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Hazard Communication Program

2022

Policy

California Baptist University has implemented the Hazard Communication Program to prevent illness and injury resulting from exposure to hazardous materials in our workplace. The associated hazards, and the control of these hazards through a program that includes the elements listed below.

The intention of this program is to comply with California's Hazard Communication (HazCom) Regulation (T8 CCR 5194). Additionally, this program will support California Baptist University in achieving the overall goal of a safer working and learning environment.

California Baptist University Environmental Health and Safety Facilitates and Planning Services (F&PS) 951.552.8350

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	Revision Log*				
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0	2016	Initial Draft	Timothy M Keifer EHS Coordinator	Director, Facilitates & Planning Services	
1	2022	Updated Draft	Ivan Pedraza EHS Coordinator	Associate Director – Business Administration, Facilitates & Planning Services	

^{*}The written plan will be reviewed annually for accuracy and completeness. The written plan and its elements will be updated in the following situations:

^{1.} When there is reason to believe that provisions of the program may not protect employees.

^{2.} When new processes and/or technologies are introduced.

^{3.} When requirements have changed in accordance with applicable standards, codes and regulations.

^{4.} When any other elements are changed.

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Objective

This Hazard Communication Program is intended to ensure compliance with California's Hazard Communication (HazCom) Regulation (T8 CCR 5194); Illness Prevention Program (T8 CCR section 3203); and The Occupational Safety and Health Administration (OSHA) requirements (Hazcom 2012) for the adoption of the UN Globally Harmonized System (GHS) and to provide a safe working and learning environment for employees, students, and independent contractors working at California Baptist University.

Anticipated Benefits

Several benefits are anticipated with the implementation of the Hazard Communication Program.

- 1. Prevention of work-related injuries and illness from hazards that an employee may be exposed to while performing their duties.
- 2. Overall improvement of the institute's safety program.
- 3. Improvement of employer-employee relations by establishing regular lines of communication.
- 4. Prevention of citations, issues, or violations of local, state, or federal regulations.

Program Administrator

The Hazard Communication Program Administrator is the Environmental Health and Safety (EHS) Coordinator. The EHS Coordinator is responsible for the implementation of this Program and its review, maintenance, and updating as necessary.

All employees, including permanent and independent contractors, who may have exposure to hazardous chemical(s)/material(s) and situations must comply with the guidelines, practices, procedures, and policies outlined in this program. Contractors and vendors bringing hazardous chemicals into our workplace are expected to do the same via their own written HazCom Program.

Hazard Communication Guidelines

Container Labels

Globally Harmonized System (GHS):

OSHA's Hazard Communication Standards (HCS) requires that the manufacturer, importer, or distributors ensure each container of hazardous materials/chemicals is labeled, tagged, or marked with the following information:

- 1. **Product Identifier:** how the material/chemical is identified. This includes, but is not limited to, the chemical name, code number and/or batch number. The manufacturer, importer and/or distributor will decide the appropriate product identifier.
- 2. **Signal Words:** used to alert the reader of the relative hazard severity. There are only three (3) signal words, "Danger", "Warning" or "Biological Hazard" ("BIOHAZARD").
 - a. "Danger" is used for the more severe hazards.
 - b. "Warning" is used for the less severe hazards.
 - c. "Biological Hazard" ("BIOHAZARD") is used for infectious agents.
- 3. **Hazard Statements*** describe the nature of the hazard(s) of a material/chemical, including, where appropriate, the degree of hazard. For example: "Causes damage to kidneys through prolonged or repeated exposure when absorbed through the skin". <u>All</u> applicable hazard statements will appear on the label.
- 4. **Precautionary Statements*** are used to recommend measures that must be taken to minimize or prevent adverse effects resulting from exposure to the material/chemical, improper storage, or improper handling. There are four types of precautionary statements:
 - a. Prevention (to minimize exposure). For example, a chemical presenting a specific target organ toxicity (repeated exposure) hazard would include the following on the label: "Do not breathe dust".
 - b. Response (in case of accidental spill, exposure, and/or first-aid). For example, "Get medical attention if you feel unwell".
 - c. Storage. For example, "Store in cool dry area".
 - d. Disposal. For example, "Dispose of contents/container in accordance with local, regional, national and/or international regulations".
- 5. **Pictograms:** graphic symbols used worldwide to communicate specific information about the hazards of a chemical. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification. Refer to **Table 1 GHS Pictograms and Hazards** for more information.
- 6. **Supplementary Information:** label producer may provide additional instructions or information. This may also include any hazards not otherwise classified under this portion of the label.
- 7. **Name, address, and telephone number** of the manufacturer, importer, or other responsible party.

^{*} For detailed information contact the Environmental Health and Safety Coordinator.

Before hazardous chemical containers are newly introduced into the work area, it is the policy that the work area supervisor will verify all containers are properly labeled with the aforementioned information.

Workplace containers, where the contents of the original containers received from the manufacturer, distributor, importer have been transferred into a new compatible container, shall have one of the following:

- A duplicate of the original container label, which must include the information listed above, or,
- A label with the Product identifier along with words, pictures, symbols, or combination which provide at least general information regarding the hazards of the chemicals. In conjunction with readily available information to personnel, under the hazard communication program, it will provide specific information regarding the physical and health hazards of the hazardous chemical.

