

HAZARD COMMUNICATION PLAN

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HAZARD COMMUNICATION

The Occupational Safety and Health Administration (OSHA) enacted the Hazard communication Standard on November 25, 1983, which became federal law Title 29 CFR Section 1910.2100. This standard initially required chemical manufacturers and importers to determine the hazards associated with their chemicals and to make this information available to employees who utilize the chemicals in the manufacturing process. Effective August 1, 1988, OSHA revised this standard to include all employers, not just manufacturers. **BAC employees who work with chemicals in the course of their work are now covered under this standard.**

Biology and Chemistry Departments work under guidelines of 29 CFR 1910.1450, which is commonly referred to as the “Laboratory Standard”. The guideline for the “Laboratory Standard” are addressed in the Chemical Hygiene Plan of the BAC Safety Manual.

The standard requires that any employee who comes in contact with hazardous chemicals as part of his or her job functions must have Hazard Communication Program training. The Dean shall be responsible for the training of each employee; the training includes, but is not limited to the following:

- How to read and understand a Material Safety Data Sheet (MSDS):
 - An MSDS will be kept for each chemical that is located on campus.
 - Departments are responsible for obtaining an MSDS for each chemical used.
 - Department Chairss are responsible for keeping the MSDS file updated.
 - Employees will be trained on how to locate information on an MSDS.
 - An MSDS must be readily available for employee’s review in an emergency.
- Proper labeling of chemicals:
 - Common name and trade name of chemical
 - Hazard warnings
 - Name and address of manufacturer
 - Labels must not be removed or defaced

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- Safe work practices:
 - Personnel protective equipment
 - Chemical handling
 - Chemical incompatibility
 - Chemical storage
 - Chemical disposal
 - Housekeeping procedures
- Physical and health hazards of chemicals:
 - Routes of exposure
 - Corrosive chemicals
 - Flammable chemicals
 - Reactive chemicals
 - Toxic chemicals
 - Compressed gases

The goal of the Hazard Communication Program is to keep all employees informed of the hazards associated with the handling and storing chemicals. This program is also referred to as “a worker’s right to know.”

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1. PURPOSE

Belmont Abbey College is firmly committed to providing each of its employees a safe and healthy work environment. The purpose of this policy is to protect our employees as well as the public from injuries or illnesses that may result from exposure to hazardous chemicals or substances within our workplace.

2. RESPONSIBILITIES

Each **Department Chair** has the following responsibility:

- Ensuring that materials are properly labeled within their work areas.
- Ensuring that MSDS's are obtained with any new materials received.
- Ensuring that each employee is trained on any non-routine chemicals that may be used in their work areas.
- Maintaining an up-to-date Hazard Communication Program.
- Ensuring that a Hazardous Chemicals Inventory List exists for Belmont Abbey College and is up to date.
- Ensuring that BAC has a copy of Material Safety Data Sheets (MSDS's) for each chemical listed.
- Ensuring that an adequate supply of hazard warning labels is maintained.
- Ensuring that general hazard communication training is provided to all applicable employees.
- Maintaining training records for employees who have completed Hazard Communication training and keeping them up to date.
- Keeping a master copy of the Hazard Communication program and all MSDS's on file.

Each **employee** is responsible for learning and following the requirements developed under this program.

3. ACCESS TO THE WRITTEN PROGRAM

All or any part of this written Hazard Communication Program is available to employees, their designated representatives, the Assistant Secretary of Labor for Occupational Safety and Health (OSHA), and the Director of the National Institute for Occupational Safety and Health (NIOSH). The designated location of this plan is listed in Appendix A for review and copying.

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4. HAZARD DETERMINATION AND INVENTORY

Manufacturers or importers perform the initial hazard determination of chemicals. Every hazardous substance known to be present in the workplace at Belmont Abbey College shall be listed. This list will serve as an index to the MSDS files.

The identity of the substance appearing on the list of hazardous chemicals will be the same name that appears on the manufacturer's label, in-house label, and the MSDS's for that substance.

5. MATERIAL SAFETY DATA SHEETS (MSDS's)

MSDS's containing the information required by the Hazard Communication Standard will be kept for each substance listed on Belmont Abbey College's Hazardous Chemicals Inventory List. The MSDS's will be the most current one supplied by the chemical manufacturer, importer, or distributor.

Each department is responsible for acquiring MSDS's file and obtaining additional MSDS's for any new chemical that is not on the Belmont Abbey College Hazardous Chemicals Inventory List and/or for which BAC does not have MSDS. Within 2 weeks of receipt of the chemical, the department will contact the supplier by fax, letter, or email and request MSDS be sent. A sample letter is attached as Appendix B.

The department will forward a copy of the MSDS to the Department Chair or designee for inclusion on the list of hazardous chemicals and placement in the master MSDS's files. Material Safety Data Sheets will be readily available to employees.

Terms that are often referred to on MSDS's may be found on Appendix C.

