



Branscome Confidential

This document is the property of Branscome and may not be copied or disclosed to others without authorization.

Subject:	SH - 4 Chemical Handling & Lab Safety	Page - 1 -
Issued Date: 11/01/11		Effective Date: 01/01/12

1.0 Purpose

Branscome Chemical and Lab Safety program serves as a guide to the use, storage, and disposal of hazardous materials at all Branscome sites. This program works in conjunction with the Hazard Communication Program to minimize exposure to chemicals and address all aspects of handling chemicals and other hazardous materials. At some facilities, Branscome has laboratories on-site that use chemicals, the labs, and their chemical use are covered in this program.

2.0 Scope

Branscome's Chemical and Lab Safety Program applies to all employees and contractors who may come in contact with chemicals within our facility.

3.0 Roles & Responsibilities

3.1 Management - Branscome management has the responsibility to:

- Be aware of safety and health regulations, as they are applicable to safe handling of hazardous materials
- Ensure that all chemicals coming into the work place have proper MSDS sheets and that employees know how to use them
- Ensure that hazardous materials are handled, stored, and disposed of in a safe and legal fashion
- Ensure that all work areas are in safe, working order for employees

3.2 Director of Safety - The Director of Safety will develop and maintain the overall Chemical and Laboratory policies and practices including:

- Maintain a master list of chemicals used at the site
- Maintain a master copy of the MSDS for each chemical used at the site
- Ensure all chemicals purchased are accompanied by a MSDS
- Annual review the success of the program

3.3 The Safety Specialist will assist the Plant Superintendent with the day-to-day operation of the Chemical and Lab Safety program and:

- Maintain an employee-access binder containing a copy of the Hazard Communication Program, chemical list and MSDS for chemicals on site;
- Produce copies of MSDSs upon request by any employee or regulatory agency;



Branscome Confidential

This document is the property of Branscome and may not be copied or disclosed to others without authorization.

Subject:	SH - 4 Chemical Handling & Lab Safety	Page - 2 -
Issued Date: 11/01/11		Effective Date: 01/01/12

- Inform employees regarding proper performance of non-routine tasks with chemicals;
- Ensure that PPE is available for all employees.

3.4 Supervisors - Supervisors will maintain an employee-access MSDS binder as well as:

- Ensuring that all hazardous chemicals/products are properly labeled and that these labels are not removed or defaced.
- Ensuring that proper PPE for chemical handling is provided to employees.
- Ensuring that employees are trained in the use of PPE and that PPE is properly maintained.
- Developing safe work procedures for all operations under their supervision.

3.5 Employees - Employees are responsible for the safe handling of their chemicals, including:

- Maintaining their work area in good order.
- Properly using, maintaining, and storing PPE issued.
- Reporting any exposures, injuries, or safety problems to their supervisor.
- Reviewing MSDS prior to using a chemical for the first time then reviewing periodically thereafter as necessary.
- Adhere to the No Smoking policy within 25 feet of all flammable and combustible materials.
- Utilize the appropriate tools and equipment whenever working with or around chemicals.
- Follow all manufacturers' safety guidelines

4.0 Definitions

4.1 Hazardous Materials - Chemicals or other substances that have the potential to cause a situation that is immediately dangerous to life or health of employees. This includes those substances that can:

- Pose an immediate threat to life
- Cause irreversible or delayed harmful health effects
- Interfere with a worker's ability to escape from a dangerous atmosphere
- Cause accidents such as fires or explosions that result in damage to equipment and property



Branscome Confidential

This document is the property of Branscome and may not be copied or disclosed to others without authorization.

Subject:	SH - 4 Chemical Handling & Lab Safety	Page - 3 -
Issued Date: 11/01/11		Effective Date: 01/01/12

- 4.2 Material Safety Data Sheet - Material Safety Data Sheet (MSDS) means written or printed material concerning a hazardous chemical.
- 4.3 Flammable Materials - Substances that can ignite easily and burn rapidly. They may be in solid, liquid or gas forms.
- 4.4 Flash Point - The lowest temperature at which a liquid gives off enough vapor to form a flammable mixture with air. The lower the value, the more easily the material will burn. Hot combustible liquids can generate as much flammable vapor as cold.
- 4.5 Flammable Liquids - Liquids with a flash point of below 100°F.
- 4.6 Combustible Liquids - Liquids having a flash point at or above 100°F and below 200°F.
- 4.7 Irritants - Irritants are materials that can cause inflammation of the body surface with which they come in contact. The inflammation results from concentrations far below those needed to cause corrosion.

