Chemical Hygiene Plan

Bryant University

1150 Douglas Pike

Smithfield, Rhode Island

02917-1284

Prepared by:
Triumvirate Environmental, Inc.
200 Inner Belt Road
Somerville, MA 02143

Initial – April 2022

Reviewed and Approved by:
Triumvirate Environmental
200 Innerbelt Road
Somerville, MA 02134

Bryant University

1.0 Bryant University Commitment to Safety

Bryant University provides a safe and healthy work environment in accordance with the Occupational Safety and Health Administration's (OSHA) 29 CFR 1910.1450 "Occupational Exposure to Hazardous Chemicals in Laboratories" also known as the Laboratory Standard. Commitment to health and safety is the responsibility of individuals at all levels to protect the safety and health of all employees and students at the campus and the environment.

1.1 Purpose

The purpose of the Chemical Hygiene Plan (CHP) is to provide guidance to Bryant University laboratory personnel for working safely in the laboratory environment. The CHP complies with the requirements of OSHA's Laboratory Standard and describes proper laboratory practices, procedures, protective equipment, and hazard identification. The CHP is available for reference on the Bryant University website**.** A copy of the CHP will be maintained within the laboratories and be readily available to all personnel in the laboratory.

1.2 Scope

The provisions of the CHP apply to all Bryant University laboratory personnel, other employees who routinely visit or occasionally work in the laboratory, and all contractors who might be exposed to laboratory hazards while at Bryant University. All laboratory personnel are encouraged to contribute their skills and knowledge to the CHP such as routine activities, chemical safety, hazardous material handling, or procedures to minimize chemical exposures.

Risk Management and Safety (RMS) and the Chair of the Science and Technology Department will annually review the CHP for effectiveness and amend as necessary. All new laboratory personnel will be required to review and understand the CHP and all laboratory personnel will receive annual training.

2.0 Roles and Responsibilities

2.1 Science and Technology Department Chair

- Responsible for the implementation of the CHP within laboratories under their control.
- Coordinate facilitation of training to employees.
- Implement safe laboratory practices and engineering controls to minimize the potential exposure

to hazardous chemicals.

- Ensure that equipment and protective devices are available and in working order, and that appropriate training has been provided.
- Responsible for performing operations within the provisions of the CHP and other safety and health related procedures.
- Practice good chemical hygiene.
- Attend necessary trainings.
- Review and understand the CHP and applicable laboratory specific procedures in their entirety before beginning work in the laboratory or with hazardous chemicals.
- Review the CHP for effectiveness and amend as necessary at least annually.

2.2 Risk Management and Safety (RMS)

- Assist in the facilitation of training for all necessary staff, students, etc.
- Assist in assuring safe practices are implemented and practiced within the laboratory setting.
- Review the CHP for effectiveness and amend as necessary at least annually.

2.3 Chemical Hygiene Officer (CHO)

- Responsible for providing guidance in the development and the implementation of the CHP.
- Collaborate with departments and laboratory personnel to develop and implement chemical hygiene policies.
- Review the CHP with appropriate committees as necessary.
- Assist laboratory personnel in the development of laboratory-specific safety procedures and the selection of engineering controls and personal protective equipment.
- Investigate accidents, spills and near misses in the laboratory.

3.0 Lab Safety and Procedures

Bryant University supports the implementation of prudent laboratory practices when working with chemicals in a laboratory. These include general and laboratory-specific procedures for work with hazardous chemicals, emergency procedures, and laboratory waste procedures. Procedures have been put in place to protect laboratory personnel from health hazards and physical hazards in the Bryant University laboratories.

3.1 Laboratory General Safety Procedures

Bryant University has established general lab procedures to ensure that laboratory personnel maintain healthy and safe work practices in the laboratory. All laboratory personnel working in laboratories must adhere to the following policies when laboratory work involves the use of hazardous chemicals. Failure to do so will be reported to the CHO and RMS.

- Always read and understand the SDS for the chemicals you work with before handling.
- Do not use broken or chipped glassware and dispose of it in a designated marked container (e.g., “broken glass only”).
- Never pipette by mouth; always use a pipette aid or suction bulb.
- Do not apply cosmetics in the laboratory.
- Wash hands and arms thoroughly before leaving the laboratory, even if gloves have been worn.
- Food, drink, and chewing gum are forbidden in the laboratory.
- All chemical containers such as test tubes, beakers, and flasks must be labeled with the full chemical name.
- Do not work alone in the laboratory if the procedures being conducted are hazardous.

3.2 Accident and Incident Reporting

All accidents, incidents, and near misses that result in personal injury or illness, damage and or a potential for significant injury or property loss to Bryant University property shall be properly reported to the CHO and/or RMS and investigated. All accidents or near misses should be carefully investigated by the CHO and/or RMS with the results distributed to all who might benefit.

If emergency care is needed, Bryant University Department of Public Safety (DPS) has licensed Emergency Medical Technicians (EMT) on each shift. An EMT is on duty 24 hours a day, seven days a week to handle the University's emergency medical needs. The EMT service works in cooperation with the Health Services Department as well as the Smithfield Fire Department.

Emergency contacts can be found in Appendix A of this Plan.

3.3 Chemical Storage

All chemicals in the laboratory should have a designated storage area and should be returned after each use or at the end of each class, whichever occurs first. Additional chemical storage parameters are as follows:

- Avoid storing chemicals on bench tops and floors.
- Storage trays or secondary containers should be used to minimize spillage of material if a container breaks or leaks.
- Avoid storing virgin chemicals in the fume hood because containers and equipment can interfere with airflow, clutter the workspace, and increase the amount of material that could become involved in a hood fire.
- Avoid storing chemicals in direct sunlight or near a heat source.
- Physically separate incompatible chemicals using a secondary containment bin or tray, and or store at another designated location.
- All chemical containers must be properly labeled and stored in labeled storage areas.
- Avoid storing chemicals above eye level.
- Refrigerators used for storage of flammable chemicals must be explosion-proof, laboratory-safe units.

3.4 Chemical Procurement

Before a chemical is received, information on proper handling, storage, and disposal shall be reviewed by consulting the safety data sheet (SDS). No container should be accepted without an adequate label. Preferably, all chemicals should be received in one central location.