6. LABELING

No hazardous chemicals will be accepted for use at BAC, or shipped to any outside location, unless labeled with at least the following information:

- Identity of the hazardous chemical(s).
- Appropriate hazard warnings (physical and/or health hazards).
- Name & address of the chemical manufacturer, importer, or other responsible party.

All in-house containers of hazardous chemicals will be labeled with at least the following information:

- Identity of the hazardous chemical(s) (trade & common name).
- Appropriate hazard warnings (physical and/or health hazards).

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No label is to be defaced or removed when a material is received or in use. If a label becomes unreadable or material is poured into a different container, the person using the material is

responsible for labeling the container, with an in-house warning label. If the warning labels are not available in the work area, they may be obtained by calling the Department Chair or designee.

7. EMPLOYEE INFORMATION AND TRAINING

Prior to initial task assignment, all employees at BAC, including temporary employees, working with or potentially exposed to hazardous chemicals, will be appropriately informed and trained concerning the potential hazards to which they may be exposed.

All employees at BAC will be informed of the details of the Hazard Communication Program, including an explanation of the labeling system and MSDS's, and how employees can use the appropriate hazard information. The Department Chair is responsible for the overall coordination of the training program.

Employees will be provided with training when new hazardous chemicals are introduced and added to the chemical inventory, and before non-routine tasks are to be performed that could involve exposure to hazardous chemicals.

The extent of information transmitted to employees during training sessions will be dictated by the degree of hazard presented by the chemicals. The basic elements of the training program will include:

- Type and location of hazardous chemicals used within our facilities.
- Methods of detecting the presence or release of hazardous chemicals.
- Personal protective equipment and methods of protecting against chemical exposure.
- An explanation of an MSDS.
- The text of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- This written Program, including a list of hazardous chemicals, procedures for chemical labeling, handling non-routine tasks, and our contractor policy.

Training will be recorded on an appropriate training record and the Director or Dean of each department will maintain those training records. The location of the training records is listed in Appendix A.

8. NON-ROUTINE WORK

Occasionally employees will be asked to perform non-routine work, which can be defined as work not normally performed by an employee during the normal course of job duties. Examples of non-routine work could be, but are not limited to:

- Confined space entry work.

- Start-up and phase-in of new equipment.
- Using chemical substances in a manner different from normal and customary usage.

The following procedures will be used when employees perform non-routine work:

- The appropriate supervisor will determine the need for non-routine work and the hazard associated with the work.
- Prior to performing a hazardous non-routine task, a special training session will be conducted, usually between the supervisor and the employee.

In addition to the general employee information and training provided, the training will include thoroughly reading MSDS's, reviewing any necessary personal protective equipment, and emphasizing any other precautions that may be needed to reduce or avoid exposure. Special work permits may be required for some non-routine work, such as confined space entry.

Employees share in the responsibility by ensuring their immediate supervisor knows that non-routine work will be performed. Employees should contact their immediate supervisor with questions concerning non-routine work.

9. CONTRACTOR POLICY

Any hazardous substance brought to Belmont Abbey College by an outside contractor must be coordinated with the Department Chair. The contractor and the Department Chair shall supply one another with a list of the hazardous chemicals and the corresponding MSDS for the materials to which all employees will be potentially exposed in the course of their work.

Outside contractors must be provided with all necessary information concerning the potential hazards of the substances to which they may be exposed and appropriate protective measures required minimizing their exposure.

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APPENDIX A

COLLEGE-SPECIFIC INFORMATION

Issues Required by the OSHA Standard	College Information for Compliance
Designation of Hazard Communication Coordinator (mandatory)	Each Department Head will be responsible for the designation of a Hazard Communication Coordinator.
Location of Hazard Communication Plan (mandatory – must be accessible to employees)	Campus Safety and Security Science Building, and Housekeeping
Location of Material Safety Data Sheet Master File or locations of Departmental Material Safety Data Sheets	1.Each Department Chair will be responsible for maintaining the Material Safety Data Sheets.
Location of Training Records	Each Department Chair will be responsible for the training records of their employees.
Location of 29 CFR 1910.1450 Standard (mandatory – must be accessible to employees)	Science Building

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APPENDIX B

REQUEST FOR AN MSDS

Chemical Supplier's Name:

Address:

City, State Zip Code:

Re: Product Material

To Whom It May Concern:

In accordance with the Federal and North Carolina Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200), we are requesting that you provide a Material Safety Data Sheet on the following chemical(s) we purchase from your firm.

List of chemicals:

This request has been documented per OSHA requirements and your response should be within 30 days of receipt.

Please address your response to:

Your assistance is appreciated.

Sincerely,

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APPENDIX C

MSDS TERMS AND DEFINITIONS

Acute Hazard - symptoms develop immediately or within days after exposure. Sometimes associated with brief and/or high concentrations of exposure.

Asphyxiant - a vapor or gas that can cause unconsciousness or death by suffocation (lack of oxygen). Simple asphyxiants act by displacing the oxygen available in the air so the body cannot take in enough oxygen (i.e. carbon dioxide, nitrogen, helium). Chemical asphyxiants act by interfering with the body's use of oxygen even though adequate oxygen is present (carbon monoxide, cyanide).