Do not remove or intentionally deface existing labels on incoming containers of hazardous chemicals unless the container is immediately marked with the required information.

If you become newly aware of any significant information regarding the hazards of a chemical, you must revise the labels for the chemical within six months of becoming aware of the new information.

Safety Data Sheet (SDS)

The HCS requires manufacturers, distributors, or importers to provide SDSs. Manufacturer, distributor, or importer must provide SDSs, formerly MSDSs or Material Safety Data Sheets, for each hazardous material/chemical offered to consumers/users. SDSs are used to communicate detailed information regarding material/chemical hazards and how to mitigate those hazards. The information contained in the SDS is mostly the same as the MSDS, except now SDSs must be presented in a consistent, user-friendly, 16-section format.

Each department is responsible for obtaining the SDSs corresponding to their *chemical inventory* and submitting digital, scanned, or hard copies to the EHS Coordinator (<u>ipedraza@calbaptist.edu</u>). The EHS coordinator will review them for completeness and maintain the safety data sheet system for California Baptist University.

Should an SDS not be received with or prior to receipt of the initial shipment of a hazardous chemical, or with the first shipment after a safety data sheet is updated, a SDS will be requested as soon as possible from the manufacturer or distributor. Refer to Table 2 – Minimum Information for Safety Data Sheets or 29 CFR 1910.1200; Appendix D for more information.

If the SDS(s) is still not provided upon request, the manufacturer or distributor will, within seven days of noting this missing information, be requested in writing to provide the

required information. The EHS Coordinator will forward a copy of this written request to Cal/OSHA if a response is not received from the manufacturer or distributor within 25 days.

Division of Occupational Safety and Health
Deputy Chief of Health and Engineering Services
1515 Clay Street, Room 1901
Oakland, CA 94612

If a new or revised SDS is received that indicates significantly increased risks or measures needed to protect employee health, that information will be conveyed to employees via written or verbal communication within 30 days

New significant information regarding the hazards of a chemical, or ways to protect against the hazards, will be added to the SDS within three months of learning the new information.

Legible SDS copies for all hazardous materials to which personnel may be exposed are kept within the workspace. SDSs will be readily available for review by all personnel in their workspace and during each work shift without the need to ask someone.

- * Employees are to contact the EHS Coordinator if they have a specific question or need additional information on an SDS.
- *SDSs (and the older MSDSs) constitute an "employee exposure and medical record" and will be kept according to T8CCR section 3204 requirements. Please contact the EHS Coordinator for more information.

NFPA 704 Warning Placards

NFPA 704 warning placards act as an immediate warning system for emergency response personnel, to identify materials that are present onsite, associated dangers, and/or hazards. The placards also help emergency response personnel determine what, if any, special equipment must be used, what procedures must be enacted, and/or what precautions must be taken during the initial stages of an emergency response.

3 2 OXY

The NFPA 704 placard, also known as the "fire diamond," is diamond in shape and has four divisions (see Figure 1 – NFPA Placard). The four

Figure 1 – "Fire Diamond"

divisions are color-coded with **Red** indicating flammability, **Blue** indicating level of health hazard, **Yellow** for chemical reactivity, and **White** containing codes/symbols for special hazards. Each division (health, flammability, and reactivity) is rated on a scale from 0 (no hazard) to 4 (severe risk). Refer to **Table 3 - NFPA 704 Guide** and **Table 4 - NFPA 704 Special Hazard Guide** for more information.

Hazardous Material Information System (HMIS) Labels

The Hazardous Materials Identification System (HMIS) label was developed by the American Coatings Association. The HMIS label communicates hazard information to employees using color schemes, numerical ratings, letter guides, and symbols the represents the types and combinations of personnel protective equipment (PPE).

The HMIS label has four color-coded bars; each represents a different hazard.



- The **Blue** section communicates the health hazards of the Figure 2 HMIS Label material. The health bar may have one or two spaces. If two spaces are displayed, one is for an asterisk and one is for a numeric hazard rating. If present, the asterisk signifies a chronic health hazard, meaning long-term exposure may potentially cause a health problem such as emphysema or kidney damage.
- The Red section communicates the flammability hazards of the material. The criteria used for assigning numerical values are identical to those used by NFPA.
- The Yellow section communicates the physical hazards of the material. Seven such hazard classes are recognized: water reactive, organic peroxides, explosives, compressed gases, pyrophoric materials, oxidizers, and unstable reactive.
- The **White** section communicates what personal protective equipment (PPE) must be used while working with the material.

Refer to Table 5 - HMIS Label Hazard Rating Guide and Table 6 - HMIS Label Personal Protection Guide for more information.

* HMIS Labeling can be used as an in-house labeling system ONLY IF the Global Harmonization System (GHS) conventions are followed. The HMIS labeling system can be used in conjunction with GHS labels.

Accident Prevention Signs

A variety of signs have been installed throughout CBU's properties and are intended to warn personnel that a hazardous situation is present or direct personnel away from a dangerous situation. Refer to **Table 7 – Safety Sign Guide** for more information on the most common signs found on campus. Additional information and requirements for accident prevention signs may be found in 29 CFR 1910.145 and 29 CFR 1926.200.