3.5 Housekeeping

- Laboratory fume hoods and work areas should be kept clean and free of debris at all times.
- Do not allow trash to accumulate in any area. It can be a fire hazard and or obstruct emergency equipment and egress.
- Do store food or drink in any chemical laboratory.
- Access to exits, emergency equipment and utility controls should never be blocked.

3.6 Emergency Procedures

In the event of a hazardous materials spill or incident in which assistance is needed, the following steps must be followed.

- If the incident is indoors, close all doors in order to isolate the area if it safe to do so.
- From a safe area call the DPS and provide them with the following information:
    - Name of the released material;
    - Quantity of the material spilt;
    - Time of the incident;
    - Location of the incident;
    - If anyone has been injured or exposed to the spilt material;
    - If a fire or explosion is involved with the incident; and
    - Your name, phone number and location.
- Follow instructions provided by the emergency responders.
- If necessary, evacuate the area.

For more information, please review Bryant University's Hazardous Materials Release Plan. Emergency contacts can be found in Appendix A of this Plan.

3.7 Hazard Assessment

A hazardous chemical means a chemical for which there is significant evidence that acute or chronic health effects may occur in exposed laboratory personnel. An acute health effect is an adverse health effect characterized by severe symptoms that develop rapidly. A chronic health effect is an adverse health effect with symptoms that develop slowly over a relatively long period of time.

A hazard assessment must be completed to identify the physical and health hazards of chemicals used in the laboratory and determine the risk of exposure to the body. A physical chemical hazard is a chemical that is proven to be a combustible liquid, flammable, a compressed gas, explosive, organic peroxide, an oxidizer. A health hazard means a chemical for which there is statistically significant evidence that acute or chronic health effects may occur in exposed employees.

A hazard assessment should include: identifying the hazard type(s), selection of appropriate personal protective equipment (PPE), training laboratory personnel, storage and handling requirements, control measures, signs and symptoms of an exposure and spill and decontamination procedures.

3.8 Bonding and Grounding

Bonding and grounding of flammables is extremely important to reduce the risk of explosion and fire due to static electricity that builds up during the transfer of flammable liquids. Bonding prevents the generation of static electricity by minimizing the electrical potential between two objects, such as a dispensing drum and a safety can. Grounding minimizes the electrical potential between the containers and the ground. Bonding and grounding shall be used when transferring Class I flammable liquids, those with a flash point below 100^{o} F (isopropyl alcohol and acetone) in metal equipment in order to avoid static generated sparks.

3.9 Procedures for Prior Approval

Whenever there is a significant change in chemical amounts, new equipment, a situation where one must work alone, or highly hazardous chemicals or procedures, approval must be given by the Science and Technology Department Chair prior to starting procedure. General safety considerations include:

- Experimental design;
- Equipment design;
- Workspace adequacy;
- Development of a standard operating procedure (SOP);
- Work preparedness; and
- Hazard assessment(s).

3.10 Procedures for Particularly Hazardous Substances (Select Highly Toxic Chemicals, and Chemicals of Unknown Toxicity)

The following procedures must be followed when performing laboratory work with particularly hazardous substances.

- These substances must be used and stored only in areas with restricted access.
- Designate an area that may be used for work with these materials. This area may be the entire laboratory, an area of a laboratory or a device such as a chemical fume hood. The designated area must be clearly posted with signs that;
    - Identify the hazards;
    - When the hazardous material is in use;
    - No untrained personnel allowed in the work area; and

  - Clearly define the designated area.
- Only the smallest amount of a chemical required by the procedure shall be used or stored.
- When possible only order the required amounts to avoid unnecessary decanting or weighing out the material.
- Specific spill procedures for the hazardous materials must be developed and posted in the designated area.
- All laboratory personnel working with these chemicals shall be familiar with the hazards and proper procedures for accidental release.
- General PPE to be worn at all times when working with this materials are safety glasses, gloves, long sleeve laboratory coats and no open toed shoes.
- The designated work area shall always be decontaminated after each process, experiment or when the work has been completed.
- All waste products from the process shall be managed in a compatible container.

Before working with Hydrofluoric Acid or Peroxide Forming chemicals, Bryant University employees and students shall be familiar with the hazards, PPE requirements, storage and handling requirements as outlined in the Hydrofluoric Acid Safety Plan and the Peroxide Former SOP.

3.11 Chemical Substances Developed in the Laboratory

If the composition of the chemical substance produced for the laboratory's use is known, the Chemical Hygiene Officer or their designee shall determine if it is a hazardous chemical. If the chemical is determined to be hazardous, RMS or the Science and Technology department shall provide appropriate training. If the chemical produced is a byproduct whose composition is not known, the Science and Technology department shall assume that the substance is hazardous. If the chemical substance is produced for another user outside of the laboratory, the researcher shall comply with the Hazard Communication Standard (29 CFR 1910.1200) including the requirements for preparation of SDS and labeling.

4.0 Special Procedures for Handling Hazardous Chemicals

The Science and Technology Department Chair shall ensure that all lab personnel are aware of the locations, hazards and appropriate control measures for work involving hazardous chemicals. In some cases, laboratory-specific procedures may be required for working with highly hazardous materials.

Review the SDS for specific handling and storage requirements of hazardous chemicals. Some specific hazards that may be present in various laboratories at Bryant University are listed below.

4.1 Allergens and Sensitizers

A chemical allergy is an adverse reaction by the immune system to a chemical. Allergic reactions result from previous sensitization to a chemical or a structurally similar chemical. Once sensitization occurs, allergic reactions can result from exposure to extremely low doses of the chemical. Allergic reactions can be immediate, occurring a few minutes after an exposure. Anaphylactic shock is a severe immediate allergic reaction that can result in death if not treated quickly. Allergic reactions can also be delayed, taking hours or even days to develop. It is important to recognize that a delayed chemical allergy can occur even some time after the chemical has been removed. An example of a substance that may cause an allergic reaction is phenol.

4.2 Asphyxiants

Asphyxiants are substances that interfere with the transport of an adequate supply of oxygen to the vital organs of the body. Simple asphyxiants are substances that displace oxygen from the air being breathed to such an extent that adverse effects result. Acetylene, carbon dioxide, argon, helium, ethane, nitrogen, and methane are common asphyxiants. It is important to recognize that even chemically inert and biologically benign substances can be extremely dangerous under certain circumstances such as carbon monoxide.