Boiling Point (BP) - temperature at which a liquid changes to a gas. Solvents with low boiling points will volatilize readily. Examples include benzene, methyl alcohol, mercury, and toluene.

Carcinogen - a substance that causes cancer or is suspected of causing cancer in humans.

Chemical - any element, chemical compound or mixture of elements and/or compounds.

Chronic Hazard - symptoms or effects develop slowly over a long period of time and with repeated contact.

Combustible - ability of a solid, liquid, or gas to ignite and burn. Chemicals with a flash point 100⁰ F or above are considered combustible.

Compressed Gas – gas mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70 degrees F; a gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130 degrees F regardless of the pressure at 70 degrees F, or a liquid having a vapor pressure exceeding 40 psi at 100 degrees F.

Corrosive - a chemical that attacks and destroys whatever it comes in contact with and can cause permanent damage or destroy living tissue. Vapors from corrosives can damage nose, mouth, and throat.

Evaporation Rate - how long a liquid takes to change into a vapor (evaporate). Butyl acetate has a relative evaporation rate of 1. A chemical with a higher number evaporates faster; one with a lower number evaporates slower.

Explosive – means a chemical that causes a sudden release of pressure, gas, and heat when subjected to sudden shock, pressure or high temperature.

Exposure or Exposed - an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g. accidental or possible) exposure. "Subjected" in terms of health hazards includes any route of entry (e.g. inhalation, ingestion, skin contact, or absorption).

Flammability - ability of a solid, liquid, or gas to ignite and produce a flame. If a chemical has a flash point below 100⁰ F, it is considered a flammable.

Flash Point - lowest temperature at which a chemical's vapors are concentrated enough to ignite. The lower the flash point, the more dangerous the material. Examples: gasoline's flash point is -45⁰ F. Diesel fuel #2 has a flash point of +125⁰ F.

Hazardous Chemical - any chemical that is a physical hazard or a health 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).

Health Hazard - includes chemicals, which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, and neurotoxins, agents that damage the lungs, skin, eyes, or mucous membranes.

Identity - means any chemical or common name, which is indicated on the MSDS for the chemical. The identity used shall permit cross-references to be made among the Hazardous Chemical Inventory List, the label, and the MSDS.

Irritant - a chemical that causes temporary inflammation (redness, swelling, irritation).

Label - means any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

Material Safety Data Sheet (MSDS) - means written or printed material concerning a hazardous chemical, which is prepared in accordance with 29CFR1910.1200(g).

Melting Point - temperature at which a solid changes to a liquid.

Oxidizer – means a chemical other than an explosive, that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.

Organic peroxide – means an organic compound that contains the bivalent O-O structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical. Organic peroxides are oxidizers and fuels in one, and are therefore unstable and potentially explosive. "Peroxidizable" means a chemical which will form organic peroxides when exposed to air.

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pH - means used to express the degree of acidity or alkalinity of a solution. A pH of 7 is neutral. Numbers increasing from 8 to 14 indicate greater alkalinity (bases/alkalies). Numbers decreasing 6 to 0 indicate greater acidity (acids).

Physical Hazard - means a chemical which is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.

Sensitizer - a material that causes little or no reaction at first, but which can cause an “allergic” reaction on repeated exposure. Skin sensitization is the most common form, but respiratory sensitization is also known to occur from isocyanates and epoxy resins.

Specific Gravity - density (or heaviness) of a chemical compared to water, which has a relative value of 1. Insoluble materials with specific gravity of less than 1.0 will float in (or on) water. Insoluble materials with specific gravity greater than 1.0 will sink in water. Most (but not all) flammable liquids have specific gravity less than 1.0 and, if not soluble, will float on water - an important consideration for fire suppression.

Vapor Density - density (or heaviness) of a vapor compared to air, which has the density of 1. If the chemical’s vapor density is higher than 1, the vapor is heavier than air and will concentrate in low places -- along or under floors, in sumps, sewers, manholes, in trenches and ditches -- examples include propane, hydrogen sulfide, ethane, butane, chlorine, sulfur dioxide. If the chemical’s vapor density is less than 1, the vapor will rise in the air and dissipate (unless confined) -- examples include acetylene, methane, and hydrogen.

Vapor Pressure - measures the volatility (how quickly a substance forms a vapor at ordinary temperatures) of a liquid -- that is, how easily a liquid evaporates. The higher the number, the faster the liquid evaporates.

Upper and Lower Flammable Limits (UFL & LFL) - The highest and lowest concentrations (% of substance in air) that will produce a flash of fire when an ignition source (heat, arc, or flame) is present. Between the UFL and LFL, the substance is likely to ignite. Above the UFL, the mixture is too “rich” to burn. Below the LFL, the mixture is too “lean” to burn. The UEL & LEL (upper and lower explosive limits) provide the minimum and maximum concentration of a chemical’s vapor in the air required for an explosion to occur.

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