

Policy and Procedure 8-16

Workplace Safety – Chemical Hazard Communications

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PURPOSE

Hazardous chemicals reside in some of the most common substances used in the workplace including paints, paint removers, liquid correction fluid, cleaning fluids, photocopier toner, glues, gasoline and weed killers, to name just a few. According to the Hazard Communications Standard (HCS), CRF 1910.1200, employees have both a need and a right to know the identities and the risks of the products they work with or around. The purpose of this policy is to ensure that VDOF communicates the hazards of chemicals used in the workplace to affected employees and that the procedures to do so are consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Revision 3.

POLICY

VDOF recognizes that employees have the right and the need to know the properties and risks involved when working with, or close to, chemical substances. Pursuant to OSHA Standard, 29 CFR 1910.1200, VDOF will communicate necessary

information about hazardous substances in the workplace to affected employees as set forth in this policy and procedure. This will include safety data sheet management, workplace container labeling and training, and, therefore, provides the platform for communicating the hazardous properties of chemicals and the precautions to observe when handling them.

DEFINITIONS

“Affected employee” means a worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

“Agency” and **“VDof”** means the Virginia Department of Forestry.

“Chemical” means any substance, or mixture of substances.

“Chemical name” means the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name that will clearly identify the chemical for the purpose of conducting a hazard classification.

“Classification” means to identify the relevant data regarding the hazards of a chemical; review those data to ascertain the hazards associated with the chemical; and decide whether the chemical will be classified as hazardous according to the definition of hazardous chemical in this section. In addition, classification for health and physical hazards includes the determination of the degree of hazard, where appropriate, by comparing the data with the criteria for health and physical hazards.

“Common name” means any designation or identification, such as code name, code number, trade name, brand name or generic name used to identify a chemical other than by its chemical name.

“Commonwealth” means the Commonwealth of Virginia.

“Container” means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank or the like that contains a hazardous chemical. Pipes, piping systems, engines, fuel tanks or other operating systems in a vehicle, are not considered to be containers.

“Exposure or exposed” means that an employee is subjected in the course of employment to a chemical that is a physical or health hazard and includes potential exposure.

“Hazard category” is a division of criteria within a hazard class (e.g., flammable liquids include four hazard categories). These categories compare severity levels within a hazard class.

“Hazard class” means the nature of the physical or health hazards (e.g., flammable solid, carcinogen, oral acute toxicity).

“Hazard statement” is a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

“Hazard warning” means any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning, which convey the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s).

“Hazardous chemical” means any chemical, which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas or hazard not otherwise classified.

“HazCom” means hazard communications.

“HazChem” means hazardous chemical.

“Health hazard” means a chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard. The criteria for determining whether a chemical is classified as a health hazard are detailed in Appendix A of §1910.1200 – Health Hazard Criteria.

“Immediate use” means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

“Label elements” means the specified pictogram, hazard statement, signal word and precautionary statement for each hazard class and category.

“Label” means an appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on or attached to the immediate container of a hazardous chemical, or to the outside packaging.

“Mixture” means a combination or a solution composed of two or more substances in which they do not react.

“Non-routine task” is a task or action the employee does not normally perform and/or for which the employee has not previously been trained. Non-routine tasks can therefore cause chemical exposure risks to employees.

“Physical hazard” means a chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure, or in contact with water emits flammable gas.

“Pictogram” means a composition that may include a symbol plus other graphic elements, such as a border, background pattern or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under this standard for application to a hazard category.

“PPE” means personal protection equipment.

“Precautionary statement” means a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage or handling.

“Product identifier” means the name or number used for a hazardous chemical on a label or in the safety data sheet (SDS). It provides a unique means by which the user can identify the chemical. The product identifier used shall permit cross-references to be made among the list of hazardous chemicals required in the written hazard communication program, the label and the SDS.

“Pyrophoric gas” means a chemical in a gaseous state that will ignite spontaneously in air at a temperature of 130 degrees F (54.4 degrees C) or below.