4.3 Compressed Gas

Gas cylinders contain either compressed liquids or gases. Gas cylinders represent the most insidious hazard, as puncture, heat, faulty valves, pressure or regulators may result in a rapid release of the entire contents. The following safety considerations should be implemented where applicable:

- The cylinder contents must be clearly identifiable.
- Handle cylinders carefully and do not roll, slide or drop. Use a cart or hand truck to transport.
- Do not lift a cylinder by its cap.
- Secure all cylinders while in storage, transport or use.
- Never tamper with cylinder valves, force connections or use homemade adapters. Use only approved equipment. Never repair or alter cylinders, valves or safety relief devices.
- Only use a regulator compatible with the cylinder contents.

- Close the cylinder valve when not in use.
- When empty, turn off the cylinder valve and label the cylinder as empty. Store separately from full cylinders.
- Store cylinders in a well ventilated area away from ignition sources, heat, flames and flammable chemicals.
- Keep the protective caps on the cylinders at all times except when the cylinders are in active use.
- Check for gas leaks using soapy water around the connections.
- Do not store flammable gas cylinders with oxidizers such as nitrous oxide or oxygen. They must be separated by a minimum of 20 feet or a 5-foot fire wall.

4.4 Corrosive Chemicals

The Resource Conservation and Recovery Act (RCRA) defines a corrosive chemical as a liquid with a pH ≤2 or ≥12.5. Acids and bases can cause severe tissue damage depending on the corrosivity of the chemical. The primary means of protection from corrosive chemicals is the use of gloves, goggles, face shields, aprons, lab coats and other chemical resistant clothing. Exercise extreme caution when handling corrosive chemicals. The following safety considerations should be implemented where applicable:

- Transport acids and bases in a bottle carrier or cart. Do not handle by the neck alone; support the weight of the bottle from the bottom when handling or pouring.
- Do not store acid and bases with flammable liquids or oxidizing chemicals. Store hydrofluoric acid by itself.
- Isolate corrosive chemicals from incompatible chemicals.
- Reference the chemical's SDS for proper handling, PPE and storage requirements.
- If an acid or base comes in contact with your skin or clothing, thoroughly wash the affected areas utilizing the safety showers or eyewash units.

4.5 Cryogenic Liquids

Cryogenic liquids are liquefied gases that are kept in their liquid state at very low temperatures and are associated with various hazards including: extreme cold, asphyxiation, explosion, cold contact burns and toxicity. The most common cryogenic liquids at Bryant University include oxygen and nitrogen. Laboratory personnel should be thoroughly trained on the hazards and the proper steps to avoid them. Training should include emergency procedures, operation of equipment, safety devices, appropriate engineering controls, knowledge of the properties of the materials used and personal protective equipment required. Insulated

gloves should always be worn when handling anything that comes into contact with cryogenic liquids or the vapors. Considerations must be made to prevent cryogenic material from contacting skin. Clothing such as a lab coat, pants, closed toed shoes, safety glasses, goggles and face shields should be worn.

4.6 Flammable and Combustible Chemicals

OSHA defines flammable chemicals as liquids with a flashpoint below 199.4°F (93°C) and solid materials that readily sustain combustion. Flammable liquids are divided into four categories:

Category 1 - Flash point below 73.4°F (23°C) and boiling points at or below 95°F (35°C)

Category 2 - Flash point below 73.4°F (23°C) and boiling points above 95°F (35°C).

Category 3 - Flash point at or above 73.4°F (23°C) and at or below 140°F (60°C).

When Category 3 liquids with flash points at or above 100°F (37.8°C) are heated for use to within 30°F (16.7°C) of their flash point, they must be handled in accordance with the requirements for a Category 3 liquid with a flashpoint below 100°F (37.8°C).

Category 4 - Flash point above 140°F (60°C) and at or below 199.4°F (93°C).

When Category 4 flammable liquids are heated for use to within 30°F (16.7°C) of their flash points, they must be handled in accordance with the requirements for a Category 3 liquid with a flashpoint at or above 100°F (37.8°C).

In addition, the new rules specify that when a liquid with a flash point greater than 199.4°F (93°C) is heated for use to within 30°F (16.7°C) of its flash point, it must be handled in accordance with the requirements for a Category 4 flammable liquid.

The following safety considerations should be implemented where applicable:

- Do not allow smoking or other sources of open flames in areas where flammable chemicals are used.
- Know the location of fire extinguishers, fire alarms and emergency exits in the laboratory.
- Do not store flammable liquids in domestic-type refrigerators. Use only refrigerators rated for flammables.
- Do not store flammables with oxidizing agents (e.g., nitric, hydrofluoric, and sulfuric acids).

- Do not expose flammable liquids to potential sources of ignition such as electrical equipment, heat, burners or open flames.
- To prevent accidental electrical charge, the use of bonding and grounding equipment should be used whenever applicable. The use of non-sparking tools can prevent an ignition source.
- Store flammable liquids in an approved fire rated flammable storage cabinet.
- Do not store flammable liquids on the floor, unless protected by secondary containment.
- Minimize the amount of flammable liquids that are in use, being stored and that are generated as wastes.
- Storage of flammable liquids greater than 10 gallons within a laboratory fire area must be in an approved and labeled flammable storage cabinet.
- The SDS shall be reviewed by the owner/user of the materials for additional safety requirements and precautions.

4.7 Irritants

An irritant is a chemical, which is not corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact. A wide variety of organic and inorganic chemicals are irritants; thus, skin contact with all laboratory chemicals should be avoided. Use a properly functioning chemical fume hood when handling irritants that can be inhaled. At a minimum, safety glasses, lab coat, long pants, protective gloves and closed toed shoes should be worn.