California Proposition 65 (Prop 65)

In 1986, California voters approved an initiative to address concerns about toxic chemical exposure. The initiative became the "Safe Drinking Water and Toxic Enforcement Act of 1986", better known by its original name of "Proposition 65".

California Businesses must provide a "clear and reasonable" warning before knowingly and intentionally exposing anyone to a Prop 65 listed chemical. Warning signs will contain language similar to the following:

"A WARNING: This product can expose you to chemicals including arsenic, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov." Warning signs should consist of at a minimum:

- The name of at least one listed chemical that prompted the warning
- The Internet address for OEHHA's new Proposition 65 warnings website, <u>www.P65Warnings.ca.gov</u>, which includes additional information on the health effects of listed chemicals and ways to reduce or eliminate exposure to them
- A triangular yellow warning symbol
 <u>A</u> on most warnings

A complete list of all California Proposition 65 listed chemicals may be found at the following: http://oehha.ca.gov/prop65/prop65_list/files/P65single03272015.pdf.

U.S. Department of Transportation (US DOT) Hazard Material Warning

Hazardous materials that are offered for transportation must meet the regulations set forth by the US DOT (49 CFR Part 172). The US DOT has implemented 9 hazard classes and each class is represented by a label and/or placard. Refer to **Appendix B – US DOT Hazardous Material Label/Placard Guide** for more information. A detailed instruction guide is available regarding 49 CFR Part 172, please contact the EHS Coordinator for more information.

Pipe Labeling

Above ground pipes and piping systems used to transport gases, vapors, liquids, or semi-liquids must be identified at points where confusion would introduce hazards to employees (8 CCR 3321). American National Standards Institute/American Society of Mechanical Engineers (ANSI/ASME) A13.1 - 2007 is the most common industrial pipe labeling standard. Refer to **Table 8 – ANSI/ASME A13.1 (2007) Pipe Labeling Guide** for more information.

NOTE: Unlabeled pipes may potentially present an unknown hazard. Prior to initiating a task in an area with unlabeled pipes, the employee must contact Facilitates and Planning Services (F&PS) management for information regarding:

[†] Source: State of California, Office of Environmental Health Hazzard Assessment (OEHHA)

- The location of the piping system.
- The material in the pipes.
- Direction of flow.
- Known potential safety hazards.
- Required safety precautions.



Hazardous Waste Labels

<u>Hazardous Waste Labels</u> are typically yellow with the "HAZARDOUS WASTE" printed in red. Hazardous waste labels that are purchased and used should display information that fulfills Title 22's pre-transportation requirements. The following information is found on a hazardous waste label:

- · Generator's Name and Address.
- Generator's EPA ID Number.
- Manifest Tracking Number.
- Federal (EPA) waste code/number.
- California waste code/number.
- The accumulation date(s).
- Contents and Composition of the waste.
- Physical state of the waste.
- Hazardous properties of the waste (i.e., flammable, toxic, corrosive, etc.).
- US DOT proper shipping name.



Figure 3 - Hazardous waste Label

<u>Universal Waste Labels</u> are typically purple with white text. The following information is found on a universal waste label:

- Name and Address of the generator.
- The accumulation dates.
- Contents (i.e. "Universal waste lamps).



Figure 4 - Universal Waste Label

Hazardous Material/Chemical Inventory

Each department will prepare and keep a current inventory of all known hazardous materials or chemicals present in their workspaces. The inventory will list all materials or chemicals that are in use or storage while, at the same time, can verify that they have the most current safety data sheets (SDSs). The product identifiers listed will match those on the corresponding container labels and SDSs. Specific information on each noted hazardous chemical can be obtained by reviewing the corresponding label and SDS. List material and chemical quantities.

Notify the EHS Coordinator if the quantity of hazardous materials in your inventory is equal to or greater than 55 gallons of a liquid, 200 cubic feet of a gas, and 500 pounds of a solid. Quantities equal to or greater than these limits will be considered reportable in accordance with the Hazardous Materials Business Plan (HMBP). The EHS Coordinator is also the administrator of the HMBP. If a material poses too high a risk or would not be able to be configured in a safe or complaint manner, the material may be substituted, limited, or discontinued at the discretion of the EHS Coordinator.

Chemical Hygiene Plan

29 CFR 1910.1450(e) OSHA's Laboratory Standard Requires that all employers engaged in laboratory activities develop and carry out the provisions of a written Chemical Hygiene Plan (CHP).

Laboratory supervisors must ensure that their personnel are made aware of the location and content of the laboratory's Chemical Hygiene Plan. Each laboratory will be responsible for ensuring that their CHP is accurate and up to date.

For detailed information and assistance in developing or maintaining a CHP contact the EHS Coordinator.

Training

The EHS Coordinator, or an assigned and qualified alternate (i.e. supervisor or 3rd party trainer) must ensure all applicable employees receive training in regards to the following:

- 1. Before the employee's first task that may expose the employee to a hazardous situation.
- 2. When there is a change in employment/responsibilities that presents a hazard for which an employee has not been trained.
- 3. When there is reason to believe that there are deviations from the hazard communication guidelines required in this program, or that there are inadequacies in the employee's knowledge or use of these guidelines.
- 4. When industrial standards and regulations change.