“Safety data sheet (SDS)” means written or printed material concerning a hazardous chemical that is prepared by the manufacturer.

“Signal word” means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in this section are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for the less severe.

“Simple asphyxiant” means a substance or mixture that displaces oxygen in the ambient atmosphere and can thus cause oxygen deprivation in those who are exposed, leading to unconsciousness and death.

“Specific chemical identity” means the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.

“Subjected” in terms of health hazards includes any route of entry (e.g., inhalation, ingestion, skin contact or absorption.)

“Substance” means chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

PROCEDURES

Responsible Parties

The **agency safety officer** has overall responsibility for development and implementation of the agency-wide HazCom program; reviews and updates policy and procedures as needed; develops the training program, and oversees administration of the SDS management system.

HazCom managers are employees appointed to be responsible for administration of the HazCom program within their work area. This includes making sure local SDS e-binders are maintained and up-to-date; ensuring that all hazardous chemicals/products are properly labeled, and ensuring that employees are properly trained. Employees in the following positions are assigned as HazCom Managers:

- ◆ Deputy regional foresters for regional facilities and field offices
- ◆ Agency equipment and fleet manager for the Headquarters mechanic shop
- ◆ Facilities manager for the Headquarters building complex
- ◆ Forestry centers managers for forestry centers
- ◆ State forest manager for state forest facilities

SDS site administrators are employees appointed to be responsible for maintaining local SDS e-binders as per the direction of the HazCom managers and producing labeling as needed. Site administrators may also periodically survey or inspect facilities within the work unit to ensure compliance with SDS and labeling requirements. SDS site administrators will be assigned by the HazCom managers.

Supervisors are responsible for identifying employees under their supervision who use or may be exposed to hazardous chemicals and providing appropriate training; ensuring that all hazardous chemicals in their work area are properly labeled; providing appropriate PPE for personnel working with chemicals; developing safe procedures for working with chemicals in their areas; informing outside contractors of potential chemical (or other) hazards that exist in the workplace, and ensuring that non-routine tasks are performed safely. They may also periodically survey or inspect facilities within the work area to ensure compliance with SDS and labeling requirements.

Employees are responsible for reading warnings and labels for the chemicals they use; using hazardous chemicals consistent with the instructions provided on the label; reporting hazards; attending training; wearing appropriate PPE; obtaining SDS for chemicals they purchase, and following all guidelines set forth in this VDOF Chemical Hazard Communications Policy and Procedure.

Chemical Inventory Lists

Chemical information will be made available to employees regarding the identities and hazards of the chemicals they may be exposed to in the workplace through inventory lists and safety data sheets (SDS).

Hazardous chemical inventory lists, containing all known hazardous chemicals used at VDOF, will be maintained in an on-line management system. The chemical inventory lists will serve as an index for SDS. Inventory lists may be downloaded and posted at VDOF facilities or accessed on-line.

Inventory lists will be separated into the following e-binders:

- ◆ Eastern Region
- ◆ Western Region
- ◆ Central Region
- ◆ Headquarters Complex
- ◆ Headquarters Mechanic Shop
- ◆ Forestry Centers
- ◆ State Forests