4.8 Organic Peroxides

Organic peroxides are hazardous because of their extreme sensitivity to shock, sparks, heat, light, strong oxidizing and reducing agents and other forms of detonation. Organic peroxides may cause fire, create explosion hazards and may be toxic or corrosive. Some organic peroxides are dangerously reactive, decomposing very rapidly or explosively if they are exposed to only slight heat, friction, mechanical shock or contamination with incompatible materials. Precautions for handling peroxides should include the following:

- Limit the quantity of peroxides.
- Do not return unused peroxides to the container.
- Clean up all spills immediately. Solutions of peroxides can be absorbed using vermiculite or other absorbing material.

- Smoking, open flames and other sources of heat near peroxides is prohibited. Areas should be labeled that contain peroxides so that this hazard is evident.
- Avoid friction, grinding and other forms of impact near peroxides, especially solid peroxides. Glass containers that have screw-cap lids or glass stoppers should not be used. Polyethylene bottles that have screw-cap lids may be used.
- Isolate from incompatible materials such as strong acids and bases, flammable and combustible liquids and reducing agents.

4.9 Oxidizers

Oxidizers are chemicals other than a blasting agent or explosive as defined in § 1910.109(a), that initiates or promotes combustion in other materials, causing fire either of itself or through the release of oxygen or other gases. Precautions for handling oxidizers should include the following:

- Minimize the amount of oxidizers used and stored.
- Isolate from incompatible chemicals (e.g., organics, flammable, dehydrating, or reducing agents).
- Do not store oxidizers in wooden cabinets or on wooden shelves.
- Do not return unused material to the original container.
- Store in a tightly closed container and in a cool, dry, ventilated area.

4.10 Toxic Chemicals

Toxic is defined by OSHA 29 CFR 1910.1200 as a chemical which falls in any of these three categories:

- A chemical that has a median lethal dose (LD50) of more than 50 milligrams per kilogram but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.
- A chemical that has a median lethal dose (LD50) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.
- A chemical that has a median lethal concentration (LC50) in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than two milligrams per liter but not more than 20 milligrams per liter of mist, fume or dust, when administered by

continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.

4.11 Unknown Chemicals

Unknown chemicals, or those for which complete physical and chemical hazards are not known, must be assumed to be hazardous and highly toxic. Appropriate PPE and engineering controls should be utilized. In the event an unknown chemical is identified at Bryant University, the RMS office shall be notified immediately. A third-party vendor shall be brought in to test the unknown and properly dispose of the contents.

For more information on chemical hazards please review Bryant University's Hazard Communication & RI RTK Program.

5.0 Control Measures

For the laboratory use of OSHA regulated substances, Bryant University shall assure that laboratory personnel's exposure to such substances do not exceed the permissible exposure limits specified in 29 CFR 1910, subpart Z. To minimize laboratory personnel's exposure to hazardous chemicals the following control measures for reducing chemical exposure should be implemented:

- Substitution of less hazardous chemical or processes
- Engineering controls
- Administrative controls
- Personal protective equipment

Substitution, engineering controls, administrative controls and PPE are basic principles used to control hazards and exposures. Before the proper control(s) can be selected, a hazard assessment of the process, activity or material should be conducted.

5.1 Substitution

Every hazard assessment should first determine if the hazardous conditions can be prevented, e.g., substituting with a less hazardous chemical or process. Substitution is one of the most effective ways to eliminate or reduce exposures because it removes the hazard at the source.

5.2 Engineering Controls

Engineering controls eliminate or reduce exposure to a chemical or physical hazard through the use or substitution of engineered machinery or equipment. Engineering controls include process change, substitution, isolation, ventilation and source modification.

- **Process change** consists of changing a process to make it less hazardous (e.g., paint dipping in place of paint spraying).
- **Substitution** consists of substituting for a less hazardous material, equipment, or process (e.g., use of soap and water in place of solvents, use of automated instead of manually operating equipment).
- **Isolation** is applied when a barrier is inserted between a hazard and those who might be affected by that hazard. Separating personnel from hazardous operations, processes, equipment or environments using a physical barrier or distance may provide the necessary isolation.
- **Ventilation** can be either local (direct air movement) or general (dilution of air contaminants) that exhausts or supplies air properly.
- **Source modification** consists of changing a hazard source to make it less hazardous (e.g., wetting dust particles or lowering the temperature of liquids to reduce off-gassing and vaporization).

5.3 Personal Protective Equipment

Bryant University is required to determine if PPE should be used to protect their employees and laboratory personnel. PPE should be used in conjunction with guards, engineering controls and administrative controls. PPE may be required to reduce employees and laboratory personnel exposure to hazards when engineering and administrative controls are not feasible or effective in reducing these exposures to acceptable levels. PPE should always be worn if there is a possibility that personal clothing could become contaminated with hazardous materials. Examples include laboratory coats, aprons, jumpsuits, boots, shoe covers and gloves. Review SDS's to determine the necessary PPE to limit exposure. The kind of PPE needed depends on how the chemical enters the body. This is called route of exposure and is listed on the SDS. The four major routes of exposures are skin absorption, inhalation, ingestions, and injection.

Please review Bryant University's Personal Protective Equipment Program for more information on PPE.

5.3.1 Eye and Face Protection

Safety glasses with side shields that conform to ANSI standard Z87.1-1989 are required for work with hazardous chemicals. Ordinary prescription glasses with hardened lenses do not serve as safety glasses. If prescription safety glasses are needed, please contact the Bryant University Risk Manager. Although safety glasses can provide protection from injury from flying particles, they offer little protection against chemical splashes. Splash goggles must be worn if there is a splash hazard in any operation involving hazardous chemicals. Full face shields are worn in conjunction with either safety glasses or splash goggles. When there is a possibility of liquid splashes, both a face shield and splash goggles should be worn; this is especially important for work with highly corrosive liquids. Full-face shields with throat protection and safety glasses with side shields must be used when handling highly hazardous chemicals. If work in the laboratory could involve exposure to lasers, ultraviolet light, infrared light or intense visible light, specialized eye protection should be worn. Safety glasses need to be provided for visitors in the laboratory.

