications are automatically considered health hazards:

- 29 CFR, Subpart Z, “Toxic and Hazardous Substances” (OSHA).
- “Threshold Limit Values and Biological Exposure Indices” (latest edition), American Conference of Government Industrial Hygienists (ACGIH).
- National Toxicology Program (NTP), “Annual Report on Carcinogens,” (latest edition)
- International Agency for Research on Cancer (IARC), “Monographs,” (latest edition)

Reporting to State

In addition to maintaining Workplace Hazardous Chemical Lists for all chemicals, the college must compile and maintain a separate Workplace Chemical List for all chemicals stored in **excess** of 55 gallons or 500 pounds. This list must also include pressurized cylinders if **four (4)** are present in the workplace (Exception: **All** cylinders of acetylene must be reported regardless of the quantity).

Firefighter Protection

The Workplace Chemical List may also be provided to the Sullivan County Emergency Medical Services and any fire department supporting Northeast State. By law, the fire chief is permitted to make on-site inspections of college buildings during normal business hours for purposes of pre-planning emergency fire department activities on the campus.

The Office of Police and Office of Environmental Health and Safety maintains a list of names and telephone numbers of knowledgeable college representatives who can be contacted for information and/or assistance if an emergency arises.

Distribution of the college’s Workplace Chemical Lists and Material Safety Data Sheets or Safety Data Sheets by the Sullivan County Volunteer Fire Department or any other fire department supporting Northeast State is limited to members of the fire department only. If an

emergency situation arises, the fire department supporting Northeast State can distribute the information to anyone who may need it during the emergency. However, the Sullivan County Volunteer Fire Department or the fire department supporting Northeast State must notify the Office of Police **and Office of Environmental Health and Safety**? in writing as to whom the information was supplied to. The person(s) who received this information are bound by law to keep this information confidential.

A copy of all Workplace Chemical lists will be maintained in the Office of Police and Safety. Working chemical lists must be maintained for a period of thirty (30) years.

Exemptions

The following conditions are exempt from the Hazardous Chemicals Right-To-Know Act:

- Any article which is formed to a specific shape or design during manufacture, which has end-use function(s) dependent in whole or in part upon its shape or design during end use, and which does not release or otherwise result in exposure to a hazardous chemical under normal conditions of use.
- Products intended for personal consumption by employees in the workplace.
- A workplace where a hazardous chemical is received in a sealed package and is subsequently sold or transferred in that package if the seal remains intact while the chemical is in the workplace for more than fourteen (14) days.
- Any food, food additive, color additive, drug, or cosmetic as such terms are defined in the Food and Drug Act; or distilled spirits, wines, or malt beverages as such terms are defined in the Federal Alcohol Administration Act.

Trade Secrets

The following statements are reproduced from Tennessee House Bill 731 – Hazardous Chemical Right-To-Know Law:

A non-manufacturing employer, manufacturing employer, or distributor who believes that all or part of the information required on a Material Safety Data Sheet or under provisions for firefighter protection, or on a

workplace chemical list is a trade secret may withhold the information provided that:

1. Material Safety Data Sheets are available to persons in the area where they work.
2. Hazard information on any trade secret chemical is provided to the fire chief and appropriate emergency department.
3. All relevant information is provided pursuant to requirements stated in the OSHA standard set forth in 29 CFR Part 1910.1200 (9i)(2).
4. The employer or distributor can substantiate the trade secret claim.

The commissioner, upon his initiative, or upon request by an employee, his representative, or the fire chief, shall request any or all the data substantiating the trade secret claim to determine whether the claim made is valid. The commission shall protect from disclosure any or all information as marked by the employer as confidential and shall return all information so marked to the employer at the conclusion of the determination.

Any information, which is marked confidential, shall not be disclosed during administrative or judicial proceeding. Administrative hearings held shall not be open to public observation pursuant to Tennessee Code Annotated, Title 8, Chapter 44, and any judicial proceedings relative to such information shall be held in confidence. Any information marked confidential shall not be public record.

Appendix A

References

American Conference of Governmental Industrial Hygienists. Threshold Limit Values for Substances and Physical Agents in the Workroom Environment. Cincinnati, 2000-2001 (Issued annually).

International Agency for Research on Cancer (IARC), "Monographs," (latest edition).

National Toxicology Program (NTP), "Annual Report on Carcinogens," (latest edition).

"Threshold Limit Values and Biological Exposure Indices", (latest edition), American Conference of Governmental Industrial Hygienists (ACGIH).

Tennessee Hazardous Chemical Right-To-Know Law, 1985.

