

FIU Bloodborne Pathogens Exposure Control Plan



GUIDELINES TO PREVENT AND REDUCE EXPOSURE TO
POTENTIALLY INFECTIOUS MATERIALS

DEPARTMENT OF ENVIRONMENTAL HEALTH & SAFETY SERVICES

CSC 162 (305) 348-2621 www.fiu.edu/~ehs

An ounce of prevention is worth more than a pound of cure

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1.0 INTRODUCTION

This document outlines the methods by which the Department of Risk Management and Environmental Health and Safety will implement the Bloodborne Pathogen Exposure Control Program as mandated by the OSHA Bloodborne Pathogen Standard 29 CFR 1910.1030.

Last date revised: 09/2009 / 7/2011 / _____ / _____

Approved by: **William Youngblut**
(Department Head or Unit Supervisor)

Interim Director
(Title)

The University Biosafety Officer is responsible for ensuring this program meets the compliance requirements of FAC 64E-16. The following individual is designated to fulfill this responsibility:

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1.0 INTRODUCTION

1.1 PURPOSE

This document has been prepared in response to the Code of Federal Regulations (CFR) Part 1910 of Title 29.

Bloodborne pathogens are microorganisms that pose a health risk to humans when they are exposed to blood. The following document provides guidelines for the prevention of exposures to bloodborne pathogens to employees/students in the FIU community.

It is important to note that the implementation of control measures for bloodborne pathogens do not dismiss the need for continued adherence to general infection control principles, as well as general good hygiene measures for preventing transmission of other infectious diseases that may be transmitted through contact with blood.

Information on Human Immunodeficiency Virus (HIV) and Hepatitis B Virus (HBV) is presented in this document, because the modes of transmission for HBV are similar to those of HIV. However, the potential for HBV transmission in the occupational setting is greater than that for HIV.

The two primary objectives of the Exposure Control Plan are:

1. **To protect** employees from exposure to bloodborne pathogens (BBP) which are defined as pathogenic microorganisms that may be present in human blood, fluids, or body tissues, or other potentially infectious materials.
2. **To provide** for appropriate prophylaxis, response, treatment and counseling for employees.

This plan meets the performance specifications of the federal and state regulated BBP Standard. Implementation of these standards should assure compliance with the law.

Florida International University makes the following general assumptions applicable to work involving infectious materials:

- The risk of exposure is always present.
- All exposures can be minimized.
- Appropriate work practice and engineering controls to eliminate and/or minimize exposures.
- Refer to Appendix D for the Quick Start Guide.

1.2 SCOPE

The FIU Bloodborne Pathogen Exposure Control Plan applies to all laboratory, teaching, healthcare, and athletic facilities at Florida International University, in which exposure to bloodborne pathogens may occur.

1.3 PROGRAM ADMINISTRATION

There are various levels of responsibility associated with the FIU Exposure Control Plan:

Biosafety Officer

The University Biosafety Officer is the designated Exposure Control Officer (ECO) for the University. The ECO shall be responsible for the overall management and support of the University's BBP Exposure Control Plan. Responsibilities of the ECO typically include, but are not limited to:

- Update and implement of the Exposure Control Plan
- Serve as a contact for Department Heads/Workers for information concerning bloodborne pathogens.
- Research methods to improve, revise, or update the Exposure Control Plan.
- Collect and maintain a suitable reference library on the bloodborne pathogens standard, and bloodborne pathogens safety and health information.
- Disseminate compliance requirements concerning bloodborne pathogens.
- Develop and/or identify suitable education/training programs.
- Monitor compliance with training requirements.
- Maintaining current list of all occupationally exposed employees
- Schedule facilitation of periodic training sessions for employees.
- Maintain appropriate training documents and records.

- Conduct periodic departmental audits to assure compliance with the Exposure Control Plan.
- Maintain information pertaining to employee exposure or status regarding HIV or HBV.

Human Resources

The responsibilities of Human Resources are to assure the following for employees:

- Update employee position description to include specific references to occupational exposures to BBP, where necessary.
- Maintain compliance with applicable requirements as established under the University's Exposure Control Plan.

Workers' Compensation

The responsibilities of Workers' Compensation to assure the following for employees:

- Following an exposure incident, arrange confidential medical evaluation and follow-up immediately for employees.

Other Responsible Persons

University-wide, there are two "categories of responsibility" that are integral to the effective implementation of the University's Exposure Control Plan:

1. Supervisors: Department Heads, Faculty, Supervisors
2. Workers: Employees (and Students)

Department Heads, Faculty, and Supervisors

Department heads, faculty and supervisors are responsible for exposure control in their units, and shall assure that proper exposure control procedures are followed. Responsibilities include, but are not limited to:

- Determine exposure for all employees in their unit
- Implement the Exposure Control Plan for their department
- Perform safety evaluations
- Provide engineering controls
- Provide for appropriate decontamination (and laundering) of reusable, employee-assigned, personal protective equipment.
- Maintain an up-to-date list of staff with occupational exposures.
- Schedule and budgeting for employee Hepatitis B vaccinations
- Assure new employees are trained as required within 10 days of start date.
- Maintain appropriate training documents and records of attendance.
- Investigate exposure incidents

- Know about and instruct on information received from regulatory agencies or the Department of Environmental Health and Safety regarding bloodborne pathogens.
- Conduct periodic departmental self-audits to maintain and update their departmental Exposure Control Plan

Employees (and Students)

The ultimate implementation of the Exposure Control Plan rests with the employees (and students). In this role they shall do the following:

- Be familiar with the Exposure Control Plan and all its components.
- Be responsible for receiving or declining the vaccination series for Hepatitis B.
- Be knowledgeable of the tasks they perform which create hazardous exposures.
- Attend and complete required bloodborne pathogens training sessions.
- Plan and conduct all operations in accordance with recommended work practice controls.
- Develop and practice good personal hygiene habits.

1.4 REVIEW AND UPDATE OF THE PLAN

This Exposure Control Plan shall be reviewed and updated annually, on or before December 30 of each year, or under the following circumstances:

- In response to regulatory changes or newly recommended procedures
- Whenever new or modified tasks and procedures are implemented which are likely to affect employee occupational exposure
- Whenever an employee's job is revised such that new instances of occupational exposures may occur
- Whenever a new functional position is established that may create exposure to BBP
- In response to audit recommendations

The Exposure Control Officer (ECO) will be responsible for the review and update. The ECO for FIU is the Biosafety Officer. When this is completed, the ECO will provide updated materials to department supervisors for incorporation into their BBP Exposure Control Plan.

2.0 METHODS OF COMPLIANCE

Specific **work practices** required to minimize or eliminate exposures include use of **personal protective equipment** (i.e. gloves, masks, and protective clothing); and in some situations, **redesign of selected aspects of the job** through equipment modifications or environmental controls. These approaches constitute methods of compliance.

2.1 EXPOSURE DETERMINATION

In order to determine the potential for occupational exposures, job classifications along with their specific tasks and procedures must be examined and “flagged” for exposure control compliance. The exposure determination process involves identification of:

1. Job classifications in which all employees have occupational exposure (e.g. nurses at the University Health Services Center).
2. Job classifications in which some, but not all, employees have occupational exposure, (e.g. research assistant).
3. Tasks and procedures, or groups of closely related tasks and procedures, in which occupational exposure occurs in the job classifications in which some, not all, employees have occupational exposure (e.g., custodial services employees and plumbers).
4. All employees in job classifications identified in (1 and 2) above shall be trained on identification of these tasks and procedures that can lead to exposures.

The following list includes the departments/units known to perform activities that carry a potential exposure to bloodborne pathogens.

University Park

Biological Sciences	OE and AHC Bldgs.
Athletics/Campus Recreation	Golden Panther Arena
University Health Services	Health Services Ctr.
Public Safety	Tower
Environmental Health and Safety	CSC Bldg.
College of Health	AHC I Bldg.
College of Medicine	AHC I Bldg
Recreation Services	Recreation Center
School of Nursing	AHC III Bldg.
Facilities Management/Custodial Services/ Plumbing	University-wide

Biscayne Bay Campus

University Health Services	Health Services Ctr.
Aquatic Center	Pool area
Biological Sciences	AC II
Public Safety	SO II
Facilities Management/Custodial Services/ Plumbing	University-wide

2.0 METHODS OF COMPLIANCE

Engineering Center

Biomedical Engineering
Facilities Management/Custodial Services/
Plumbing

Engineering Center
University-wide

Camillus House

College of Health

Camillus House

The following are considered potential infectious material:

1. Blood
2. Body fluids
3. Semen
4. Vaginal fluids
5. Other body fluids such as:
 - i. Cerebrospinal fluid
 - ii. Synovial fluid
 - iii. Pericardial fluid
 - iv. Peritoneal fluid
 - v. Amniotic fluid
 - vi. Unfixed body tissues

The following list includes fluids/tissues which are not normally infectious; however, all procedures applicable to exposure control, including but not limited to universal precautions should be applied when handling these materials:

1. Saliva
2. Feces
3. Urine
4. Sweat
5. Sputum
6. Vomitus
7. Tears

The recommended criteria for determining risk of BBP exposure in the workplace involves asking the following questions about job classifications and tasks performed:

Do students or employees:

- Handle human blood products such as whole blood, serum, platelets, or white blood cells or come into direct contact with these products?