5.0 References

- 5.1 29 CFR 1926.1100- 1926.1152 – Toxic and Hazardous Substances
- 5.2 29 CFR 1910.1050 – Toxic and Hazardous Substances
- 5.3 29 CFR 1910.1450 - Occupational Exposure to Hazardous Chemicals in Laboratories
- 5.4 National Research Council Recommendations Concerning Chemical Hygiene in Laboratories - http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10107
- 5.5 Branscome’s Personal Protective Equipment Program
- 5.6 Branscome’s Hazard Communication Program

6.0 Program

- 6.1 Chemical Handling and Dispensing
 - 6.1.1 Point of Use - Flammable, combustible, and chemical liquids shall be kept in closed containers when not actually in use.
 - 6.1.2 Spills - Leakage or spillage of flammable, combustible, and chemical materials must be cleaned up and disposed of promptly and safely.



Branscome Confidential

This document is the property of Branscome and may not be copied or disclosed to others without authorization.

Subject:	SH - 4 Chemical Handling & Lab Safety	Page - 4 -
Issued Date: 11/01/11		Effective Date: 01/01/12

- 6.1.3 Dispensing Area - Where quantities greater than 5 gallons of flammable or combustible liquids are transferred from one container to another, there shall be a 25-foot distance from other operations or a construction having a fire resistance of at least 1-hour. Drainage must be provided to control spills.
- 6.1.4 Ventilation - In dispensing areas, natural or mechanical ventilation must be provided to control spills. The concentration of flammable material must be maintained at or below 10% of the lower flammable limit.
- 6.1.5 Bonding - Transfer of flammable materials from one container to the other must be done only when containers are electrically connected (bonded). This should be a practice for filling to small quantity containers as well as filling from tanks.
- 6.1.6 Labels and other forms of warnings such as tags or placards are used to warn users of their physical and health hazards.

All chemical containers on Branscome sites must be labeled. At a minimum, containers must be labeled with:

- the contents of the container and common name of the chemical or trade name
 - name and address of the manufacturer
 - primary physical and health hazards
 - Labels on chemical containers must not be defaced or removed.
- 6.1.7 Personal Protective Equipment - Eye protection must be worn at all times while handling chemicals. Safety glasses must meet the requirements of *Practice for Occupational and Educational Eye and Face Protection (ANSI.Z.87. 1 1989)*. *When there is a potential for chemical splash, conventional safety glasses do not provide enough protection and safety goggles or a face shield will be worn.*

When exposed to chemicals, eyewash stations and safety showers will be made available in case of emergency.

Gloves suitable for handling chemicals will also be worn when appropriate.

- 6.1.8 Disposal of Chemicals- Chemical waste should be considered hazardous waste and will be disposed of properly.

6.2 Indoor Storage



Branscome Confidential

This document is the property of Branscome and may not be copied or disclosed to others without authorization.

Subject:	SH - 4 Chemical Handling & Lab Safety	Page - 5 -
Issued Date: 11/01/11		Effective Date: 01/01/12

- 6.2.1 Outside Storage In A Cabinet - No more than 25 gallons of flammable and combustible liquids can be stored in a room outside an approved storage cabinet.
- 6.2.2 Approved Safety Cabinet - Quantities greater than 25 gallons must be stored in an approved metal storage cabinet and labeled “Flammable – Fire Keep Away” in a conspicuous manner.
- 6.2.3 Cabinet Maximum - No more than 60 gallons of flammable liquids and 120 gallons of combustible liquids may be stored in any one storage cabinet. No more than three (3) storage cabinets can be stored in a single storage area.
- 6.2.4 Inside Storage Room - Quantities that exceed the cabinet maximum shall be stored in a storage room constructed to meet the fire-resistive rating required for the type and quantity of materials to be stored. This is found in NFPA 251-1969 or the more current version of the document. These rooms should be designed by a qualified person in accordance with the provisions of 1926.152(b) (4) and 1926.499, including electrical and ventilation requirements.
- 6.2.5 One clear aisle at least three (3) feet wide will be maintained inside every storage room. Containers over 30 gallons capacity shall not be stacked one upon another.
- 6.2.6 Water-Reactive Materials - Materials which react with water may not be stored in any room, cabinet, or area in close proximity with flammable and combustible liquids.
- 6.2.7 Corrosive or Oxidizing Chemicals - Original glass shipping containers holding liquids acids and bases must be placed in an outside container or acid-carrying bucket.
- 6.2.8 Spraying Operations - The quantity of materials stored near spraying operations should not exceed the supply needed for 1 day or one shift of operations.
- 6.2.9 Fire Control - At least one fire extinguisher having a rating of not less than 20-B units shall be located outside the room within 10 feet of the door.