Title 29, Code of Federal Regulations, section 1910, subpart Z, Toxic and Hazardous Substances.

Appendix B

Explanation of Terms

Chemical Name – The scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry or the Chemical Abstracts Service rules of nomenclature or a name which will clearly identify the chemical purpose of conducting a hazard evaluation.

Chemical Substance – Any organic or inorganic substance of a particular molecular identity including any combination of such substances occurring in nature in whole or in part as a chemical reaction or occurring in nature any element or uncombined radical.

Combustible Liquid – Any liquid having a flash point at or above 100° F.

Commissioner – The Commissioner of the Tennessee Department of Labor or his designee.

Common Name – Any designation or identification such as a code name, code number, name, brand name, or generic name used to identify a chemical other than by its chemical name.

Compressed Gas – A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70° F, or a gas or mixture of gases having, in a container, an absolute pressure at 70° F, or a liquid having a vapor pressure exceeding 40 psi at 100° F as determined by ASTM D-323-72.

Container – Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, etc., in which a material is stored, transported, treated, disposed of, or otherwise handled. For purposes of this program, pipes or piping systems are not considered as containers.

Designated Representative – Any individual or organization to which an employee gives authorization to exercise such employee's rights under this act or a parent or legal guardian of a minor employee.

Distributor – Any business, other than a chemical manufacturer, which supplies hazardous chemicals to other distributors or to manufacturing or non-manufacturing employers.

Employee – Any person who receives a paycheck from the college, including graduate or undergraduate students. Any employee who may be exposed to hazardous chemicals in the workplace under normal operating conditions or foreseeable emergencies. Office workers, security personnel, or nonresident management personnel are not generally included unless the performance routinely involves potential exposure to hazardous chemicals. For the purpose of this act, "employee" includes a person working for the State of Tennessee and its political subdivisions.

Expose or Exposure – An employee who is exposed to a hazardous chemical in the course of employment through any route of entry (inhalation, ingestion, skin absorption, or contact, etc., and includes potential (e.g., accidental or possible) exposure.

Hazardous Chemical – Any element, chemical compound, or mixture of elements and/or compounds which is a physical hazard or health hazard as defined by the OSHA standards CFR Section 1910.1200© or a hazardous substance as defined by the OSHA standards Section 1910.1200(d).

Label – Any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

Mixture – Any combination of two or more chemicals if the combination is not, in whole or in part, the result of a chemical reaction.

Material Safety Data Sheet (MSDS) or Safety Data Sheets (SDS) – Written or printed material concerning a hazardous chemical, including the manufacturer's name, the chemical's synonyms, trade name, chemical family, hazardous ingredients, physical data, fire and explosion hazard procedures, special product information, and special precautions.

Non-Manufacturing Employer – An employer in any Standard Industrial Classification Codes other than 20 through 39 (Division D, Standard Industrial Classification Manual), with a workplace where hazardous chemicals are used or stored for use, the State of Tennessee, its political subdivisions, and volunteer fire departments.

OSHA Standard – The Hazard Communication Standard issued by the Occupational Safety and Health Administration in 48 Federal Register 53280 et.seq. (November 25, 1983), codified under Title 29 of the Code of Federal Regulations Part 1910.1200.

Trade Secret – Any confidential formula, pattern, process, device, information, or compilation of information (including chemical name or other unique chemical identifier) that is used in employer's business and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it.

Work Area – A room or defined space in a workplace where hazardous chemicals are present or used when employees are present.

Workplace Hazardous Chemical List – The list of all hazardous chemicals and materials within the department. List should contain chemical name, CAS number, product name, handling instructions, location, date, and department name.

Appendix C

Northeast State Community College

Hazardous Chemical

Right-To-Know Program

“WHAT TO DO”

Booklet

STEP 1

Designate who is responsible for implementing this program in your department.

Name: _____

Title: _____

Phone #: _____

In many of the college's workplaces it may be difficult for one person to implement this program. If your department is divided among different areas and, you may want to appoint others with responsibility for their area. If so, please list their names, their titles, and the area in which they are responsible.

LIST TEAM MEMBERS

NAME _____ TITLE _____

AREA _____ PHONE # _____

NAME _____ TITLE _____

STEP 3

Add to the inventory worksheet chemicals (materials) produced in your workplace.

Examples are welding fumes, wood dust, compressed air, and carbon monoxide from lift trucks and other combustion processes.

STEP 4

Obtain current Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS) for items listed on the inventory worksheet.

Review all MSDS or SDS at least annually and provide a current list of chemicals in your department that requires a MSDS or SDS to the Assistant Director of Environmental Health and Safety by June 30th of each year.