Training must establish employee proficiency in this Program, and must introduce new or revised procedures, as necessary.

General Training

All employees must receive general hazard communication training. Employees that are responsible for supervising, planning, or tasking must be aware of the hazards present prior to assigning work.

Refresher training must be conducted annually, or as needed, to maintain employee competence and proficiency.

Specific Training

Each employee must be trained in additional hazards that are specific to employment for the position filled by the employee and will be encountered during normal employment tasks. It is the employee's supervisor's responsibility to ensure the employee is properly trained if hazards are not covered under this Program.

Verification of Training

Periodic assessment of the effectiveness of employee training shall be conducted by the EHS Coordinator. Training sessions shall be repeated as often as necessary to maintain an acceptable level of personnel competence.

NOTE: **Appendix C – Hazard Communication Training Form** may be used to document employee training.

Training records must be maintained for a minimum of two (2) years in the event of a regulatory inspection.

Hazardous Non-Routine Tasks

Periodically, employees may be required to perform hazardous non-routine tasks. Prior to starting work on such projects, supervisors assigning non-routine tasks will notify and validate tasks with the EHS Coordinator. Affected employees will be given information by their supervisor on the hazards to which they may be exposed during such an activity.

This information will cover:

- Specific hazards. List of Hazardous materials or chemicals.
- Detailed description of non-routine task.
- Measures the company has taken to reduce the risk of these hazards, such as engineering and administrative controls.
- Required protective/safety measures.
- Establishing emergency procedures.

Independent contractors and temporary employees working in the CBU workplace

To ensure that outside contractors work safely at CBU and to protect our personnel from chemicals used by outside contractors, the contractor's point of contact is responsible for confirming with the EHS Coordinator, the arrangement of two-way access of following information with respect to contractors or other employers in our workplace will be communicated:

- Hazardous chemicals, including Proposition 65 chemicals, to which they may
 be exposed while on the job site as well as chemicals they will be bringing into
 the workplace. To this end, information will be provided to contactors regarding
 our labeling system and access to SDSs.
- Precautions and protective measures the contractors may take to minimize the possibility of exposure.

Should a temporary employment service be used, they will be included in the Hazard Communication Program.

Employees are to contact the EHS Coordinator if they have questions about this plan or wish to review it. The plan will be maintained by the EHS coordinator. The contractor's point of contact will ensure that the contractor follows policies laid out by our hazardous communication plan and report any violations to the EHS Coordinator.

X	DATE:
[Signature of Owner or Top	Management Representative]

Appendices

Appendix A - Definitions

Biological hazard (biohazard): a substance that presents a threat to the health of living organisms, primarily that of humans.

Chemical name: 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.

Code of Federal Regulations (CFR): codification of the general and permanent rules and regulations published in the Federal Register by the executive departments and agencies of the federal government of the United States.

Code of California Regulations (CCR): codification of the general and permanent rules and regulations announced in the California Regulatory Notice Register by California state agencies.

Common name: 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.

Container: bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or similar that contains a hazardous chemical.

Exposure or exposed: an employee that is subjected, in the course of employment, to a chemical that is a physical or health hazard (including potential exposure).

Foreseeable emergency: any potential situation including, but not limited to, equipment failure, or rupture of containers which could result in a release of a hazardous chemical/material.

Hazard category: division of criteria within each hazard class. Hazard categories compare hazard severity within a hazard class.

Hazard class: physical or health hazard (i.e. flammable solid, carcinogen, toxicity, corrosive, etc.).

Hazardous chemical/material: any chemical which is classified as a physical or health hazard (i.e. simple asphyxiant, combustible dust, or pyrophoric gas).

Health hazard: a chemical/material that poses one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; eye damage or eye irritation; sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard. See Appendix A to §1910.1200—Health Hazard Criteria.

Label: group of written, printed, and/or graphic informational elements regarding a hazardous material/chemical that are affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.

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

Mixture: a chemical/material that is constructed from two or more substances, which are not combined chemically.

Physical hazard: a chemical that is classified as posing one of the following hazardous effects: explosive; flammable; oxidizer; self-reactive; corrosive to metal; gas under pressure; etc. See Appendix B to §1910.1200—Physical Hazard Criteria.

Pyrophoric gas: a gas that will ignite spontaneously at a temperature of 130° F (54.4° C) or below.

Simple asphyxiant: a substance, chemical, material, or mixture that displaces oxygen.

Sign: a prepared surface for the warning of, or safety instructions of, industrial workers or members of the public who may be exposed to hazards.

Specific chemical identity: chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation.