SDS Management

- ◆ SDS are to be used as the primary source of information about chemicals in the workplace and will be maintained in e-binders (see above) for all hazardous chemicals in the workplace. SDS will be available to employees 24 hours a day.
- ◆ A SDS will be kept for every hazardous chemical used at VDOF facilities, except for those described below:
 - Household consumer products (as defined in the Consumer Product Safety Act and the Federal Hazardous Substances Act) that are used in the workplace in the same manner that a consumer would use them (i.e., where the product is used for the purpose intended by the chemical manufacturer and where the frequency and duration of use (and therefore exposure) is not greater than what the typical consumer would experience.)
- ◆ VDOF shall rely on the hazard determinations made by the chemical manufacturers, as indicated on SDS, since VDOF does not manufacture hazardous chemicals.
- ◆ SDSs will be reviewed by personnel prior to using a chemical.
- ◆ SDSs shall be obtained when chemicals are ordered or purchased and forwarded to the appropriate SDS site administrator who will upload it to the SDS management system. If no SDS is provided with the order/purchase, the employee ordering the chemical must provide all necessary information about the chemical to the SDS site administrator, who will conduct a search of the on-line data base and upload the SDS to the management system.
- ◆ If a chemical is brought into a VDOF facility, the SDS shall be forwarded to the employee's supervisor without delay. The supervisor reviews the SDS, coordinates any chemical reviews or communications with his/her staff on the safe use of the product.
- ◆ SDS e-binders will be monitored by the on-line management system for new product sheet updates. An automated notification is sent to the MDSO site administrators when a new SDS for a chemical or product currently listed is available. Site administrators will add the updated sheet to their e-binder and archive the old sheet.

Workplace Container Labeling

- ◆ Every container of harmful chemicals in the workplace must have labeling consistent with the GHS labeling requirements (see below) with the exception of household consumer products that are being used for their intended purposes and have typical household exposure levels. They need only have the original product label showing hazards and first aid measures.
- ◆ Alternative labeling methods, such as signs, placards or other written materials, may be used as long as they conform to the labeling requirements. Alternate methods should be considered suitable primarily for stationary containers. When using a single sign to mark multiple stationary containers with identical contents, it must be clear as to which containers the sign addresses.
- ◆ Labels will be affixed immediately to any chemical container that is purchased without proper labeling.
- ◆ Labels may be either the same label that is provided on shipped containers, or one that is produced in-house and affixed to the container.
- ◆ Labels are not required for portable containers into which chemicals are transferred if the secondary container is intended only for the immediate and exclusive use of the employee who performs the transfer. If other employees could potentially handle the container, it must be properly labeled.
- ◆ Employees will thoroughly review product labeling before using any chemical.

GHS Compliant Label

All labels will have a product identifier, signal word, hazard statement, precautionary statement, supplier identification and pictogram. See example below:

The Basic Parts of A GHS-Compliant Label

1 → **n-Propyl Alcohol**
UN No. 1274
CAS No. 71-23-8

2 → **DANGER**

3 → Highly flammable liquid and vapor. Causes serious eye damage.
May cause drowsiness and dizziness.

4 → Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid breathing fumes/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present. Continue rinsing.

5 → Fill Weight: 18.65 lbs. Lot Number: B56754434
Gross Weight: 20 lbs. Fill Date: 6/21/2013
Expiration Date: 6/21/2020 See SDS for further information.
Acme Chemical Company • 711 Roadrunner St. • Chicago, IL 60601 USA • www.acmechem.com • 123-444-5567

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- 1. Product Identifier** - Should match the product identifier on the Safety Data Sheet.
- 2. Signal Word** - Either use "Danger" (severe) or "Warning" (less severe)
- 3. Hazard Statements** - A phrase assigned to a hazard class that describes the nature of the product's hazards
- 4. Precautionary Statements** - Describes recommended measures to minimize or prevent adverse effects resulting from exposure.
- 5. Supplier Identification** - The name, address and telephone number of the manufacturer or supplier.
- 6. Pictograms** - Graphical symbols intended to convey specific hazard information visually.

Sample label courtesy of Weber Packaging Solutions • www.weberpackaging.com

GHS Compliant Pictograms

The following pictograms will be used to convey health, physical and environmental hazards on labels:

<p>Health Hazard</p>  <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	<p>Flame</p>  <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	<p>Exclamation Mark</p>  <ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (Harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
<p>Gas Cylinder</p>  <ul style="list-style-type: none"> • Gases Under Pressure 	<p>Corrosive</p>  <ul style="list-style-type: none"> • Skin Corrosion/Burns • Eye Damage • Corrosive to Metals 	<p>Exploding Bomb</p>  <ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
<p>Flame Over Circle</p>  <ul style="list-style-type: none"> • Oxidizers 	<p>Environment (Non-Mandatory)</p>  <ul style="list-style-type: none"> • Aquatic Toxicity 	<p>Skull and Crossbones</p>  <ul style="list-style-type: none"> • Acute Toxicity (Fatal or Toxic)