5.3.2 Hand Protection

When handling hazardous chemicals, laboratory personnel shall select and wear the appropriate gloves. No single glove can provide appropriate protection in every work situation. It is important to assess the hazards with each task and select a glove that provides the required protection. Below are general recommendations for glove selection and use:

- Similar gloves supplied by different manufacturers may not offer the same level of protection; therefore, the manufacturer's glove selection chart may need to be reviewed.
- Select gloves which are resistant to the chemicals you may be exposed to. Consult the relevant SDS which may recommend a particular glove material.
- Select gloves of the correct size and fitting; gloves that are too small are uncomfortable and may tear whereas larger gloves may interfere with dexterity.
- Before use, check gloves (even new ones) for physical damage such as tears and pin holes.
- When removing gloves, do so in a way that avoids the contaminated exterior contacting the skin.
- Wash hands after removing gloves.

Many factors affect the breakthrough time of gloves including thickness of glove material, chemical concentration, amount of chemical that comes into contact with the glove, length of time the glove is exposed to the chemical, temperature at which the work is done and possibility of abrasion or puncture.

Glove selection guides are available from most manufacturers. For additional information on glove selection, contact RMS.

If chemicals do penetrate the glove material, they could be held in prolonged contact with the hand and cause more serious damage than in the absence of a proper glove. Gloves should be replaced immediately if they are contaminated or torn. The use of double gloves may be appropriate in situations involving chemicals of high or multiple hazards. Leather gloves are appropriate for handling broken glassware and inserting tubing into stoppers, where protection from chemicals is not needed. Non-disposable gloves should be decontaminated or washed appropriately before they are taken off and should be left in the laboratory and not be allowed to touch any uncontaminated objects in the laboratory or any other area. Single use gloves should be disposed of after each use. Gloves should be replaced periodically, depending on the frequency of use.

5.3.3 Laboratory Attire

When performing work with hazardous materials, laboratory personnel should cover all exposed parts of their body to prevent unnecessary chemical exposure. Tie long hair back, avoid loose clothing such as neckties and flowing sleeves.

5.3.4 Foot Protection

Closed toed shoes must be worn in areas where hazardous chemicals are in use or mechanical work is being done. Clogs, perforated shoes, bare feet, sandals, and cloth shoes do not provide protection against chemicals. Shoe covers may be required for work with especially hazardous materials.

6.0 Hazard Communication

Administrative controls are changes in work procedures such as written safety guidelines, rules, supervision, schedules, signs, labels, SDS's and training to reduce employee exposure to hazardous chemicals.

6.1 Safety Data Sheets

Safety Data Sheets must be readily available for all employees. Employees should not work with any hazardous chemicals without access to and review of the SDS. Copies of the SDS must be retained for 30 years. Each SDS must be in English and contain the following information:

1. Identification of Substance/Mixture
2. Hazard Identification
3. Composition
4. First Aid Measures
5. Firefighting Measures
6. Accidental Release Measures
7. Handling and Storage
8. Exposure Controls/Personal Protection
9. Physical and Chemical Properties
10. Stability and Reactivity
11. Toxicological Information
12. Ecological Information
13. Disposal Considerations
14. Transport Information
15. Regulatory Information
16. Other Information

More information on understanding SDS can be found in Appendix B of this Plan.

6.1.1 Obsolete Materials

SDSs for products that are no longer used by the University will be kept and archived for the required 30-year period.

6.1.2 Internet Access to SDS

Departments will keep files of their SDS, but as an additional resource, employees can find SDSs for many products through the Internet.

6.2 Signs and Labels

All hazardous materials, hazardous waste and chemical storage areas shall be appropriately labeled indicating the hazards present and any other relevant regulatory requirements. All chemical containers at Bryant University must be labeled regardless of size and whether or not they are hazardous.

Labeling of all chemical containers assists emergency personnel and others in identifying what is and what is not hazardous should a spill occur, or other emergency situation arise. Original labels on chemical containers must not be removed or defaced. Labels must be in English and they must contain the complete name of the chemical and be traceable or easily linked to the appropriate SDS (chemical formulas are not allowed). The manufacturer's label is generally sufficient to meet OSHA labeling requirements and should be replaced only if it becomes damaged or illegible. All containers into which chemicals are transferred also need to be legibly labeled in English and include the name of the chemical and appropriate hazard warnings (chemical formulas are not allowed

All laboratories shall be posted with signage addressing the hazards of the materials contained in the lab. A NFPA 704 diamond can be used for hazard notification.

Chemical manufacturers, importers, or distributors are responsible for ensuring that each container of hazardous chemicals is appropriately labeled, tagged, or marked in accordance with the Hazard Communication Standard Globally Harmonized System (GHS). Incoming chemicals and materials to the University should meet the below requirements. These labeling requirements are intended to provide users with information concerning the potential hazards of the chemicals being used and providing information needed to permit an employee to locate the corresponding SDS. The 2012 labeling revisions require containers to be labeled, tagged, or otherwise marked with the following information:

1. Product Identifier;
2. Signal Word;
3. Hazard Statement(s);
4. Pictogram(s);
5. Precautionary Statement(s);
6. Name, address and telephone number of manufacturer(s), importer, or other responsible party.

NOTE: Although full compliance with the 2012 labeling requirements was not required until June 2015, it is likely that chemicals purchased prior to 2015 will be labeled in accordance with the revised standard

and will differ from those previously purchased, as manufacturers and distributors begin revising them accordingly.

If an incoming chemical does not meet the definitions of an exemption or the labeling requirements above, the following labeling is required per the RI RTK Law:

- Identity of the designated substance; and
- Hazard warnings.

6.2.1 Workplace Labeling

Labels on all workplace containers will include a product identifier and words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and the name and address of the manufacturer or other responsible party who can provide additional information on the designated substance and appropriate emergency procedures, if necessary. When stationary containers in a work area have similar contents and hazards, the employer may post signs or placards to convey the required information rather than affixing labels to each individual container.

6.2.2 Label Maintenance

No one shall intentionally deface or obscure container labels or hazard warnings on incoming containers of hazardous materials. Supervisors of employees using hazardous materials are responsible for ensuring that labels are legible on all containers in their work area.

6.2.3 Trade Secrets

Chemical manufacturers or importers may withhold specific chemical names/identities, percentages/concentration, or other information regarding a hazardous chemical if it is a trade secret. The manufacturer or importer must be able to support this claim and note it is being withheld as a trade secret. The SDS must include properties or effects of the chemical. Trade secret information may be made available, upon request, in certain situations as outlined in 29 CFR 1910.1200(i).