- Handle human body fluids such as semen, vaginal secretions, synovial fluid, pericardial fluids, peritoneal fluid or other body fluids which may be contaminated with blood?

- Work with the Hepatitis B virus or with preparations such as liquids or powders that contain the Hepatitis B virus?

2.0 METHODS OF COMPLIANCE

- Work with animals that are infected with the Hepatitis B virus or other potentially infectious organisms?
- Handle unfixed (fresh or frozen) human tissues or organs (tissues and organs soaked in preservatives such as alcohol or formaldehyde are “fixed”)
- Handle blood, blood products, body fluids, or unfixed tissues or organs of animals infected with Hepatitis B virus?
- Handle sharp instruments such as knives, needles, scalpels, or scissors, that have been used by others working with human blood products, body fluids tissue or organs or blood products, body fluids tissues or organs of animals infected with Hepatitis B virus
- Enter areas where other individuals work with human or animal blood, body fluid, or tissues and/or perform tasks within this environment?
- Perform tasks which may potentially result in the lab workers exposed skin or mucous membranes coming in contact with human or animal blood, body fluids, organs, or tissues which are infected with the Hepatitis B virus or other bloodborne pathogens (whether known or unknown of infectious status)?

If the answer to any of the above questions is yes, then the individuals performing those tasks are considered to be at occupational risk to exposure to bloodborne pathogens and must be provided with appropriate training and protection.

The following are a few examples of a potential for occupational exposure in the workplace:

Occupations	Potential Exposures
Housekeeping	cleaning blood spills, dried blood, handling infectious materials
Public safety	crime scene, bitten by suspect, contact with sharp objects during a search or scuffle
Research Laboratory Personnel	spills of infectious material, cuts, handling wastes
Phlebotomists	sharps, drawing blood, handling wastes, needle-sticks
Infectious waste handlers	handling containers of infectious waste
Maintenance workers/Plumbing	working in areas where blood or body fluid contamination is present
Athletics	cleaning and dressing wounds, performing First-aid or CPR

2.0 METHODS OF COMPLIANCE

When a new employee starts working, or when an employee changes jobs within a department, the following process shall take place to assure that they are trained in the appropriate work practice controls:

- The Supervisor shall review the job description and determine if the possibility exists of any type of exposure while the employee performs the job duties.
- The new employee's job classifications, and job functions shall be checked against the Job Classification and Task Lists identified in the Department's Exposure Control Plan, as those in which occupational exposure occurs.
- If necessary, the employee shall then receive training or shall be scheduled to attend appropriate training programs. Training should be given before or within 10 days of the start date. The employee shall also be provided with the hepatitis B vaccine within 10 days of assuming his/her new responsibilities.

2.2 UNIVERSAL PRECAUTIONS

Universal Precautions apply to all individuals in the university who may be exposed to blood/body fluids of another individual in any work environment. These procedural guidelines are put forth as a guide for employees to help protect them from exposures.

1. Use protective eye wear and a face shield for procedures that commonly result in the generation of droplets or splashing of blood or other bodily fluids.
2. Use laboratory coats when conducting laboratory procedures, and additional protection (e.g., gowns or aprons) when conducting procedures in which the splashing of blood or other bodily fluids can be reasonably anticipated.
3. Use gloves during all procedures that involve the handling of items containing or contaminated with blood, or in areas where items (such as benches) could be contaminated with potentially infectious materials.
4. Do not wear torn gloves. Remove and replace them promptly.
5. Change gloves and wash your hands upon completing specimen processing.
6. Put all specimens of blood and bodily fluids into a well-constructed container with a secure lid to prevent leakage during transport.
7. Exercise care when collecting each specimen to avoid contaminating the outside of the container and the laboratory form accompanying the specimen.
8. Use biological safety cabinets when conducting procedures that have a high potential for generating aerosols.
9. Use mechanical pipetting devices for manipulating all liquids in the laboratory. Mouth pipetting is prohibited.
10. Limit the use of needles and syringes to situations where there are no other alternatives.
11. Decontaminate laboratory work surfaces with an appropriate chemical germicide after a spill of blood or other bodily fluids and upon completing work activities.
12. Clean equipment with a mild solution (1:10 dilution) of household bleach or an appropriate chemical germicide upon completing laboratory procedures. Never store contaminated equipment without the appropriate biohazard label.

2.0 METHODS OF COMPLIANCE

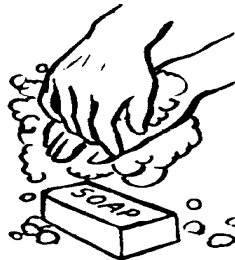
13. Wash your hands upon completing laboratory activities; remove protective clothing before leaving the laboratory.
14. Immediately remove clothing that becomes contaminated with blood or other bodily fluids during collection procedures. Keep such clothing separate from other clothing until properly laundered.

The following are the key elements used at Florida International University to control occupational exposures to bloodborne pathogens. All blood and body fluids must be considered as potentially infectious and personnel are to use appropriate protective measures to prevent exposure.

Personnel Practices

Hand washing:

- Hands should be washed before and after gloving and after leaving the room in which work was conducted.
- Hand washing technique
 - **Step 1:** Use warm running water,
 - **Step 2:** Use enough soap
 - **Step 3:** Use enough friction
 - **Step 4:** Do not rush the process



- **Step 5:** Rinse well
- **Step 6:** Dry hands thoroughly with disposable paper towel or under air dryer
- **Step 7:** Turn off faucet with paper towel

Contaminated Needles and Other Sharps:

- Do NOT recap, bend, or break used needles.
- Discard needles & sharps in appropriate "sharps" containers.
- Transport reusable sharps in leak-proof puncture-resistant container.
- Use mechanical device (forceps) to place contaminated broken glass into appropriate containers for autoclaving.

Personal Protective Equipment for Blood or Body Fluid Contact:

- Gloves must be used when touching blood or body fluids, mucous membranes, or non-intact skin of patients, when handling items or surfaces soiled with blood or body fluids, or when performing vascular access procedures (phlebotomy).

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- Appropriate gowns or aprons when splashes or soiling of skin or clothing with blood or body fluids is likely.
- Masks and goggles, or face shield during procedures likely to generate splashes of blood or body fluids into the mouth, nose, or eye.

Environmental Controls

General Housekeeping:

- Maintain work area in clean and sanitary condition.
- Decontaminate work surfaces when contaminated or after procedures are completed.
- Remove any protective work surface coverings when contaminated.

Blood or Body Fluid Spill

- Whoever is cleaning up the spill should be wearing appropriate Personal Protective Equipment, including disposable gloves, lab coat, etc.
- If the spill involves broken glass or sharps, DO NOT pick the pieces up by hands. Use mechanical means such as forceps or pan & brush (which will be decontaminated later) to pick up pieces and then dispose of appropriately.
- Cover the spill with paper towels and carefully pour an appropriate disinfectant around the spill. Try not to create any aerosols while performing this task.
- Cover the spill with disinfectant soaked paper towels and let stand for 20 minutes.
- Once the 20 minutes have expired, collect all materials and dispose of in an autoclave bag for decontamination/sterilization.
- Remove contaminated gloves, clothing and dispose of as well.
- Thoroughly wash hands and face with soap and water.

Biomedical Wastes

- Dispose waste according to State of Florida Regulation CFR 64E-16 (see FIU Biomedical Waste Plan for more details www.fiu.edu/~ehs).

Transport

- Consider all laboratory specimens of human or animal origin as potentially infectious.
- Use leak proof containers for laboratory specimens.
- Place container in a sealable secondary container for transport

Exposures to blood or body fluid via broken skin or needle sticks or mucous membrane contact:

- Wash affected area immediately and apply first aid.
- Contact EH&S at 348-2621/2622.

2.3 ADMINISTRATIVE AND ENGINEERING CONTROLS

These practices are used to help reduce or eliminate potential exposure to human blood and other body fluids. Universal Precautions shall always be implemented to assure that exposure risks are minimized.

2.0 METHODS OF COMPLIANCE

- All potentially infectious materials shall be treated as if they are known to be infectious for HBV, HIV and other BBP. This approach is referred to as Universal Precautions and serves to prevent contact with blood and other potentially infectious materials.
- In circumstances where it may be difficult or impossible to differentiate between body fluid types, such fluids shall be assumed to be potentially infectious and proper Universal Precautions will be followed.
- Equipment, such as biological safety cabinets, designed to prevent contact with blood or other potentially infectious materials are classified as engineering controls.
- Hand washing facilities should be readily available for individuals to use while working with potentially infectious materials. If hand washing facilities are not available, then antiseptic hand cleansers shall be provided. Supervisors need to ensure that in cases of blood exposure the affected employee will immediately wash hands, or as soon as feasible, after removal of potentially contaminated gloves or other personal protective equipment.
- Mouth-pipetting is strictly prohibited in any work setting.