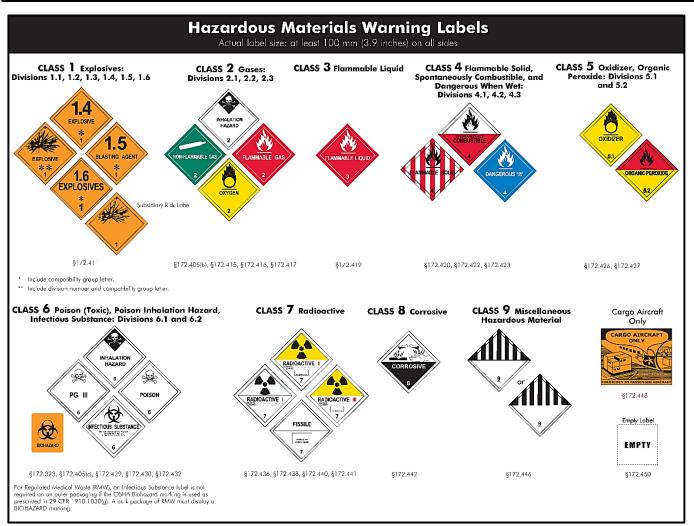
Substance: a chemical, element, and compounds in the natural state or obtained by any production process.

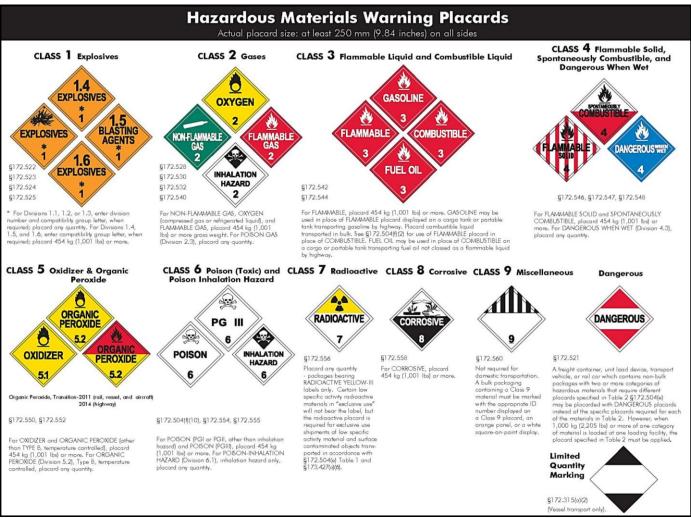
Trade secret: any confidential formula, pattern, process, device, information or compilation of information that is used in an employer's business.

Work area: defined space, where employees are present, where hazardous chemicals/materials are produced or used.

Appendix B - US DOT Hazardous Material Label/Placard Guide







*Source: USDOT; http://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/docs/Hazardous Materials Markings Labeling and Placarding Guide.pdf



Tables



Table 1 – GHS Pictograms and Sample Label

Health Hazard



- Carcinogen
- Mutagenicity
- Reproductive Toxicity
- Respiratory Sensitizer
- Target Organ Toxicity
- Aspiration Toxicity

Flame



- Flammables
- Pyrophorics
- Self-Heating
- Emits Flammable Gas
- Self-Reactives
- Organic Peroxides

Exclamation Mark



- Irritant (skin and eye)
- Skin Sensitizer
- Acute Toxicity
- Narcotic Effects
- Respiratory Tract Irritant
- Hazardous to Ozone Layer (Non-Mandatory)

Gas Cylinder



Gases Under Pressure

Corrosion



- Skin Corrosion/Burns
- Eye Damage
- Corrosive to Metals

Exploding Bomb



- Explosives
- Self-Reactives
- Organic Peroxides

Flame Over Circle



Oxidizers

Environment (Non-Mandatory)



Aquatic Toxicity

Skull and Crossbones



Acute Toxicity (fatal or toxic)



	SAMPLE LABEL		
CODE Product Name Identifi	•	Hazard Pictor	grams
Company Name Street Address City State Postal Code Country Emergency Phone Number			
Keep container tightly closed. Store in a cool, well-ventilated place that is locked. Keep away from heat/sparks/open flame. No smoking. Only use non-sparking tools. Use explosion-proof electrical equipment. Take precautionary measures against static discharge. Ground and bond container and receiving equipment. Do not breathe vapors. Wear protective gloves. Do not eat, drink or smoke when using this product.		Signal Wo Danger mmable liquid and vapor e liver and kidney damag	. \ Hazard
Wash hands thoroughly after handling. Dispose of in accordance with local, regional, national, international regulations as specified. In Case of Fire: use dry chemical (BC) or Carbon Dioxide (CO2) fire extinguisher to extinguish.	Statements	Supplemental In	nformation
First Aid If exposed call Poison Center. If on skin (or hair): Take off immediately any contaminated clothing. Rinse skin with water.		Fill weight: Gross weight: Expiration Date:	Lot Number: Fill Date:

Table 2 – Minimum Information for Safety Data Sheets

Sectio n No.	Section Heading	Description
1	Identificatio n	 Product identifier used on the label and any other common names or synonyms. Name, address, phone number of the manufacturer, importer, or other responsible party, and emergency phone number. Recommended use of the chemical and any restrictions on use.
2	Hazard(s) identification	This section identifies the hazards of the chemical presented on the SDS and the appropriate warning information associated with those hazards. The required information consists of: The hazard classification of the chemical (e.g., flammable liquid, category). Signal word, hazard and precautionary statement(s). Pictograms (the pictograms or hazard symbols may be presented as graphical reproductions of the symbols in black and white or be a description of the name of the symbol (e.g., skull and crossbones, flame). Description of any hazards not otherwise classified.
3	Composition/ information on ingredients	This section identifies the ingredient(s) contained in the product indicated on the SDS, including impurities and stabilizing additives. This section includes information on substances, mixtures, and all chemicals where a trade secret is claimed. The required information consists of: Substances Chemical name, including, common name and synonyms. Chemical Abstracts Service (CAS) number and other unique identifiers. Mixtures Same information required for substances. The chemical name and concentration (i.e., exact percentage) of all ingredients which are classified as health hazards and are:

Environmental Health and Safety

Sectio	Section	
n No.	Heading	Description
		 Present above their cut-off/concentration limits or Present a health risk below the cut-off/concentration limits. The concentration (exact percentages) of each ingredient must be specified except concentration ranges may be used in the following situations: A trade secret claim is made, There is batch-to-batch variation, or
		The SDS is used for a group of substantially similar mixtures.
4	First-aid measures	 Necessary first-aid instructions by relevant routes of exposure (inhalation, skin and eye contact, and ingestion). Description of the most important symptoms or effects, and any symptoms that are acute or delayed. Recommendations for immediate medical care and special treatment needed, when necessary.
5	Fire-fighting measures	 Recommendations of suitable extinguishing equipment, and information about extinguishing equipment that is not appropriate for a particular situation. Advice on specific hazards that develop from the chemical during the fire, such as any hazardous combustion products created when the chemical burns. Recommendations on special protective equipment or precautions for firefighters.
6	Accidental release measures	This section provides recommendations on the appropriate response to spills, leaks, or releases, including containment and cleanup practices to prevent or minimize exposure to people, properties, or the environment. It may also include recommendations distinguishing between responses for large and small spills where the spill volume has a significant impact on the hazard. The required information may consist of recommendations for: • Use of personal precautions (such as removal of ignition sources or providing sufficient ventilation) and protective equipment to prevent the contamination of skin, eyes, and clothing. • Emergency procedures, including instructions for evacuations, consulting experts when needed, and appropriate protective clothing. • Methods and materials used for containment (e.g., covering the drains and capping procedures). • Cleanup procedures (e.g., appropriate techniques for neutralization, decontamination, cleaning or vacuuming; adsorbent materials; and/or equipment required for containment/clean
7	Handling and storage	 Precautions for safe handling, including recommendations for handling incompatible chemicals, minimizing the release of the chemical into the environment, and providing advice on general hygiene practices (e.g., eating, drinking, and smoking in work areas is prohibited). Recommendations on the conditions for safe storage, including any incompatibilities. Provide advice on specific storage requirements (e.g., ventilation requirements).
8	Exposure controls/ personal protection	 This section indicates the exposure limits, engineering controls, and personal protective measures that can be used to minimize worker exposure. The required information consists of: OSHA Permissible Exposure Limits (PELs), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available. Appropriate engineering controls (e.g., use local exhaust ventilation, or use only in an enclosed system). Recommendations for personal protective measures to prevent illness or injury from exposure to chemicals, such as personal protective equipment (PPE) (e.g., appropriate types of eye, face, skin or respiratory protection needed based on hazards and potential exposure). Any special requirements for PPE, protective clothing or respirators (e.g., type of glove material, such as PVC or nitrile rubber gloves; and breakthrough time of the glove material).



Environmental Health and Safety

Sectio	Section	
n No.	Heading	Description
9	Physical and chemical properties**	 Appearance (physical state, color, etc.); Upper/lower flammability or explosive limits; Odor; Odor threshold Vapor pressure; Vapor density; pH; Relative density; Melting point/freezing point; Solubility (ies); Initial boiling point and boiling range; Evaporation rate; Flash point; Partition coefficient: n-octanol/water; Auto-ignition temperature; Viscosity.
10	Stability and reactivity	Describes the reactivity hazards of the chemical and the chemical stability information. This section is broken into three parts: reactivity, chemical stability, and other. The required information consists of: Reactivity Description of the specific test data for the chemical(s). This data can be for a class or family of the chemical if such data adequately represent the anticipated hazard of the chemical(s), where available. Chemical stability Indication of whether the chemical is stable or unstable under normal ambient temperature
		 and conditions while in storage and being handled. Description of any stabilizers that may be needed to maintain chemical stability. Indication of any safety issues that may arise should the product change in physical appearance. Other
		 Indication of the possibility of hazardous reactions, including a statement whether the chemical will react or polymerize, which could release excess pressure or heat, or create other hazardous conditions. Also, a description of the conditions under which hazardous reactions may occur. List of all conditions that should be avoided (e.g., static discharge, shock, vibrations, or environmental conditions that may lead to hazardous conditions). List of all classes of incompatible materials (e.g., classes of chemicals or specific substances) with which the chemical could react to produce a hazardous situation. List of any known or anticipated hazardous decomposition products that could be produced because of the statement of besting.
11	Toxicological information	 because of use, storage, or heating. Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact). The SDS should indicate if the information is unknown. Description of the delayed, immediate, or chronic effects from short- and long-term exposure. The numerical measures of toxicity (e.g., acute toxicity estimates such as the LD50 (median lethal dose)) - the estimated amount [of a substance] expected to kill 50% of test animals in a single dose. Description of the symptoms. This description includes the symptoms associated with exposure to the chemical including symptoms from the lowest to the most severe exposure. Indication of whether the chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions) or found to be a potential carcinogen by OSHA
12	Ecological information*	 Data from toxicity tests performed on aquatic and/or terrestrial organisms, where available (e.g., acute or chronic aquatic toxicity data for fish, algae, crustaceans, and other plants; toxicity data on birds, bees, plants). Whether there is a potential for the chemical to persist and degrade in the environment either through biodegradation or other processes, such as oxidation or hydrolysis. Results of tests of bioaccumulation potential, making reference to the octanol-water partition coefficient (Kow) and the bioconcentration factor (BCF), where available. The potential for a substance to move from the soil to the groundwater (indicate results from adsorption studies or leaching studies). Other adverse effects (e.g., environmental fate, ozone layer depletion potential, photochemical ozone creation potential, endocrine disrupting potential, and/or global warming potential).