6.3 Chemical Inventory Control

The Science and Technology staff will maintain an accurate chemical inventory for each classroom, lab and main chemical storage area. Inventory lists will be kept in each classroom, lab and main chemical storage area and will be made available upon request.

RMS will annually review all chemical inventories and report lists to the Rhode Island Department of Labor and Training under the Right-to-Know Law.

7.0 Hazardous Waste Management and Disposal

Bryant will collect and dispose of hazardous waste in accordance with local, state and federal hazardous waste regulations. RMS will periodically monitor and arrange for pick-up/clean out of both the satellite accumulation areas (SAA) and main accumulation areas (MAA).

7.1 Management

Hazardous waste chemicals regulated by the Environmental Protection Agency (EPA) and Rhode Island Department of Environmental Management (RI DEM) must be collected, labeled, packaged, and disposed of according to federal and state hazardous waste regulations. Hazardous waste is any solid, liquid, sludge, or containerized gas that is discarded, has served its intended use, or is manufacturing by-product, and exhibits any of the characteristics identified below:

- Ignitability
- Corrosivity
- Reactivity
- Toxicity

It is the responsibility of the waste generator to adhere to proper waste management and disposal policies. Hazardous waste shall be collected in an appropriate container pending transfer to the Bryant University MAAs or SAAs for chemical waste handling or pickup by an outside disposal agency.

7.2 General Procedures for Disposal

- Any material that meets the criteria of a hazardous waste shall not be treated or otherwise changed to alter its characteristics as a hazardous waste.
- Empty containers of hazardous materials shall be rinsed three times before disposal. All three rinses shall be collected as hazardous waste.
- Dispose of all waste in designated, labeled containers. Any questions about proper disposal methods should be directed to the office of RMS.
- Do not combine different waste streams (i.e. bio-hazardous and hazardous or incompatible hazardous materials).

- Do not overfill containers.
- Manage common laboratory waste (uncontaminated gloves, paper towels, etc.) in the general trash.

7.3 Storage and Handling for Hazardous Waste

- All hazardous waste generated at Bryant University must be accumulated and stored in a SAA before being transferred to the MAA.
- The SAA's are marked by a sign defining the SAA. The area is used for the accumulation of waste generated at the point of generation.
- All SAA waste containers must be labeled with SAA labels or the words "Hazardous Waste" with the full chemical name and hazard class (e.g., ignitable).
- When an SAA waste container becomes full, date the container with the 'full date' and inform the RMS office, RMS@bryant.edu.
- SAA containers can remain in the SAA indefinitely or until they become full. Full containers must be moved into the MAA within three days of the full date.
- All containers must be closed and sealed when not in use.
- Waste must be stored in containers compatible with the constituents of the waste.
- There are two MAAs located at Bryant University. The first is located on the second floor of the Unistructure within the analytical laboratory flammable storage cabinet. The second MAA is located in the lower Facilities Management storage area and must remain locked at all times.
- Secondary containment bins must be used to prevent mixing of incompatible waste streams.

7.4 Chemical Cleanouts

Expired or unwanted chemicals should not remain in chemical stock areas. Instead, they should be appropriately labeled with hazardous waste labels and put in a SAA to await pickup. All expired and unwanted chemicals must be moved to the MAA within three days of the full date.

7.5 Biological Waste

Biological waste is characterized as any waste, liquid or solid, that is potentially infectious to humans. Biological waste consists of contaminated animal carcasses, needles and syringes, cell culture wastes, and any biologically contaminated laboratory debris. All biohazardous waste must meet the following criteria prior to disposal:

- Waste shall be placed in appropriate biohazardous waste containers such as red bio-waste boxes, bags, or containers marked with the universal biohazard symbol;
- Do not place leaking or liquid waste into the bags;
- All biohazardous sharps should be disposed of in a red sharps container labeled with the universal biohazard symbol;
- Do not overfill bags; and
- Do not leave or dispose of red bio-waste bags near the general trash.

Please refer to the Bryant University Bloodborne Pathogens Exposure Control Plan for more information.

7.6 Sharps Waste

Sharps include any material that can puncture the skin. This includes needles, scalpels, broken, glass, etc. Sharps that have had contact with blood or OPIM are considered contaminated sharps.

- Puncture-proof containers must be used for the disposal of needles and other contaminated sharps.
    - Never dispose of these in the regular trash.
    - Do not fill sharps containers more than ¾ so as to avoid overfilling.
- Do not leave uncapped needles or sharps out when not in use; dispose of immediately after use.
    - Needles should never be recapped; self-sheathing needles are used for all injections.
- Breaking or shearing of needles is prohibited.
- Known or suspected contaminated sharps shall be discarded immediately or as soon as feasible in containers that are closable; puncture-resistant; leak-proof on sides and bottom; and marked with an appropriate biohazard label.
- When containers of contaminated sharps are being moved the containers shall be closed immediately before removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.
- There should never be any hand-to-hand transfer of contaminated sharps such as scalpels, picks, probes, etc.
- Utilize tools such as dustpans and brooms/brushes to clean up sharps such as broken glass or needles.

Please refer to the Bryant University Bloodborne Pathogens Exposure Control Plan for more information.

7.7 Broken Glass Disposal

- Broken glass and sharp objects shall never be disposed in general trash receptacles or recycling bins.
- Glass bottles (not eligible for recycling) shall be triple rinsed with water and their labels defaced before discarding.
- Glass bottles or broken glass must be disposed of in cardboard “Deposit Glass Here’ boxes. These boxes are available in all of the academic laboratory areas.
- Seal the top of the box closed with tape when it is full and label it ‘trash’.

7.8 Universal Waste

Fluorescent lamps, cathode ray tube (CRT) screens, Nickel Cadmium (NiCad) or rechargeable batteries, and mercury containing devices such as thermostats are classified as Universal Waste in Rhode Island and cannot be disposed in the general trash. For disposal contact Facilities or RMS.