STEP 5

Determine which chemicals on your inventory are hazardous (use the Material Safety Data Sheets).

- Some Material Safety Data Sheets have a statement indicating that a material is hazardous.
- Consider a material hazardous if there is any entry in the hazardous ingredient is hazardous.
- Chemicals listed in the following sources are hazardous:
 - 29 CFR Part 1910, Subpart Z. Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA); and
 - 29 CFR Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration.

- Chemicals listed in the following sources are carcinogens or potential carcinogens are considered hazardous:
 - National Toxicology Program, Annual Report on Carcinogens (latest edition)
 - International Agency for Research on Cancer, Monographs (latest edition)
 - 29 CFR Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration.

STEP 6

Ensure all containers are properly labeled, tagged, or marked.

Proper labels should indicate:

- Identity of hazardous chemicals as identified on Material Safety Data Sheets.
- Appropriate hazard, i.e., the specific organ affected, damage to lungs, irritates skin, causes dizziness, etc.
- Name and address of the chemical manufacturer, imported, or other responsible party.

If your department needs additional hazardous or non-hazardous labels, please contact the Assistant Director of Environmental Health & Safety.

Where labeling is not practical, such as for carbon monoxide from lift trucks or welding operations, warning signs or the equivalent must be used.

Step 7

Prepare a written hazard communication program.

Suggested Program

_____ is responsible for the communication and implementation of the (name and title)

program to employees.

A. Labels and other forms of warning

Labels and other forms of warning for each incoming hazardous chemical will be inspected for compliance to ensure that proper forms of warning are posted. For hazardous chemicals produced within the plant (such as carbon monoxide and welding products), warnings must be posted.

- The yellow label with red “Hazardous Waste, Handle With Care!” will be utilized.
- _____ is responsible for ensuring that all incoming containers are (name and title) labeled.
- Each person is responsible for reporting unlabeled containers to _____ (name and title)

B. Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS)

MSDS or SDS for each hazardous chemical to which employees are or may be exposed, will be obtained and made readily available. For new chemicals, MSDS's or SDS's will be made available prior to use. For hazardous waste chemicals produced internally, such as carbon monoxide and welding fumes, a MSDS may be used or developed to satisfy the physical and health hazard communication requirements.

C. Employee Information and Training

- Information and training will be provided to all employees at the time of initial assignment for existing hazard, whenever a new hazard is introduced into their work area, and when new information about the hazards of a chemical is found. Additionally, the Hazardous Communication Right To Know Law requires annual refresher training.
- Required information will be obtained from sources that include those listed in Appendices B and C of the standard.

- Employees will be trained to be able to verbally recall fundamental health and physical hazards associated with the specific chemicals to which they are exposed.
- The trainers are _____, _____, and _____ .
- The training will utilize such aids and methods as _____.

D. Hazardous Chemicals List

Prepare a Hazardous Chemical list by June 30th of each year.

E. Multi-Employer Activity

Other employers who have employees in our facilities who may be exposed to hazardous chemicals will be provided access to the written hazard communication program. They will be shown the MSDS's or SDS's for the chemicals to which they may be exposed and will be informed of any precautionary measures, such as signs and procedures, necessary to protect them during normal operating conditions or in the event of foreseeable emergencies. The labeling system we use will be explained.

Our employees who work in other employee worksites must be afforded the same requirements as in the preceding paragraph before beginning work.

F. Non-Routine Tasks

Periodically, employees are required to perform non-routine tasks, which are hazardous. Prior to starting work on tasks that are non-routine and expose the employee to the presence of hazards, the Safety Officer of the department is responsible for informing the employee of the hazard, safety measures that can be used, and emergency procedures.

STEP 8

Train the employees about the hazardous chemicals with which they work or may be exposed to in a foreseeable emergency.

Note

TOSHA will expect employees to verbally recall the following questions in simple language to inspectors:

- What are the requirements of the hazard communication standard?

- What hazardous chemicals are you exposed or may be exposed to during normal use or in a foreseeable emergency?
- Where is the chemical present?
- What are the short and long term effects on the body?
- How can you detect if you are overexposed to the chemical(s)?
- How can you protect yourself from the overexposure?
- Where are the MSDS or SDS, chemical list, and written program located?

The Tennessee Right-To-Know Law requires that training be repeated annually and that records of the training be kept. Record all training dates, identify each employee trained, and provide a short description of the training given.

You may use MSDS or SDS for training. Additional information and help may be obtained from the Director of Safety and Security.