CBU Environmental Health and Safety

Section No.	Section Heading	Description
13	Disposal considerations *	 Description of appropriate disposal containers to use. Recommendations of appropriate disposal methods to employ. Description of the physical and chemical properties that may affect disposal activities. Language discouraging sewage disposal. Any special precautions for landfills or incineration activities
14	Transport information*	 UN number (i.e., four-figure identification number of the substance). UN proper shipping name. Transport hazard class(es). Packing group number, if applicable, based on the degree of hazard. Environmental hazards (e.g., identify if it is a marine pollutant according to the International Maritime Dangerous Goods Code (IMDG Code)). Guidance on transport in bulk (according to Annex II of MARPOL 73/78 and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code (IBC Code)). Any special precautions which an employee should be aware of or needs to comply with, in connection with transport or conveyance either within or outside their premises (indicate when information is not available).
15	Regulatory information*	This section identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS. The information may include: • Any national and/or regional regulatory information of the chemical or mixtures (including any OSHA, Department of Transportation, Environmental Protection Agency, or Consumer Product Safety Commission regulations).
16	Other information	 This section indicates when the SDS was prepared or when the last known revision was made. The SDS may also state where the changes have been made to the previous version. You may wish to contact the supplier for an explanation of the changes. Other useful information also may be included here.

^{*}Non-mandatory. Sections 12-15 not enforced by OSHA. Information is regulated by outside agencies (i.e. US DOT, US EPA, etc.).

** The SDS may not contain every item on the above list because information may not be relevant or is not available. When this occurs, a notation to that effect must be made for that chemical property. Manufacturers may also add other relevant properties.

⁺Source: 29 CFR 1910.1200 Appendix D.

Table 3 - NFPA 704 Hazard Guide

Rating	Health Hazard*	Flammability Hazard*	Instability Hazard*
0	Poses no health hazard, no precautions necessary and would offer no hazard beyond that of ordinary combustible materials. (i.e. wood)	Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone and sand (Materials will not burn in air when exposed to a temperature of 1,500 °F for a period of 5 minutes)	Normally stable, even under fire exposure conditions. (i.e. helium)
1	Exposure could cause significant irritation. (i.e. acetone)	Materials that must be preheating, before ignition and combustion can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 200 °F. (i.e. mineral oil)	Normally stable, but can become unstable at elevated temperatures and pressures (i.e. propene)
2	Exposure could cause incapacitation or residual injury (i.e. diethyl ether)	Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur and multiple finely divided suspended solids that do not require heating before ignition can occur. Flash point between 100 and 200 °F. (i.e. diesel fuel)	Readily undergoes violent chemical change at elevated temperatures and pressures, (I.e. white phosphorus, potassium, sodium)
3	Short exposure could cause serious temporary or permanent injury. (i.e. chlorine, liquid hydrogen)	Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions. Liquids having a flash point below 73 °F and having a boiling point at or above 100 °F or having a flash point between 73 and 100 °F. (i.e. gasoline, acetone)	Capable of detonation or explosive decomposition but requires a strong initiating source or must be heated under confinement before initiation. (i.e. ammonium nitrate, chlorine trifluoride)
4	Very short exposure could be lethal or major residual injury. (i.e. hydrogen cyanide, hydrofluoric acid)	Will rapidly or completely vaporize at normal atmospheric pressure and temperature, or is readily dispersed in air and will burn readily. Includes pyrophoric substances. Flash point below 73 °F. (i.e. acetylene, propane)	Readily capable of detonation or explosive decomposition at normal temperatures and pressures (i.e. nitroglycerin, chlorine dioxide)

^{*}Source: NFPA 704, 2012 Edition.