8.0 Equipment, Maintenance, and Inspections

8.1 Fume Hoods

The laboratory fume hood is the most common local exhaust method used in laboratories. When working with hazardous chemicals, the use of the fume hood is required at Bryant University. A properly operating and correctly used fume hood will control vapors, dusts, and mists released from volatile liquids. Fume hoods can also protect from accidental spills. Fume hoods are inspected and certified annually by an outside vendor**.** However, all Bryant Science and Technology staff are responsible for ensuring that their fume hood(s) has an updated certification label and is functioning properly prior to use. Except when adjustments to the apparatus are being made, the hood should be kept closed, with vertical sashes down and horizontal sashes closed, to help prevent the spread of a fire, spill, or other hazards into the laboratory. Basic guidelines for operating a fume hood include the following:

- Confirm that the fume hood has been certified within the last year (label with date).
- Confirm that the chemical can be used in the fume hood.
- Conduct procedure at least six inches behind the plane of the sash.

- Never put your head inside a fume hood to check an experiment.
- Work with the sash at the lowest position possible to protect your face and body.
- Do not clutter the fume hood with bottles, chemicals or equipment as it restricts airflow and work space.
- Immediately report any suspected fume hood malfunctions to the Facilities Department**.**
- Limit foot traffic behind while performing operations in the hood.

Testing and certification of the fume hoods are coordinated through RMS and Facilities with an outside vendor. This is completed on an annual basis, or more frequently, as needed.

8.2 Safety Showers and Eyewash Stations

In case of an exposure to hazardous substances, a reliable, clean source of water must be available to rinse contaminants from the body. Safety showers and eye wash stations are located in each of the laboratories. Bryant Science and Technology staff must ensure that safety showers and eyewash stations are free from obstruction. Bryant Science and Technology staff is responsible for ensuring all students are aware of the nearest safety shower and eyewash station location and how to use the device. A member of the Facilities Department staff is responsible for monthly inspection and testing of the eyewash stations. The safety showers will be tested at least annually by the Facilities Department.

8.3 Inspections

An RMS department representative will coordinate and conduct annual laboratory safety inspections. Inspections will include a walk-through of the selected area(s) and will cover lab safety, PPE, waste management and related topics. Area representatives should use the results as a guide to identify and correct similar and/or other environmental, health and safety issues in their area(s).

9.0 Information and Training

9.1 Information

The Department of Science and Technology will provide the following information to faculty, staff and students prior to working with any chemical:

- The availability and location of the CHP.
- SDS’s for all hazardous chemicals the employee will use.

- SOP's for all of the operations the employee will conduct.
- A description and use of the Bryant University labeling system.
- Additional information on the hazards, safe handling, storage and disposal of hazardous chemicals can be obtained from the RMS Office, Prudent Practices in the Laboratory, OSHA website, NIOSH website and the chemical manufacturers.

9.2 Training

All employees and laboratory personnel working in a laboratory shall be trained to the contents of the CHP and all applicable SOP's that are pertinent to a procedure, experiment, or task. Training shall include but is not limited to:

- Provisions of the CHP.
- Hazards in the laboratory.
- OSHA regulated substances or recommended exposure limits.
- Signs and symptoms associated with exposures to hazardous chemicals.
- Safe handling, storage, and disposal of hazardous chemicals.
- How to read an SDS.
- The selection and use of PPE.

9.3 Frequency of Training

Training shall be provided for all employees and laboratory personnel prior to starting work in the laboratory; before each new possible hazard exposure; before use on new or altered equipment; and on changes to SOP's or the CHP. Refresher training is required annually.

9.4 Recordkeeping

RMS and the Science and Technology departments are responsible for establishing and maintaining records for employee training, employee environmental monitoring, and compliance records.

10.0 Medical Examinations and Consultations

Bryant University shall provide all laboratory personnel who work with hazardous chemicals the opportunity for medical attention and follow-up by a competent physician if they show signs and symptoms of exposure.

10.1 Medical Surveillance

All laboratory personnel shall be provided an opportunity to receive an appropriate medical examination performed by a licensed physician at a reasonable time and free of cost under the following circumstances.

- Any time laboratory personnel believe they have been significantly exposed to hazardous materials.
- Whenever laboratory personnel develop signs or symptoms associated with a hazardous chemical to which they may have been exposed in the laboratory
- If an event takes place in the work area such as a spill, leak, explosion, or other occurrence resulting in the likelihood of a hazardous exposure.
- Where exposure monitoring reveals an exposure level routinely above the action level for an OSHA regulated substance.

10.2 Information Provided to the Physician

Bryant University will provide the following information to the physician:

- The identity of the hazardous chemical(s) to which laboratory personnel may have been exposed and the SDS;
- A description of the conditions under which the exposure occurred including quantitative exposure data, if available; and
- A description of the signs and symptoms of exposure that laboratory personnel are experiencing, if any.

10.3 Physician's Written Opinion

Bryant University shall obtain a written opinion from the examining physician which includes the following:

- Recommendation for further medical follow-up.

- The results of the medical examination and any associated tests.
- Any medical condition which may be revealed in the course of the examination which may place laboratory personnel at increased risk as a result of exposure to a hazardous workplace.
- A statement that the laboratory personnel have been informed by the physician of the results of the consultation or medical examination and any medical condition that may require further examination or treatment.
- The written opinion shall not reveal specific findings of diagnoses unrelated to occupational exposure.

11.0 Recordkeeping

11.1 Safety Data Sheets

Safety Data Sheets will be kept on file for a minimum of 30 years. SDS must be made available upon request to designated representatives and OSHA officials. Upon request, the SDS must be made available within fifteen (15) working days, or any reasons for delay and earliest availability date(s).

11.2 Inventory

These may be kept on file for 30 years to ensure compliance with OSHA's Access to Employee Exposure Medical Records (29 CFR 1910.1020).

11.3 Training Records

Employee training records will be kept on file for the duration of employment.