2.4 WORKPLACE CONTROLS

- Following any contact of body areas with blood or any other infectious materials, immediately wash hands and other exposed skin with soap and water by vigorously rubbing together all surfaces of lathered hands for at least 10 seconds, followed by thorough rinsing under a stream of water. Exposed mucous membranes, such as eyes, shall be flushed with water.
- Eating, drinking, smoking, and applying cosmetics or handling contact lenses is strictly prohibited in areas where there is potential for occupational exposure to BBP. Food shall not be stored in refrigerators, cabinets, etc. where there is a potential for blood exposure.
- Contaminated needles shall not be bent or recapped after use. If it is not possible to avoid recapping the needle, then it may be recapped using some type of mechanical device or using a one-handed technique to recap.
- Immediately after use, contaminated sharps shall be placed in appropriate, puncture-resistant, leak-proof containers and closable once use is finished. These containers shall be color-coded and labeled as biohazardous material.
- Equipment which becomes contaminated shall be examined prior to servicing or shipping off site. Appropriate biohazard warning labels shall be attached to any contaminated equipment, identifying the contaminated portions (every effort shall be made to decontaminate the equipment). Information regarding the contaminated equipment shall be conveyed to all affected employees and the equipment services representative prior handling, servicing or shipping.
- EH&S will work with department heads and supervisors to review tasks and procedures to determine where engineering controls can be implemented or improved. Periodic surveys shall be conducted to review:
 - Operations where engineering controls are currently employed.
 - Changes in work procedures
 - Addition of employees (and/or students) to pre-existing work locations.

2.5 PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE) is the employee's "last line of defense" if administrative, engineering, or workplace controls fail to prevent an exposure. PPE serves to minimize and/or eliminate the likelihood that blood or other potentially infectious materials will make contact with skin, eyes, mucous membranes or underlying clothing. PPE shall be provided, at no cost, to the employee. Employees shall not be required to provide their own PPE. PPE includes, but is not limited to:

- Gloves



- Safety Glasses/Goggles



- Face Shields/Masks



- Respirators/masks



- Gowns/Lab Coats



2.0 METHODS OF COMPLIANCE

- Supervisors/Faculty shall evaluate the tasks and types of exposure expected. Based upon their evaluation, they will select the appropriate PPE. They must also ensure that the PPE is readily available to the employees when needed.
- Hypoallergenic gloves, glove-liners and similar alternatives shall be made readily available to employees who may need them.
- Any visibly contaminated garment shall; be removed immediately or as soon as feasible.
- Masks/goggles shall be used when the generation of splashes or splatters of blood or body fluids is possible.
- When gross contamination is expected, appropriate PPE, such as gowns, gloves, surgical caps, etc., shall be worn.
- To ensure that protective equipment remains in the condition appropriate for the protection of employees from potential exposure, supervisor (and faculty) shall sure that employees (and students) adhere to the following practices:
 - Periodically inspect all PPE for any maintenance or replacement that may be needed.
 - Clean reasonable PPE, launder and decontaminate as needed.
 - Discard single-use PPE (or equipment that cannot be decontaminated) as biohazardous materials in appropriately labeled containers).
- All PPE shall be removed and properly stored, when appropriate, once the employee's tasks are completed.
- Disposable gloves shall not be re-used.
- At the end of each procedure, or as work conditions permits, PPE visibly contaminated with blood and body fluids shall be removed. Hand-washing facilities or alcohol-based sanitizers shall be made readily accessible to all employees with occupational exposures to BBP.
- Any questions, concerns, or consultation on appropriate PPE should be directed to the Department of Environmental Health and Safety.

2.6 HOUSEKEEPING AND WASTE DISPOSAL

Maintaining the work area in clean and sanitary conditions is a required part of the Exposure Control Plan. Cleaning can be carried out as part of regular work procedures. Departments shall maintain a written schedule for cleaning and decontamination of the appropriate work areas. This schedule shall provide the following minimum information and shall be included as an addendum of their department Exposure Control Plan.

In accordance with the above, employees shall do the following:

- Follow established procedures and schedules for cleaning equipment and potentially contaminated surfaces.
- Routinely inspect, clean and empty all trash containers, pails, bins, and other receptacles. All "red bags" (i.e. biohazards bags) shall be appropriately stored for disposal.
- Use mechanical means (such as dust pan and brush, tongs, etc.) to pick up potentially contaminated broken glassware. Such glassware and similar sharps shall be disposed of in sharps containers only.

2.0 METHODS OF COMPLIANCE

- All equipment and work surfaces, regardless if it has been contaminated with blood or body fluids, shall be cleaned and decontaminated on a daily basis.
- These surfaces shall be decontaminated after completion of work tasks with an appropriate disinfectant (an EPA registered tuberculocidal disinfectants (Appendix I) are recognized as acceptable for decontamination, so is household bleach diluted between 1:10 and 1:100 parts water).
- All wastes shall be placed in appropriate containers, i.e. broken glass shall be placed in broken glass containers. Sharps will be placed in appropriate puncture-resistant containers, and contaminated non-sharps items shall be placed in red biohazard bags and disposed of properly in accordance with FAC 64-16E.

Disposal of sharps and non-sharps biomedical/biohazardous wastes will be as follows:

- Contaminated sharps waste will be immediately discarded in containers that are closable, puncture-resistant, leak-proof and labeled with the biohazard symbol.
- Keep upright and make sure that the container is not overfilled
- Close the container before removal and replacement
- The secondary container (larger container where the sharps containers and other wastes go) will be closeable, constructed to contain all the contents that are placed inside and leak-proof, and shall be labeled as biohazardous.
- When dealing with non-sharps contaminated waste, it will be placed in closeable, leak-proof biohazard-labeled containers.
- All containers will be closed prior to removal from the area/facility.

For additional information concerning Biomedical Waste Disposal or cleaning of areas, please refer to the **FIU Biomedical Waste Plan** on the Department of Environmental Health and Safety website: www.fiu.edu/~ehs.

2.7 LABELS AND SIGNS

All employees must be informed of any types of risks associated with contact with human blood and other human body fluids. This will lead to their empowerment concerning the protective measures they need to take in order to assure their safety. Labels and signs are a first alert to those individuals that may have a potential exposure to bloodborne pathogens.

Appropriate biohazard warning labeling shall be implemented in each department. At minimum the following items, shall be labeled:

- Containers of regulated waste
- Contaminated laundry bags and containers
- Contaminated equipment
- Any waste that is decontaminated. Sterilized waste must have an indicator on it to identify it as safe (i.e. autoclave tape).

2.0 METHODS OF COMPLIANCE

- Biohazard symbol:



- Biohazard signs shall be posted on the doors to research and teaching laboratories, medical examination rooms, or any facility where potentially infectious materials are used or stored.

3.0 HEPATITIS B

3.1 VIRUS

- Hepatitis B virus (HBV) is a major cause of acute and chronic hepatitis, and cirrhosis in the United States. Development of infection can lead to other complications as well.
- The virus is spread in a variety of ways including unprotected sexual intercourse, and intra-venous drug use. In an occupational setting, a person can become exposed and possibly infected by the virus through exposure to HBV-infected blood/bodily fluids from sharps injuries or splashes.
- According to the Centers for Disease Control and Prevention, there were approximately 43,000 new cases in 2007. Of these, about 12,000 are due to occupational exposures. There is, as yet, no cure or effective treatment for HBV infection.
- In the United States, approximately 800,000 to 1.4 million people have chronic Hepatitis B virus infection. Onset of symptoms occurs between 45 and 160 days after infection with the virus. Symptoms include, jaundice (yellowing of the skin/eyes), fever, nausea, abdominal pain, loss of appetite, and malaise.

3.2 PREVENTION AND VACCINATION

- There is a vaccine available which provides protection from Hepatitis B infection. It involves a series of three injections over a 6 month period and has been shown to provide immunity for at least 20 years.
- Major deterrents to persons choosing to receive the vaccine have been their lack of knowledge about the risk of the disease and its consequences, and the cost of the vaccine
- The Supervisor is responsible for providing the Hepatitis B vaccine, at no cost to the employee, and during employee working hours. This must be done within ***10 working days of the employee's initial start date.***
- If the employee refuses to accept the vaccine, then he/she must sign the mandatory Declination Form (Appendix B) and submit the form to Environmental Health and Safety.

4.0 POST-EXPOSURE PROCEDURES

4.1 EVALUATION AND FOLLOW-UP

All exposure incidents will be regarded as serious and must be reported and documented immediately to the Supervisor in charge of the employee.