Table 4 - NFPA 704 Special Hazard Guide

Rating Symbol	Special Hazard
ALK	Alkaline
ACID	Acidic
COR	Corrosive
OX	Oxidizing
₩	Reacts violently or explosively with water.
₩OX	Reacts violently or explosively with water and oxidizing.
SA	Simple asphyxiant gases (limited to nitrogen, helium, neon, argon, krypton, and xenon)

Table 5 – HMIS Label Hazard Rating Guide

Rating	Health Hazard*	Flammability Hazard*	Physical Hazard*
0	No significant risk to health.	Materials that will not burn	Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
1	Irritation or minor reversible injury possible.	Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 °F. (Class IIIB)	Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.
2	Temporary or minor injury may occur.	Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 °F but below 200 °F. (Classes II & IIIA)	Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.
3	Major injury likely unless prompt action is taken, and medical treatment is given.	Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 °F and boiling points above 100 °F. as well as liquids with flash points between 73 °F and 100 °F. (Classes IB & IC)	Materials that may form explosive mixtures with water and are capable of detonation or explosive reaction in the presence of a strong initiating source. Materials may polymerize, decompose, self-react, or undergo other chemical change at normal temperature and pressure with moderate risk of explosion.
4	Life-threatening, major or permanent damage may result from single or repeated overexposures. (i.e. hydrogen cyanide).	Flammable gases, or very volatile flammable liquids with flash points below 73 °F, and boiling points below 100 v. Materials may ignite spontaneously with air. (Class IA)	Materials that are readily capable of explosive water reaction, detonation or explosive decomposition, polymerization, or self-reaction at normal temperature and pressure.
*	Chronic (long-term) health effects may result from repeated overexposure.	NA	NA

^{*}Source: American Coating Association (ACA).



Table 6 – HMIS Label Personal Protection Guide



^{*}Source: American Coating Association (ACA); http://www.paint.org/images/HMIS_PPElist.jpg.



Table 7 – Accident Prevention Sign Guide

	Description	Visual Example
Danger signs	Danger signs are used to identify immediate danger and that special precautions are necessary. If the hazardous situation is not avoided, it will result in death or serious injury. "Danger" is limited to the most extreme situations.	DANGER
Warning signs	Warning signs are used to identify a potentially hazardous situation. If the hazardous situation is not avoided, it could result in death or serious injury.	WARNING
Caution signs	Caution signs shall be used only to warn against potential hazards or to caution against unsafe practices. If the hazardous situation is not avoided, it may result in minor or moderate injury.	▲ CAUTION
Notice signs	Notice signs are used to identify a company policy as the message relates directly or indirectly to the safety of personnel or protection of property.	NOTICE
Exit signs	Exit signs are used to identify the safe egress paths in the event of an emergency.	EXIT
Informational Safety Signs	Safety signs are normally found on construction sites and maintenance work areas to provide area specific safety instructions.	KEEP AREA CLEAN
Biological hazard signs	The biological hazard warning is used to identify presence of a biohazard (actual or potential).	
Radiation hazard signs	Radiation hazards will be identified by the international "tri-foil" symbol. The symbol can be magenta or black, on a yellow background. This sign is used to warn against radioactivity exposure.	

^{*}Source: 29 CFR 1926.200 and 29 CFR 1910.145, ANSI Z535.2- 2011

Table 8 – ANSI/ASME A13.1 (2007) Pipe Labeling Guide

Pipe Contents	Description	Color Scheme
Fire-quenching	Water and other substances (i.e. halon) used in fire-fighting piping systems.	WHITE TEXT ON RED
Toxic and corrosive	Fluids or substances that are corrosive or toxic, including fluids that will produce corrosive and toxic substances.	BLACK TEXT ON ORANGE
Flammable	Fluids, gases or vapors that can ignite and continue to burn in air.	BLACK TEXT ON YELLOW
Combustible	Fluids that can burn but are not flammable (i.e. acetic acid)	WHITE TEXT ON BROWN
Other water	Potable, cooling, boiler feed, and other water.	WHITE TEXT ON GREEN
Compressed air	Any vapor or gas under pressure.	WHITE TEXT ON BLUE
Misc./various	Used at discretion of user/employer.	BLACK TEXT ON WHITE
Misc./various	Used at discretion of user/employer.	WHITE TEXT ON GREY
Misc./various	Used at discretion of user/employer.	WHITE TEXT ON BLACK
Misc./various	Used at discretion of user/employer.	WHITE TEXT ON PURPLE



Training Forms



Form 1 – Hazard Communication Training Form

	Page 1 of _
Hazard Communication Training	Date:
Trainer:	Location:

Topics covered:

- Regulatory requirements.
- Employee's responsibility.
- General hazard communication.
 - 1. Labels.
 - a. Container (primary vs. secondary).
 - b. Hazardous material Information System (HMIS).
 - c. Waste labels.
 - i. Hazardous waste.
 - ii. Universal waste.
 - 2. Pictograms.
 - 3. Safety data Sheet (SDS).
 - 4. Hazardous Material/Chemical Inventory.
 - 5. NFPA 704 Warning Placards.
 - 6. Accident Prevention Signs.
 - 7. California Proposition 65 (Prop 65).
 - 8. U.S. Department of Transportation (US DOT) warnings.
 - 9. Miscellaneous Topic(s)
- Specific.
 - 1. Employee's responsibility.
 - 2. Special hazards.
- o Non Routine.

I certify that training has been completed in accordance with the guidelines, procedures, and policies that have been established in the California Baptist University's Hazard Communication Program.

Trainer Signature:

Trainer Title:

		Page of
Hazard Communication Training Attendance Roster		Date:
Trainer:		Location:
I certify I have received training in accordance with the guidelines, California Baptist University's Hazard Communication Program.	proce	dures, and policies that have been established in the
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Training Records