Employees (e.g. maintenance personnel) who are exposed to chemicals (multi-chemical exposure) may verbally recall the short and long term effects of chemicals on the body. Listed below are some common substances found and the effects on the body.

Asbestos

May cause cancer of lung and digestive tract, throat, kidney.

May cause asbestosis (scarring of the lungs).

May cause skin irritation.

Carbon Monoxide

Overexposure may cause: dizziness, nausea, or headache; aggravation of heart artery diseases; unconsciousness; and death.

Caustics and Acids

Overexposure may cause: skin irritation and burns, damage to eyes and blindness, nasal and respiratory damage, throat and stomach damage upon ingestion.

Compressed Gases

Vessel rupture may result in a missile reaction.

Concentrated streams may cause skin rupture and body damage.

Exhausted or suddenly released air can produce noise and traumatic effects.

Overexposure may result in toxic effects specific to each gas.

High concentrations may cause asphyxiation in confined spaces.

Freshly Mixed Concrete

Exposure of skin to freshly mixed concrete may cause dermatitis.

Drying and cracking of the skin and nails may also occur.

Contact with fresh concrete may cause chemical burns to the eyes.

Lead

Overexposure may cause: headache, joint and muscle pain, abdominal cramping, anemia, and damage to kidneys and nervous system.

Silica

Overexposure may cause: silicosis (scarring of the lungs), lung cancer, cough, wheezing, and impaired breathing.

Solvents – Halogenated

Overexposure may cause: irritation of eyes, nose, and throat.

Skin irritation or disease.

May cause headache, nausea, dizziness, light-headedness, and drowsiness.

Permanent nervous system damage.

Possible cancer producing.

Unconsciousness.

Death

Wood Dust

Overexposure may cause: skin, eye, and lung irritation, coughing and hoarseness, dermatitis, and difficulty in breathing

Some dusts possibly cause cancer

Fire hazard

Smoking aggravates all effects

Solvents – Organic

Overexposure may cause: irritation of eyes, nose, and throat

Skin irritation or disease

May cause headache, nausea, or light-headedness

Nervous system damage

Blood disorders

Permanent eye damage, blindness

Unconsciousness, coma

Sudden collapse

Death

Welding

Fumes and gases may cause irritation of the eyes, nose, and throat

Fumes and gases may cause chest pain, pulmonary edema

Fumes and gases may cause chronic lung disease, lung cancer

Fumes and gases may cause metal fume fever, lead poisoning

Polyester and other man-made fibers may melt and cause severe burns if struck by a welding spark

May result in asphyxiation in confined spaces

STEP 9

Prepare the Workplace Hazardous Chemical List

See example below. This example is a suggested format; similar formats are acceptable.

Department Plant Operations

Chemical Component	Product or Trade Name	Amount	Location
Sulfuric Acid	Cleaning Solution	1 liter	M101

Many containers of paint and oils may be grouped as one entry.

The chemical lists must be updated by June 30th of each year.

Chemicals may be omitted from the list if they are:

- In small containers; and
- Used infrequently; and
- Obtained from general retail stores or business supply stores.

STEP 10

Submit the Workplace Hazardous Chemical List to the Assistant Director of Environmental Health and Safety.

STEP 11

Place one sign in accordance with NFPA 704M series on the outside of any building containing any hazardous chemicals listed below.

- Class A or B explosive
- Poison gas (poison A)
- Water-reactive solid
- Radioactive material (listed in Table 1 of Federal Department of Transportation (DOT) regulations at 49 CFR 172 and 173)
- Any other hazardous material
 - In excess of 55 gallons of liquid
 - In excess of 500 pounds of solid
 - Or a gas which
 - would exceed the ACGIH Short Term Exposure Limit (STEL) or TOSHA ceiling limit if allowed to occupy a volume of 1.0 cubic meter, or
 - would exceed the ACGIH Threshold Limit Value (TLV) or TOSHA 8-hour Permissible Exposure Limit (PEL) if allowed to occupy a volume of 1.0 cubic meter, or
 - is a flammable gas, or
 - is stored in more than four (4) compressed gas cylinders of 239 pounds nominal capacity.

Note: Rules and Regulations requires that each sign be comprised of four (4) squares, each measuring seven and one-half inches per side and arranged to form a square with fifteen inch sides with diagonals horizontal and vertical. Questions about signs should be forwarded to the Director of Safety and Security or Sullivan County EMS.

STEP 12

Read the following:

- Hazard Communication Standard (29 CFR1910.1200)
- Hazardous Chemical Right-To – Know Law (T.C.A.. 50-3-2001 thru 50-3-2019)
- TDOL Rule Chapter 0800-1-09