These procedures should be followed after an exposure:

Employee

- Administer first aid immediately for any types of injuries, including cuts, and the areas exposed should be thoroughly washed with soap and water.
- Inform the Supervisor.
- Provide the supervisor with detailed information concerning the nature of the exposure, associated biohazards, and the route of exposure.

Supervisor

- Obtain witness reports of the incident.
- Assist the employee in determining the nature of the exposure(s), any biohazards associated with it, and the routes of exposure.
- Retain and secure the source material of the exposure in a safe manner.
- Determine if the incident constitutes an occupational exposure to biohazardous materials and immediately begin documentation of the incident using the Exposure Incident Investigation Form (See Appendix G).
- All information related to employee exposure shall be regarded as confidential. Documentation shall include the activity in which the employee was engaged at the time of exposure, the extent to which appropriate work practices and protective equipment were used, and a description of the source of exposure (See Appendix G).
- Direct the employee to the designated medical facility for follow-up during normal working hours. If the incidence occurs after working hours, the employee should be directed to the nearest Emergency Room for proper evaluation.
- Inform the employee that acceptance of the evaluations and/or treatments are voluntary and will be provided at no cost to the employee.

The following information must be available to the medical provider performing the post-exposure evaluation:

- A copy of the OSHA Bloodborne Pathogen Standard (29 CFR 1910.1030, See Appendix C).
- A copy of this plan.
- A description of the incident and how exposure may have occurred.
- The exposed employee's relevant medical records.
- Other information, as deemed appropriate.

The physician will provide the employee with the following in a confidential manner:

- Evaluation of the exposure risk
- A written list of testing and treatment options.

4.0 POST-EXPOSURE PROCEDURES

The supervisor and employee will receive a written medical opinion from the medical provider within 15 days of evaluation. The written opinion will contain:

- A statement that the employee has been informed of exposure risk(s) and treatment options available.
- Whether HBIG or HBV vaccine was indicated for the employee.
- Confirmation that the employee has been informed of the results of the evaluation.
- Confirmation that the employee has been told about any medical conditions resulting from the exposure incident which require further evaluation or treatment.

All other findings or diagnoses will remain confidential and will not be included in the written report made available to FIU. Medical records shall not be disclosed to anyone without the employee's written consent, unless permitted by law.

If the employee becomes ill as a result of the exposure incident, the medical provider will forward a copy of the complete medical report to Environmental Health and Safety.

5.0 TRAINING REQUIREMENTS

Employee training or competence, established through education and experience, is mandatory for full compliance with the BBP Standard.

Employees/students shall be trained regarding the use of appropriate personal protective equipment (PPE) for their job classifications and tasks/procedures they perform.

All training shall occur before the employee begins their assignment, and will take place once annually thereafter as part of refresher training to assure compliance with the OSHA Bloodborne Pathogens Standard. This refresher training is **MANDATORY** for anyone working in a job function which may expose them to blood or bodily fluids.

Additional training shall be provided whenever an employee starts a new position or assumes new job functions. To determine whether additional training is needed, the supervisor should evaluate the employees' previous job classifications/tasks and compare those to the new job or functions. Once this has been done, the supervisor will determine whether or not additional training is necessary for the employee in question.

Trainings will be provided through Environmental Health and Safety. Courses are available online or in-person. Questions about training may be addressed to the Safety Education Coordinator by phone: (305) 348-1421 or email: ehstrain@fiu.edu.

All training programs shall include, but are not limited to, the following:

- Requirements of the BBP Standard
- The epidemiology and symptoms of bloodborne diseases- specifically Hepatitis B, Hepatitis C, and HIV.
- Modes of transmission of bloodborne pathogens.
- University/Departmental Exposure Control Plan and where employees can obtain a copy.
- Explanation of how to identify tasks that may involve/create occupational exposures.
- A review of methods to be used to prevent or reduce exposure (such as engineering and work practice controls, use of personal protective equipment, etc.)
- Proper selection, use, maintenance, storage, and disposal of personal protective equipment.
- The use of appropriate labeling- biohazards labels, signs and "Color coding."
- The Hepatitis B vaccine efficacy, safety and benefits
- Actions to be taken in case of emergencies involving BBP.
- An explanation of the procedures to follow if an exposure incident occurs, including reporting and medical follow-up.
- Information on the post-exposure evaluation and follow-up to be provided to employees in the case of an exposure incident.

6.0 RECORDKEEPING REQUIREMENTS

6.0 RECORDKEEPING REQUIREMENTS

Each department shall maintain records containing the following information below, and shall forward copies as indicated to the Department of Environmental Health and Safety for recordkeeping compliance.

6.1 MEDICAL RECORDS

- Any medical records concerning the employee will be maintained by the designated medical provider for a period of at least 30 years per OSHA requirements.
- These records include the employee name and I.D. number, the employee's Hepatitis B immunization status, and copies of medical exams/treatments of any post-exposure incidents.
- All records are confidential and shall not be released to any person without the employee's consent or as required by law.

6.2 TRAINING RECORDS

- Training records for the initial BBP training as well as subsequent annual refresher courses. These records shall include the following:
 - Dates of all training sessions
 - Contents/Summary of the training sessions
 - Names and qualifications of instructors
 - Names and job titles of employees attending the training sessions

These training records will be maintained by Supervisor for a minimum of 3 years. Training records shall be made available for examination and copying by employee and their representatives, as well as representatives of regulatory agencies.

6.3 VACCINATION/DECLINATION RECORDS

- Declination Statements (copies) shall be maintained by EH&S.
- Vaccination records and Declination Statements will be maintained by the Department/Area Supervisor.

6.4 MISCELLANEOUS

- Per the Needle-stick Act of 2000, areas are required to document any type of sharps-related injury. Sharps Injury Log shall be maintained and stored by the Supervisor. At a minimum, the sharps log will contain the following:
 - Type and brand of device involved in the incident
 - Location of incident
 - Description of incident

A copy of the logs described must be readily available for inspection by EH&S or regulatory agencies.

- Any types of training records or other information concerning BBP will be made readily available by Departmental Supervisors upon request.

7.0 MODEL EXPOSURE CONTROL PLAN

7.0 MODEL EXPOSURE CONTROL PLAN

This written document outlines the methods by which this department/area will implement its Exposure Control Plan for potential exposure to blood-borne pathogens as mandated by the OSHA Blood-borne Pathogen Standard 29 CFR 1910.1030.

Department or Area name: _____

Building and Room No's: _____

(For departments that occupy an entire floor, give floor #, include tabs, and storage locations in other buildings)

Last date revised: _____ / _____ / _____ / _____

Approved by: _____
(Department Head or Area Supervisor) (Title)

Signature: _____

RESPONSIBLE PERSONS

The University Exposure Control Officer shall require the assistance of each department/area head in assuring their department fulfills its responsibility to comply with the requirements of the BBP Standard. The individual designated to fulfill this responsibility of the departmental/area Exposure Control Officer:

Employees name or title

Telephone #

AVAILABILITY TO EMPLOYEES AND STUDENTS

This Exposure Control Plan, along with specific controls, shall be made available to employees and students. Employees shall be advised of the availability of this document during their education/training sessions.

Copies of the Department's/Area's Exposure Control Plan is kept in the following location:

Department/Area Name: _____

7.0 MODEL EXPOSURE CONTROL PLAN

Building and Room No: _____

Contact Person: _____

EXPOSURE DETERMINATION

Florida International University advocates that all employees who perform "Good Sanitation" acts, such as assisting an employee with a nose bleed, be provided with follow-up procedures should the assisting employee, while performing the "Good sanitation" act, experience an exposure incident.

Job classifications in which all employees have exposure to BBP

Below are listed the job classifications within this department, in which employees do come into contact with human blood or other potentially infectious materials:

Job Title/Classification

- 1.
- 2.
- 3.

Job classifications in which some employees may have exposure to BBP

Below are listed other job classifications in the department in which some employees may reasonably come into contact with human blood or other potentially infectious materials, which may result in possible exposure to BBP:

Job Title/Classification

- 1.
- 2.
- 3.

Work Activities Involving Potential Exposure to BBP

Below are listed the work activities of the job classifications identified above which involve potential exposure to bloodborne pathogens.

Job Classification	Task/Procedure
1.	1 a) 1 b) 1 c)
2.	2 a) 2 b) 2 c)
3.	3 a) 3 b)

7.0 MODEL EXPOSURE CONTROL PLAN

3 c)

Employees shall periodically review the job classifications and tasks identified above. Should their job classification or job descriptions change to include any of the above, they shall immediately notify their supervisor or the contact person of the need to be included in the department's exposure control plan.

WORK CONTROL PRACTICES

_____ shall be responsible for overseeing the implementation of Work practice Controls in this department/area.

Personal Protective Equipment

_____ shall work with faculty and staff to assure appropriate personal protection equipment is provided, used, stored and maintained as required.