6.3 Outdoor Storage



Branscome Confidential

This document is the property of Branscome and may not be copied or disclosed to others without authorization.

Subject:	SH - 4 Chemical Handling & Lab Safety	Page - 6 -
Issued Date: 11/01/11		Effective Date: 01/01/12

- 6.3.1 Area Maximum - Storage of containers not more than 50 gallons each shall not exceed 1,100 gallons in any one pile or area.
- 6.3.2 Distance From Buildings - Piles of containers or portable tanks shall not be nearer than 20 feet to a building.
- 6.3.3 Separation of Piles and Areas - Piles or groups of containers shall be separated by a 5-foot clearance. Within 200 feet of each pile of containers or portable tank, there shall be a 12- foot-wide access way to permit access to fire control apparatus.
- 6.3.4 Spill Prevention - The storage area shall be graded in a manner to divert spills away from buildings and other sensitive areas or surrounded by a dike at least 12 inches high. Where a dike is used, provisions must be made to drain off rainwater or spills that may accumulate in the enclosed area.
- 6.3.5 Portable Tanks - Two or more portable tanks having a combined capacity of 2200 gallons shall be separated by a 5-foot clear area.
- 6.3.6 Fire Control - At least one fire extinguisher having a rating of not less than 20-B units shall be located not less than 25 feet or more than 75 feet from any outside flammable storage area.

6.4 Laboratory Safety

- 6.4.1 Basic Requirements - All Branscome employees working in Laboratories must:
 - Never work alone. If you must work alone, notify a Supervisor or other employee of your plan for work and the duration.
 - Use required Personal Protective Equipment.
 - Know the safety and handling procedures for the chemicals/materials you are working with.
 - Do not intentionally smell or taste chemicals.
 - Use proper ventilation when working with hazardous chemicals.
 - When using pipettes, never suction with your mouth.
 - Know the location of the MSDSs for all materials being used in the Lab

6.4.2 Personal Protective Equipment -



Branscome Confidential

This document is the property of Branscome and may not be copied or disclosed to others without authorization.

Subject:	SH - 4 Chemical Handling & Lab Safety	Page - 7 -
Issued Date: 11/01/11		Effective Date: 01/01/12

- **Safety Glasses:** always wear safety glasses when working with hazardous chemicals and materials. If there is a potential for splashing, safety goggles or a face shield should be worn.
- **Respirators:** if necessary, respirators should be worn to protect from inhalation irritants or unknown concentrations of chemicals and materials.
- **Clothing:** Lab coats or disposable work suits should be worn when working to prevent contamination of clothing.
- **Gloves:** Nitrile or rubber chemical gloves should be worn when working with chemicals. Evaluation of chemical properties is necessary to determine which gloves provide adequate protection.
- **Shoes:** Closed-toed shoes must be worn in the laboratory at all times. If necessary, rubber boots will be worn when working with certain chemicals.

6.4.3 Eyewashes - Where there is chemical use, eyewashes and safety showers must be available for quick drenching of the eyes, face, and body. Eyewashes and showers must be in the immediate work area.

6.4.4 Decontamination Procedures - Hands and arms must be washed with soap and water immediately after working with chemicals and hazardous materials.

Decontamination procedures also vary depending on the type of material being used. Refer to the materials MSDS sheet for proper decontamination requirements.

Decontaminate all equipment after use.

7.0 Training

All affected employees shall receive training in the Chemical Handling & Lab Safety program during the New Employee Safety Orientation Program. Specific training on location of MSDS's, protective equipment, and handling practices specific to the chemicals in the work area shall be provided the employee by his department. Training must be completed prior to the assignment of any work requiring the handling of, or exposure to hazardous chemicals.



Branscome Confidential

This document is the property of Branscome and may not be copied or disclosed to others without authorization.

Subject:	SH - 4 Chemical Handling & Lab Safety	Page - 8 -
Issued Date: 11/01/11		Effective Date: 01/01/12

8.0 Documentation

- 8.1 To ensure that Chemical Handling & Lab Safety Program is thoroughly understood and properly used, its application shall be regularly reviewed during normal departmental self-auditing activities. These audits shall be documented with copies sent to the Safety Specialist.

- 8.5 If a violation of this program occurs, the supervisor of the work activity being performed shall initiate and document an investigation in accordance with the incident Investigation Procedure.

9.0 Document History

Number	Effective Date	Author
Original	May, 2006	
Revision 1	January, 2012	Alvin Trotman