Appendix A: Emergency Contacts

Authority	Notify	Telephone
Bryant Department of Public Safety (DPS)		Emergency (401) 232-6911 Office (401) 232-6001
Risk Management & Safety (RMS)	Bill Thomas Risk Manager	RMS@bryant.edu Bthomas12@bryant.edu (401) 232-6006
Facilities	Andy DeMelia Assistant Vice President of Facilities Robert Dunning Assistant Director of Facilities	ademelia@bryant.edu (401) 232-6082 rdunning@bryant.edu (401) 232-6912
Town of Smithfield Fire Department	To Report a Fire, Environmental Emergency	(401) 949-1330 911
Town of Smithfield Police Department		(401) 231-2500 911
Hospital	Rhode Island Hospital	593 Eddy St Providence, RI 02903 (401) 444-4000
	Our Lady of Fatima Hospital	200 High Service Ave North Providence, RI 02904 (401) 456-3000
	Landmark Hospital	115 Cass Ave Woonsocket, RI 02895 (401) 769-4100
Poison Control	Regional Poison Control Center	1-800-222-1222
Rhode Island Department of Environmental Management	Oil Spill or Release	(401) 222-3070 (24 hr) (401) 222-1360 (Business Hours)

Rhode Island Emergency Management Agency (RIEMA)	24 Hour Response	(401) 946-9996
National Response Center	Notification required when any release to the environment exceeding reportable quantity or a sheen on the water occurs.	800-424-8802
US Environmental Protection Agency Regional Administrator (Region I)	Environmental Emergency	888-372-7341 1-800-424-9346
Local Emergency Planning Committee (LEPC District 1)	John Silva North Providence	(401) 597-6667 firechief@northprovidenceri.gov
Rhode Island Department of Labor and Training (RI DLT)	Employee Injuries	(401) 462-8570
Smithfield Sewer Authority	Spill to Sewer/Storm Drain	(401) 233-1041
PAL Environmental Services	Oil Spill Clean-Up	(401) 232-3353
Triumvirate Environmental	Oil Spill Clean-Up	800-966-9282

Appendix B: Safety Data Sheets

Please note that revisions to the Hazard Communication Standard promulgated in March 2012 require manufacturers/importers to use a standardized format and minimum information required on all SDSs by no later than December 1, 2015. SDSs from before this date may not be in the proper format.

The 16-section standardized SDS includes the following information which may be found in a different order and format in current SDSs as noted above.

1. Identification

(a) Product identifier used on the label;

(b) Other means of identification;

(c) Recommended use of the chemical and restrictions on use;

(d) Name, address, and telephone number of the manufacturer, importer, or other responsible party;

(e) Emergency phone number.

2. Hazard(s) Identification

(a) Classification of the chemical in accordance with paragraph (d) of 1910.1200:

(b) Signal word, hazard statement(s), symbol(s), and precautionary statement(s). Hazard symbols may be provided as graphical reproductions in black and white or the name of the symbol.; e.g., flame, skull and crossbones, etc.

(c) Describe any hazards not otherwise classified;

(d) Where an ingredient with unknown acute toxicity is used in a mixture at a concentration $\geq$ 1% and the mixture is not classified based on testing of the mixture as a whole, a statement that X% of the mixture consists of ingredient(s) of unknown acute toxicity.

3. **Composition/information on ingredients**

Except as provided for in 1910.1200 on trade secrets:

For Substances

(a) Chemical name;

(b) Common name and synonyms;

(c) CAS number and other unique identifiers;

(d) Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance.

For Mixtures

In addition to the information required for substances:

(a) The chemical name and concentration (exact percentage) or concentrations of all ingredients which are classified as health hazards in accordance with paragraph (d) of 1910.1200 and:

(1) are present above their cut-off/concentration limits; or

(2) present a health risk below the cut-off/concentration limits.

(b) The concentration (exact percentage) shall be specified unless a trade secret claim is made, when there is batch-to-batch variability in the production of the mixture, or for a group of substantially similar mixtures with similar chemical composition.

4. **First Aid Measures**
   (a) Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion;
   (b) Most important symptoms/effects, acute and delayed;
   (c) Indication of immediate medical attention and special treatment needed, if necessary.

5. **Fire-Fighting Measures**
   (a) Suitable (and unsuitable) extinguishing media;
   (b) Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).

6. **Accidental Release Measures**
   (a) Personal precautions, protective equipment, and emergency procedures;
   (b) Methods and materials for containment and cleaning up.

7. **Handling and Storage**
   (a) Precautions for safe handling.

8. **Exposure controls/ Personal Protection**

(a) OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available;
(b) Appropriate engineering controls.

9. **Physical and Chemical Properties**
   (a) Appearance (physical state, color, etc.);
   (b) Odor;
   (c) Odor threshold;
   (d) pH;
   (e) Melting point/freezing point;
   (f) Initial boiling point and boiling range;
   (g) Flash point;
   (h) Evaporation rate;
   (i) Flammability (solid, gas);
   (j) Upper / lower flammability or explosive limits;
   (k) Vapor pressure;
   (l) Vapor density;
   (m) Relative density;
   (n) Solubility(ies);
   (o) Partition coefficient: n-octanol/water;
   (p) Auto-ignition temperature;
   (q) Decomposition temperature;
   (r) Viscosity.

10. **Stability and Reactivity**
   (a) Reactivity;
   (b) Chemical stability;
   (c) Possibility of hazardous reactions;
   (d) Conditions to avoid (e.g., static discharge, shock, or vibration);
   (e) Incompatible materials;
   (f) Hazardous decomposition products.

11. **Toxicological Information**

   Description of the various toxicological (health) effects and the available data used to identify those effects, including:
   (a) Information of the likely routes of exposure (inhalation, ingestion, skin and eye contact);
   (b) Symptoms related to the physical, chemical and toxicological characteristics;
   (c) Delayed and immediate effects and also chronic effects from short- and long-term exposure;
   (d) Numerical measures of toxicity (such as acute toxicity estimates);
   (e) Whether the hazardous 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 edition) or by OSHA.

12. **Ecological Information (non-mandatory)**
   (a) Ecotoxicity (aquatic and terrestrial, where available);

(b) Persistence and degradability;
(c) Bioaccumulative potential;
(d) Mobility in soil.

13. **Disposal Considerations (non-mandatory)**

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

14. **Transport Information (non-mandatory)**

(a) UN number;
(b) UN proper shipping name;
(c) Transport hazard class(es);
(d) Packing group, if applicable;
(e) Environmental hazards (e.g., Marine pollutant (yes/no));
(f) Transport in bulk;
(g) Special precautions, which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

15. **Regulatory Information (non-mandatory)**

Safety, health and environmental regulations specific for the product in question.

16. **Other information, including date of preparation or last revision**