Housekeeping

_____ shall be responsible for establishing the cleaning and decontamination schedule, as appropriate, as follows:

Equipment / Area	Day / Time	Disinfectant to be Used	Special Instructions	To be Performed by

Labels and Signs

_____ shall assure signs are made available and appropriately affixed to all locations within the department/area where they may be required.

HEPATITIS B VACCINATIONS

_____ shall be responsible for administration of the hepatitis B vaccination program for the department/area and shall maintain records as appropriate.

All signed declination statements, purchase orders to health care providers for administering the vaccine, and invoices for such services shall be maintained in a separate file. Originals of declination statements shall be sent to the Department of Risk Management & Environmental Health and Safety in CSC 162

a) Employees eligible for participation in Hepatitis B Vaccination Program

Employee Name	Accepted / Denied	Administrative Dates
---------------	-------------------	----------------------

Florida International University
Environmental Health and Safety
Blood-borne Pathogen Exposure Control Plan
Biosafety Officer: Tamece Knowles

Origination Date: 03/1995
Revision Number: 06
Revision Date: 07/2011
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7.0 MODEL EXPOSURE CONTROL PLAN

		Date #1	Date #2	Date#3

If an employee, potentially exposed to HBV, chooses to refuse participation in the vaccination program, the declination statement shall be completed.

POST-EXPOSURE EVALUATION AND FOLLOW-UP

Following an exposure incident, employees shall immediately do the following:

1. Notify their supervisor.
2. Notify the Office of Worker's Compensation (348-7960)

Supervisors notified of an exposure incident shall immediately do the following:

1. Documentation (investigation) of the routes of exposure and the circumstances under which exposure occurred.
2. Attempt to identify the source material or individual.
3. Attempt to obtain consent of the source individual to determine HBV or HIV infectivity.

Medical Care Providers shall be required to do the following:

1. With the consent of source individual conduct testing for HBV or HIV infectivity
2. Make, results obtained from source individual testing, available to the exposed employee
3. Advise employee of applicable laws related to disclosure of information received on the source individual
4. Collect employee blood sample
5. Obtain consent of exposed employee to conduct serological testing
6. If consent is not obtained for serological testing, maintain blood sample for 90 days, should employee later elect to have testing
7. As appropriate, provide post exposure prophylaxis
8. As appropriate, provide for employee counseling
9. Provide written opinion, per 29 CFR 1910.1030(f)(5)(ii), to the Director of Human Resources of the University

7.0 MODEL EXPOSURE CONTROL PLAN

Following a report of an exposure incident, the Worker's Compensation Office shall immediately contact the Exposure Control Officer who shall provide the medical care provider with the following:

1. A copy of 29 CFR 1910.1030
2. A copy of the exposed employee's job duties
3. Description of the route of exposure and the circumstances of exposure
4. The source individual's consent
5. The source material for testing
6. The exposed employee's vaccination status

RECORDKEEPING

_____ is responsible for management of appropriate records for this department.

Medical Records

The following confidential records shall be maintained as part of the employee's personnel file for the duration of employment, plus 30 years, and shall not be reported to anyone, except as may be required by law, without the employee's written consent.

1. Employee name and social security number.
2. Employee vaccination status including dates administered and medical records related to the employee's ability to receive vaccination.
3. Copy of results of exams and tests conducted as part of exposure follow-up procedures.
4. The medical provider's written opinion directed to the University, following post exposure evaluation.
5. Copy of information provided to the medical provider as part of the post exposure evaluation process.

Collation of appropriate information for employee files shall be overseen by the Exposure Control Officer.

TRAINING RECORDS

Training records shall be maintained by each department, as follows:

Florida International University
Environmental Health and Safety
Blood-borne Pathogen Exposure Control Plan
Biosafety Officer: Tamece Knowles

Origination Date: 03/1995
Revision Number: 06
Revision Date: 07/2011
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7.0 MODEL EXPOSURE CONTROL PLAN

1. Dates of training sessions.
2. Contents and summary of training sessions.
3. Names and qualifications of persons conducting the training.
4. Name and job titles of all persons attending the training.

Training records shall be maintained for a in the department for a minimum of 3 years. Duplicate records shall be sent to the Department of Environmental Health and Safety for centralized document control.

Training Materials/Compliance Issues

Training materials and resources are available through the EH&S Safety Education Program. Training courses are accessible online via the EH&S Online Safety Training website at: www.fiu.edu/~ehs or by contacting the Safety Education Coordinator (email: ehstrain@fiu.edu or phone: 348.1421).

For questions concerning compliance with the OSHA BBP Standard (29 CFR 1910.1030) or to request compliance assistance, contact the FIU Biosafety Officer at 305.348.3387

APPENDICES

- A** BLOODBORNE PATHOGEN EXPOSURE CONTROL COMPLIANCE
ACKNOWLEDGEMENT FORM
- B.** HEPATITIS B VACCINE DECLINATION FORM
- C.** OSHA BLOODBORNE PATHOGEN STANDARD
- D.** QUICK START GUIDE
- E.** SELF AUDIT FORM
- F.** PERSONAL PROTECTIVE EQUIPMENT FORM
- G.** EXPOSURE INCIDENT INVESTIGATION FORM
- H.** BIOHAZARD SPILL DECONTAMINATION
- I.** GENERAL INFORMATION

APPENDIX A

**BLOODBORNE PATHOGEN EXPOSURE CONTROL COMPLIANCE
ACKNOWLEDGEMENT FORM**



Bloodborne Pathogens Exposure Control
COMPLIANCE ACKNOWLEDGEMENT

NAME: _____ TELEPHONE: _____ EMAIL: _____
PLEASE PRINT

NAME OF RESEARCH PROJECT /PROGRAM /DEPT.:

LOCATION(S) OF RESEARCH / PROGRAM ACTIVITY: _____

ANTICIPATED DURATION OF RESEARCH / PROGRAM ACTIVITY:

I ACKNOWLEDGE THAT:

I have identified all exposures to bloodborne pathogens that are likely as part of this research / program activity.

I ACKNOWLEDGE THAT:

I have initiated engineering and administrative controls that are appropriate for this research/ program activity.

I ACKNOWLEDGE THAT:

I have identified all University personnel who are likely to be exposed to bloodborne pathogens as participants in this research /program activity.

I ACKNOWLEDGE THAT:

All University personnel involved in this research / program activity have been appropriately trained; provided with necessary personal protective equipment and afforded the opportunity to receive the Hepatitis B vaccine series or sign the Declination Statement.

I ACKNOWLEDGE THAT:

I have read "The Laypersons Guide to Bloodborne Pathogens Standard" brochure provided by the Department of Environmental Health & Safety. I fully understand my responsibilities and I am fully prepared to assure compliance with the FIU Bloodborne Pathogens Exposure Control Plan.

CHECK ONE:

PRINCIPAL INVESTIGATOR LAB MANAGER PROGRAM ADMINISTRATOR

SIGNATURE: _____ DATE: _____

CC: *OSRA – for Research Activity*
 DEPARTMENT CHAIR'S OFFICE – for Lab Managers
 Division Vice President – for Program Administrators

APPENDIX B

HEPATITIS B VACCINATION DECLINATION FORM



EMPLOYEE DECLINATION STATEMENT **(Decline Hepatitis B Vaccine)**

Florida International University is making the hepatitis B vaccination series available to certain employees who may have occupational exposure to the hepatitis B virus.

The vaccination series consists of three shots, administered at intervals, to the deltoid muscle (upper arm). The three shot series will be administered at intervals of - one month between the first and the second shot, and six months between the second and the final shot. Your department will maintain records of having offered the vaccination series to you. Therefore, if you do not want the vaccination at this time, this declination statement will serve to document your choice

The vaccination series will be:

- Made available to you at no cost.
- Made available to you at a convenient time and place.*
- Administered by, or under the supervision of a licensed physician or nurse.
- Provided according to guidelines of the U.S. Public Health Service.
- Made available after you have received training concerning procedures for preventing and controlling exposure to blood borne pathogens.
- Participation in a pre-screening program is not a pre-requisite for receiving the hepatitis B vaccination series.

I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring Hepatitis B virus (HBV) infection. I have been offered the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself; however, I choose to decline hepatitis B vaccination at this time. I understand that by declining this

NAME OF EMPLOYEE DECLINING VACCINATION:

SIGNATURE OF EMPLOYEE DECLINING VACCINATION:

DATE: _____

*** Your supervisor will confirm the date, time and location of your appointment.**

APPENDIX C

OSHA BLOODBORNE PATHOGEN STANDARD

Bloodborne Pathogens

(a) **Scope and Application.** This section applies to all occupational exposure to blood or other potentially infectious materials as defined by paragraph (b) of this section.

(b) **Definitions.** For purposes of this section, the following shall apply:

"Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, or designated representative.

"Blood" means human blood, human blood components, and products made from human blood.