Performance of Non-Routine Tasks

- ◆ Employees will inform their supervisor if they are to conduct a non-routine task involving hazardous chemicals.
- ◆ Supervisors are responsible for ensuring that their employees understand the hazard(s) present and the appropriate work practices and personal protective equipment that are necessary to carry out a non-routine task.
- ◆ Prior to beginning any non-routine task involving actual or potential exposure to hazardous chemicals, the supervisor and affected employee(s) will review all appropriate SDS to identify hazards and to determine the safe operating procedures and appropriate PPE to be used. This should be documented in time accounting logs.

Use of PPE

- ◆ When handling chemicals, the use of PPE is oftentimes necessary and always prudent. Employees will check to see what PPE they need to wear or use when using a particular chemical. PPE requirements are often found on product warning labels. If not there, they can be found on a chemical's SDS.
- ◆ Employees will use the PPE established by the chemical manufacturers.
- ◆ Protective clothing will be free from holes, rips or tears; properly sized, and selected based on the chemicals being handled.
- ◆ Safety goggles will always be worn whenever a potential chemical splash hazard exists. Goggles used for this purpose should have indirect vents (vents should be covered).
- ◆ Eye protection, safety glasses and goggles must meet ANSI (American National Standards Institute) Z87.1 standards. They must fit well, be reasonably comfortable and not interfere with vision.

Working around Pipes

- ◆ HazCom managers will ensure that all pipes in their assigned work area that contain hazard materials (i.e., natural gas lines, waste lines, etc.) are labeled with the contents of the pipe, potential hazards and safety precautions.
- ◆ Employees are not to work on any unlabeled pipes until the contents of the pipe are determined and appropriate safety precautions have been instituted for the work.

Working with Contractors

- ◆ Employees who have direct responsibility for the work of outside contractors /contract workers (e.g., contract trades, temporary workers, etc.) must ensure that they can perform their tasks safely. This includes providing the contractor with the following information prior to starting a job:
 - SDS for any hazardous chemical being used
 - Verbal information on the location and types of hazardous substances that they may encounter during their work activities
 - Verbal instructions on how to obtain additional SDS
 - Verbal precautions that the contractor should take to lessen the possibility of exposure to any identified chemicals
- ◆ Contractors who bring chemicals into VDOF facilities must provide the appropriate SDS to the supervising VDOF employee.

Employee Training

HazCom Basic Training

All agency personnel who handle chemicals are required to complete an assigned e-learning course on basic HazCom. This training will be provided prior to an employee's handling of a hazardous chemical. The course will include:

- ◆ An overview of the OSHA hazard communication standard
- ◆ The physical and health risks associated with hazardous chemicals
- ◆ Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (for example odor, appearance, monitoring devices, etc)
- ◆ Symptoms typical of exposure to chemicals
- ◆ Methods used to reduce or prevent exposure to hazardous chemicals
- ◆ How to read warning labels and SDS to obtain hazard information

Supervisors will follow up the course with a review of procedures to follow if exposed to hazardous chemicals; show the employee where to find the Agency SDS file, and how to locate specific SDS.

SDS Reviews

- ◆ Supervisors will review SDS with employees (i.e., classified employees, wage employees and contractors) prior to them handling a hazardous chemical.
- ◆ The review will cover the physical and health hazards associated with the specific chemicals they will be using; safe handling procedures; personal protective equipment; and, emergency procedures.
- ◆ Reviews should be documented in time accounting logs.

AUTHORITY

This policy and procedure is issued by the Virginia state forester.

INTERPRETATION

The director of human resources and agency safety officer are responsible for the interpretation of this policy and procedure.