"Bloodborne Pathogens" means pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

"Clinical Laboratory" means a workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.

"Contaminated" means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

"Contaminated Laundry" means laundry which has been soiled with blood or other potentially infectious materials or may contain sharps.

"Contaminated Sharps" means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

"Decontamination" means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

"Director" means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designated representative.

"Engineering Controls" means controls (e.g., sharps disposal containers, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace.

"Exposure Incident" means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

"Handwashing Facilities" means a facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines.

"Licensed Healthcare Professional" is a person whose legally permitted scope of practice allows him or her to independently perform the activities required by paragraph (f) Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up.

"HBV" means hepatitis B virus.

"HIV" means human immunodeficiency virus.

"Occupational Exposure" means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

"Other Potentially Infectious Materials" means (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

"Parenteral" means piercing mucous membranes or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

"Personal Protective Equipment" is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

"Production Facility" means a facility engaged in industrial-scale, large-volume or high concentration production of HIV or HBV.

"Regulated Waste" means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

"Research Laboratory" means a laboratory producing or using research-laboratory-scale amounts of HIV or HBV. Research laboratories may produce high concentrations of HIV or HBV but not in the volume found in production facilities.

"Source Individual" means any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinic patients; clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains; and individuals who donate or sell blood or blood components.

"Sterilize" means the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores. "Universal Precautions" is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

"Work Practice Controls" means controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

(c) Exposure Control.

(c)(1) Exposure Control Plan.

(c)(1)(i) Each employer having an employee(s) with occupational exposure as defined by paragraph (b) of this

section shall establish a written Exposure Control Plan designed to eliminate or minimize employee exposure.

(c)(1)(ii) The Exposure Control Plan shall contain at least the following elements:

(c)(1)(ii)(A) The exposure determination required by paragraph (c)(2), 1910.1030(c)(1)(ii)(B)

(c)(1)(ii)(B) The schedule and method of implementation for paragraphs (d) Methods of Compliance, (e) HIV and HBV Research Laboratories and Production Facilities, (f) Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, (g) Communication of Hazards to Employees, and (h) Recordkeeping, of this standard, and

(c)(1)(ii)(C) The procedure for the evaluation of circumstances surrounding exposure incidents as required by paragraph (f)(3)(i) of this standard.

(c)(1)(iii) Each employer shall ensure that a copy of the Exposure Control Plan is accessible to employees in accordance with 29 CFR 1910.1020(e).

(c)(1)(iv) The Exposure Control Plan shall be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure.

(c)(1)(v) The Exposure Control Plan shall be made available to the Assistant Secretary and the Director upon request for examination and copying.

(c)(2) Exposure Determination.

(c)(2)(i) Each employer who has an employee(s) with occupational exposure as defined by paragraph (b) of this section shall prepare an exposure determination. This exposure determination shall contain the following:

(c)(2)(i)(A) A list of all job classifications in which all employees in those job classifications have occupational exposure;

..1910.1030(c)(2)(i)(B)

(c)(2)(i)(B)

A list of job classifications in which some employees have occupational exposure, and

(c)(2)(i)(C)

A list of all tasks and procedures or groups of closely related task and procedures in which occupational exposure occurs and that are performed by employees in job classifications listed in accordance with the provisions of paragraph (c)(2)(i)(B) of this standard.

(c)(2)(ii) This exposure determination shall be made without regard to the use of personal protective equipment.

(d) Methods of Compliance.

(d)(1) General. Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

(d)(2) Engineering and Work Practice Controls.

(d)(2)(i) Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, personal protective equipment shall also be used.

..1910.1030(d)(2)(ii)

(d)(2)(ii) Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness.

(d)(2)(iii) Employers shall provide handwashing facilities which are readily accessible to employees.

(d)(2)(iv) When provision of handwashing facilities is not feasible, the employer shall provide either an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.

(d)(2)(v) Employers shall ensure that employees wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.

(d)(2)(vi) Employers shall ensure that employees wash hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with blood or other potentially infectious materials.

(d)(2)(vii) Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed except as noted in paragraphs (d)(2)(vii)(A) and (d)(2)(vii)(B) below. Shearing or breaking of contaminated needles is prohibited.

..1910.1030(d)(2)(vii)(A)

(d)(2)(vii)(A) Contaminated needles and other contaminated sharps shall not be bent, recapped or removed unless the employer can demonstrate that no alternative is feasible or that such action is required by a specific medical or dental procedure.

(d)(2)(vii)(B) Such bending, recapping or needle removal must be accomplished through the use of a mechanical device or a one-handed technique.

(d)(2)(viii) Immediately or as soon as possible after use, contaminated reusable sharps shall be placed in appropriate containers until properly reprocessed. These containers shall be:

(d)(2)(viii)(A) puncture resistant;

(d)(2)(viii)(B) labeled or color-coded in accordance with this standard;

(d)(2)(viii)(C) leakproof on the sides and bottom; and

(d)(2)(viii)(D) in accordance with the requirements set forth in paragraph

(d)(4)(ii)(E) for reusable sharps.

(d)(2)(ix) Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.

(d)(2)(x) Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or

benchtops where blood or other potentially infectious materials are present.

..1910.1030(d)(2)(xi)

(d)(2)(xi) All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.

(d)(2)(xii) Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.

(d)(2)(xiii) Specimens of blood or other potentially infectious materials shall be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping.

(d)(2)(xiii)(A) The container for storage, transport, or shipping shall be labeled or color-coded according to

paragraph (g)(1)(i) and closed prior to being stored, transported, or shipped. When a facility utilizes Universal Precautions in the handling of all specimens, the labeling/color-coding of specimens is not necessary provided containers are recognizable as containing specimens. This exemption only applies while such specimens/containers remain within the facility. Labeling or color-coding in accordance with paragraph (g)(1)(i) is required when such specimens/containers leave the facility.

(d)(2)(xiii)(B) If outside contamination of the primary container occurs, the primary container shall be placed within a second container which prevents leakage during handling, processing, storage, transport, or shipping and is labeled or color-coded according to the requirements of this standard.

..1910.1030(d)(2)(xiii)(C)

(d)(2)(xiii)(C) If the specimen could puncture the primary container, the primary container shall be placed within a secondary container which is puncture-resistant in addition to the above characteristics.

(d)(2)(xiv) Equipment which may become contaminated with blood or other potentially infectious materials shall be examined prior to servicing or shipping and shall be decontaminated as necessary, unless the employer can demonstrate that decontamination of such equipment or portions of such equipment is not feasible.

(d)(2)(xiv)(A) A readily observable label in accordance with paragraph (g)(1)(i)(H) shall be attached to the equipment stating which portions remain contaminated.

(d)(2)(xiv)(B) The employer shall ensure that this information is conveyed to all affected employees, the servicing representative, and/or the manufacturer, as appropriate, prior to handling, servicing, or shipping so that appropriate precautions will be taken.

..1910.1030(d)(3)

(d)(3) Personal Protective Equipment.

(d)(3)(i) Provision. When there is occupational exposure, the employer shall provide, at no cost to the employee, appropriate personal protective equipment such as, but not limited to, gloves, gowns, laboratory coats, face shields or masks and eye protection, and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices. Personal protective equipment will be considered "appropriate" only if it does not permit blood or other potentially infectious materials to pass through to or reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

(d)(3)(ii) Use. The employer shall ensure that the employee uses appropriate personal protective equipment unless the employer shows that the employee temporarily and briefly declined to use personal protective equipment when, under rare and extraordinary circumstances, it was the employee's professional judgment that in the specific instance its use would have prevented the delivery of health care or public safety services or would have posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgement, the circumstances shall be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future.

(d)(3)(iii) Accessibility. The employer shall ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided.

(d)(3)(iv) Cleaning, Laundering, and Disposal. The employer shall clean, launder, and dispose of personal protective equipment required by paragraphs (d) and (e) of this standard, at no cost to the employee.

..1910.1030(d)(3)(v)

(d)(3)(v) Repair and Replacement. The employer shall repair or replace personal protective equipment as needed to maintain its effectiveness, at no cost to the employee.

(d)(3)(vi) If a garment(s) is penetrated by blood or other potentially infectious materials, the garment(s) shall be removed immediately or as soon as feasible.

(d)(3)(vii) All personal protective equipment shall be removed prior to leaving the work area.

(d)(3)(viii) When personal protective equipment is removed it shall be placed in an appropriately designated area or container for storage, washing, decontamination or disposal.

(d)(3)(ix) Gloves. Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; when performing vascular access procedures except as specified in paragraph (d)(3)(ix)(D); and when handling or touching contaminated items or surfaces.

(d)(3)(ix)(A) Disposable (single use) gloves such as surgical or examination gloves, shall be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.

..1910.1030(d)(3)(ix)(B)

(d)(3)(ix)(B) Disposable (single use) gloves shall not be washed or decontaminated for re-use.

(d)(3)(ix)(C) Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

(d)(3)(ix)(D) If an employer in a volunteer blood donation center judges that routine gloving for all phlebotomies is not necessary then the employer shall:

(d)(3)(ix)(D)(1) Periodically reevaluate this policy;

(d)(3)(ix)(D)(2) Make gloves available to all employees who wish to use them for phlebotomy;

(d)(3)(ix)(D)(3) Not discourage the use of gloves for phlebotomy; and

(d)(3)(ix)(D)(4) Require that gloves be used for phlebotomy in the following circumstances:

[i] When the employee has cuts, scratches, or other breaks in his or her skin;

[ii] When the employee judges that hand contamination with blood may occur, for example, when performing phlebotomy on an uncooperative source individual; and

[iii] When the employee is receiving training in phlebotomy.

..1910.1030(d)(3)(x)

(d)(3)(x) Masks, Eye Protection, and Face Shields. Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, shall be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can be reasonably anticipated.

(d)(3)(xi) Gowns, Aprons, and Other Protective Body Clothing. Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated.

(d)(3)(xii) Surgical caps or hoods and/or shoe covers or boots shall be worn in instances when gross contamination can reasonably be anticipated (e.g., autopsies, orthopaedic surgery).

(d)(4) Housekeeping.

(d)(4)(i) General. Employers shall ensure that the worksite is maintained in a clean and sanitary condition. The employer shall determine and implement an appropriate written schedule for cleaning and method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed in the area.

(d)(4)(ii) All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.

..1910.1030(d)(4)(ii)(A)

(d)(4)(ii)(A) Contaminated work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures; immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials; and at the end of the work shift if the surface may have become contaminated since the last cleaning.

(d)(4)(ii)(B) Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, shall be removed and replaced as soon as feasible when they become overtly contaminated or at the end of the workshift if they may have become contaminated during the shift.

(d)(4)(ii)(C) All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials shall be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.

(d)(4)(ii)(D) Broken glassware which may be contaminated shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, such as a brush and dust pan, tongs, or forceps.

(d)(4)(ii)(E) Reusable sharps that are contaminated with blood or other potentially infectious materials shall not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.

(d)(4)(iii) Regulated Waste.

..1910.1030(d)(4)(iii)(A)

(d)(4)(iii)(A) Contaminated Sharps Discarding and Containment.

(d)(4)(iii)(A)(1) Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:

[a] Closable;

[b] Puncture resistant;

[c] Leakproof on sides and bottom; and

[d] Labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard.

(d)(4)(iii)(A)(2) During use, containers for contaminated sharps shall be:

[a] Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g., laundries);

[b] Maintained upright throughout use; and

[c] Replaced routinely and not be allowed to overfill.

(d)(4)(iii)(A)(3) When moving containers of contaminated sharps from the area of use, the containers shall be:

[a] Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping;

[b] Placed in a secondary container if leakage is possible. The second container shall be:

[i] Closable;

[ii] Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and

[iii] Labeled or color-coded according to paragraph (g)(1)(i) of this standard.

(d)(4)(iii)(A)(4) Reusable containers shall not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of percutaneous injury.

(d)(4)(iii)(B) Other Regulated Waste Containment.

(d)(4)(iii)(B)(1) Regulated waste shall be placed in containers which are:

[a] Closable;

[b] Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;

[c] Labeled or color-coded in accordance with paragraph (g)(1)(i) this standard; and

[d] Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

(d)(4)(iii)(B)(2) If outside contamination of the regulated waste container occurs, it shall be placed in a second container. The second container shall be:

[a] Closable;

[b] Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;

[c] Labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard; and

[d] Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

(d)(4)(iii)(C) Disposal of all regulated waste shall be in accordance with applicable regulations of the United States, States and Territories, and political subdivisions of States and Territories.

..1910.1030(d)(4)(iv)

(d)(4)(iv) Laundry.

(d)(4)(iv)(A) Contaminated laundry shall be handled as little as possible with a minimum of agitation.

(d)(4)(iv)(A)(1) Contaminated laundry shall be bagged or containerized at the location where it was used and shall not be sorted or rinsed in the location of use.

(d)(4)(iv)(A)(2) Contaminated laundry shall be placed and transported in bags or containers labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard. When a facility utilizes Universal Precautions in the handling of all soiled laundry, alternative labeling or color-coding is sufficient if it permits all employees to recognize the containers as requiring compliance with Universal Precautions.

(d)(4)(iv)(A)(3) Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through of or leakage from the bag or container, the laundry shall be placed and transported in bags or containers which prevent soak-through and/or leakage of fluids to the exterior.

(d)(4)(iv)(B) The employer shall ensure that employees who have contact with contaminated laundry wear protective gloves and other appropriate personal protective equipment.

..1910.1030(d)(4)(iv)(C)

(d)(4)(iv)(C) When a facility ships contaminated laundry off-site to a second facility which does not utilize Universal Precautions in the handling of all laundry, the facility generating the contaminated laundry must place such laundry in bags or containers which are labeled or color-coded in accordance with paragraph (g)(1)(i).

(e) HIV and HBV Research Laboratories and Production Facilities.

(e)(1) This paragraph applies to research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV and HBV. It does not apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs. These requirements apply in addition to the other requirements of the standard.

(e)(2) Research laboratories and production facilities shall meet the following criteria:

(e)(2)(i) Standard Microbiological Practices. All regulated waste shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.

(e)(2)(ii) Special Practices

(e)(2)(ii)(A) Laboratory doors shall be kept closed when work involving HIV or HBV is in progress.

..1910.1030(e)(2)(ii)(B)

(e)(2)(ii)(B) Contaminated materials that are to be decontaminated at a site away from the work area shall be placed in a durable, leakproof, labeled or color-coded container that is closed before being removed from the work area.

(e)(2)(ii)(C) Access to the work area shall be limited to authorized persons. Written policies and procedures shall be established whereby only persons who have been advised of the potential biohazard, who meet any specific entry requirements, and who comply with all entry and exit procedures shall be allowed to enter the work areas and animal rooms.

(e)(2)(ii)(D) When other potentially infectious materials or infected animals are present in the work area or containment module, a hazard warning sign incorporating the universal biohazard symbol shall be posted on all access doors. The hazard warning sign shall comply with paragraph (g)(1)(ii) of this standard.

(e)(2)(ii)(E) All activities involving other potentially infectious materials shall be conducted in biological safety cabinets or other physical-containment devices within the containment module. No work with these other potentially infectious materials shall be conducted on the open bench.

(e)(2)(ii)(F) Laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing shall be used in the work area and animal rooms. Protective clothing shall not be worn outside of the work area and shall be decontaminated before being laundered.

..1910.1030(e)(2)(ii)(G)

(e)(2)(ii)(G) Special care shall be taken to avoid skin contact with other potentially infectious materials. Gloves shall be worn when handling infected animals and when making hand contact with other potentially infectious materials is unavoidable.

(e)(2)(ii)(H) Before disposal all waste from work areas and from animal rooms shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.

(e)(2)(ii)(I) Vacuum lines shall be protected with liquid disinfectant traps and high-efficiency particulate air

(HEPA) filters or filters of equivalent or superior efficiency and which are checked routinely and maintained or replaced as necessary.

(e)(2)(ii)(J) Hypodermic needles and syringes shall be used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles. Only needle-locking syringes or disposable syringe-needle units (i.e., the needle is integral to the syringe) shall be used for the injection or aspiration of other potentially infectious materials. Extreme caution shall be used when handling needles and syringes. A needle shall not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use. The needle and syringe shall be promptly placed in a puncture-resistant container and autoclaved or decontaminated before reuse or disposal.

(e)(2)(ii)(K) All spills shall be immediately contained and cleaned up by appropriate professional staff or others properly trained and equipped to work with potentially concentrated infectious materials.

..1910.1030(e)(2)(ii)(L)

(e)(2)(ii)(L) A spill or accident that results in an exposure incident shall be immediately reported to the laboratory director or other responsible person.

(e)(2)(ii)(M) A biosafety manual shall be prepared or adopted and periodically reviewed and updated at least annually or more often if necessary. Personnel shall be advised of potential hazards, shall be required to read instructions on practices and procedures, and shall be required to follow them.

(e)(2)(iii) Containment Equipment.

(e)(2)(iii)(A) Certified biological safety cabinets (Class I, II, or III) or other appropriate combinations of personal protection or physical containment devices, such as special protective clothing, respirators, centrifuge safety cups, sealed centrifuge rotors, and containment caging for animals, shall be used for all activities with other potentially infectious materials that pose a threat of exposure to droplets, splashes, spills, or aerosols.

(e)(2)(iii)(B) Biological safety cabinets shall be certified when installed, whenever they are moved and at least annually.

(e)(3) HIV and HBV research laboratories shall meet the following criteria:

..1910.1030(e)(3)(i)

(e)(3)(i) Each laboratory shall contain a facility for hand washing and an eye wash facility which is readily available within the work area.

(e)(3)(ii) An autoclave for decontamination of regulated waste shall be available.

(e)(4) HIV and HBV production facilities shall meet the following criteria:

(e)(4)(i) The work areas shall be separated from areas that are open to unrestricted traffic flow within the building. Passage through two sets of doors shall be the basic requirement for entry into the work area from access corridors or other contiguous areas. Physical separation of the high-containment work area from access corridors or other areas or activities may also be provided by a double-doored clothes-change room (showers may be included), airlock, or other access facility that requires passing through two sets of doors before entering the work area.

(e)(4)(ii) The surfaces of doors, walls, floors and ceilings in the work area shall be water resistant so that they can be easily cleaned. Penetrations in these surfaces shall be sealed or capable of being sealed to facilitate

decontamination.

..1910.1030(e)(4)(iii)

(e)(4)(iii) Each work area shall contain a sink for washing hands and a readily available eye wash facility. The sink shall be foot, elbow, or automatically operated and shall be located near the exit door of the work area.

(e)(4)(iv) Access doors to the work area or containment module shall be self-closing.

(e)(4)(v) An autoclave for decontamination of regulated waste shall be available within or as near as possible to the work area.

(e)(4)(vi) A ducted exhaust-air ventilation system shall be provided. This system shall create directional airflow that draws air into the work area through the entry area. The exhaust air shall not be recirculated to any other area of the building, shall be discharged to the outside, and shall be dispersed away from occupied areas and air intakes. The proper direction of the airflow shall be verified (i.e., into the work area).

(e)(5) Training Requirements. Additional training requirements for employees in HIV and HBV research laboratories and HIV and HBV production facilities are specified in paragraph (g)(2)(ix).

(f) Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up.

..1910.1030(f)(1)

(f)(1) General.

(f)(1)(i) The employer shall make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.

(f)(1)(ii) The employer shall ensure that all medical evaluations and procedures including the hepatitis B vaccine and vaccination series and post-exposure evaluation and follow-up, including prophylaxis, are:

(f)(1)(ii)(A) Made available at no cost to the employee;

(f)(1)(ii)(B) Made available to the employee at a reasonable time and place;

(f)(1)(ii)(C) Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional; and

(f)(1)(ii)(D) Provided according to recommendations of the U.S. Public Health Service current at the time these evaluations and procedures take place, except as specified by this paragraph (f).

(f)(1)(iii) The employer shall ensure that all laboratory tests are conducted by an accredited laboratory at no cost to the employee.

..1910.1030(f)(2)

(f)(2) Hepatitis B Vaccination.

(f)(2)(i) Hepatitis B vaccination shall be made available after the employee has received the training required in

paragraph (g)(2)(vii)(I) and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.

(f)(2)(ii) The employer shall not make participation in a prescreening program a prerequisite for receiving hepatitis B vaccination.

(f)(2)(iii) If the employee initially declines hepatitis B vaccination but at a later date while still covered under the standard decides to accept the vaccination, the employer shall make available hepatitis B vaccination at that time.

(f)(2)(iv) The employer shall assure that employees who decline to accept hepatitis B vaccination offered by the employer sign the statement in Appendix A.

(f)(2)(v) If a routine booster dose(s) of hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, such booster dose(s) shall be made available in accordance with section (f)(1)(ii).

(f)(3) Post-exposure Evaluation and Follow-up. Following a report of an exposure incident, the employer shall make immediately available to the exposed employee a confidential medical evaluation and follow-up, including at least the following elements:

(f)(3)(i) Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred;

..1910.1030(f)(3)(ii)

(f)(3)(ii) Identification and documentation of the source individual, unless the employer can establish that identification is infeasible or prohibited by state or local law;

(f)(3)(ii)(A) The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and HIV infectivity. If consent is not obtained, the employer shall establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, the source individual's blood, if available, shall be tested and the results documented.

(f)(3)(ii)(B) When the source individual is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status need not be repeated.

(f)(3)(ii)(C) Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

(f)(3)(iii) Collection and testing of blood for HBV and HIV serological status;

(f)(3)(iii)(A) The exposed employee's blood shall be collected as soon as feasible and tested after consent is obtained.

..1910.1030(f)(3)(iii)(B)

(f)(3)(iii)(B) If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample shall be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing shall be done as soon as feasible.

(f)(3)(iv) Post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service;

(f)(3)(v) Counseling; and (f)(3)(vi) Evaluation of reported illnesses.

(f)(4) Information Provided to the Healthcare Professional.

(f)(4)(i) The employer shall ensure that the healthcare professional responsible for the employee's Hepatitis B vaccination is provided a copy of this regulation.

(f)(4)(ii) The employer shall ensure that the healthcare professional evaluating an employee after an

exposure incident is provided the following information: (f)(4)(ii)(A)

A copy of this regulation;

(f)(4)(ii)(B) A description of the exposed employee's duties as they relate to the exposure incident;

(f)(4)(ii)(C) Documentation of the route(s) of exposure and circumstances under which exposure occurred;

..1910.1030(f)(4)(ii)(D)

(f)(4)(ii)(D) Results of the source individual's blood testing, if available; and

(f)(4)(ii)(E) All medical records relevant to the appropriate treatment of the employee including vaccination status which are the employer's responsibility to maintain.

(f)(5) Healthcare Professional's Written Opinion. The employer shall obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation.

(f)(5)(i) The healthcare professional's written opinion for Hepatitis B vaccination shall be limited to whether Hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination.

(f)(5)(ii) The healthcare professional's written opinion for post-exposure evaluation and follow-up shall be limited to the following information:

(f)(5)(ii)(A) That the employee has been informed of the results of the evaluation; and

(f)(5)(ii)(B) That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.

..1910.1030(f)(5)(iii)

(f)(5)(iii) All other findings or diagnoses shall remain confidential and shall not be included in the written report.

(f)(6) Medical Recordkeeping. Medical records required by this standard shall be maintained in accordance with paragraph (h)(1) of this section.

(g) Communication of Hazards to Employees.

(g)(1) Labels and Signs.

(g)(1)(i) Labels.

(g)(1)(i)(A) Warning labels shall be affixed to containers of regulated waste, refrigerators and freezers containing blood or other potentially infectious material; and other containers used to store, transport or ship blood or other potentially infectious materials, except as provided in paragraph (g)(1)(i)(E), (F) and (G).

(g)(1)(i)(B) Labels required by this section shall include the following legend:

BIOHAZARD

(For Illustration of Biohazard symbol, refer to page 18 in the BBP Exposure Control Manual)

(g)(1)(i)(C) These labels shall be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color.

(g)(1)(i)(D) Labels shall be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

..1910.1030(g)(1)(i)(E)

(g)(1)(i)(E) Red bags or red containers may be substituted for labels.

(g)(1)(i)(F) Containers of blood, blood components, or blood products that are labeled as to their contents and have been released for transfusion or other clinical use are exempted from the labeling requirements of paragraph (g).

(g)(1)(i)(G) Individual containers of blood or other potentially infectious materials that are placed in a labeled container during storage, transport, shipment or disposal are exempted from the labeling requirement.

(g)(1)(i)(H) Labels required for contaminated equipment shall be in accordance with this paragraph and shall also state which portions of the equipment remain contaminated.

(g)(1)(i)(I) Regulated waste that has been decontaminated need not be labeled or color-coded.

(g)(1)(ii) Signs.

(g)(1)(ii)(A) The employer shall post signs at the entrance to work areas specified in paragraph (e), HIV and HBV Research Laboratory and Production Facilities, which shall bear the following legend:

BIOHAZARD

(For Illustration, Biohazard symbol, refer to page 18 in the BBP Exposure Control Manual) (Name of the Infectious Agent) (Special requirements for entering the area) (Name, telephone number of the laboratory director or other responsible person.)

..1910.1030(g)(1)(ii)(B)

(g)(1)(ii)(B) These signs shall be fluorescent orange-red or predominantly so, with lettering and symbols in a

contrasting color.

(g)(2) Information and Training.

(g)(2)(i) Employers shall ensure that all employees with occupational exposure participate in a training program which must be provided at no cost to the employee and during working hours.

(g)(2)(ii) Training shall be provided as follows:

(g)(2)(ii)(A) At the time of initial assignment to tasks where occupational exposure may take place;

(g)(2)(ii)(B) Within 90 days after the effective date of the standard; and

(g)(2)(ii)(C) At least annually thereafter.

(g)(2)(iii) For employees who have received training on bloodborne pathogens in the year preceding the effective date of the standard, only training with respect to the provisions of the standard which were not included need be provided.

(g)(2)(iv) Annual training for all employees shall be provided within one year of their previous training.

..1910.1030(g)(2)(v)

(g)(2)(v) Employers shall provide additional training when changes such as modification of tasks or procedures or institution of new tasks or procedures affect the employee's occupational exposure. The additional training may be limited to addressing the new exposures created.

(g)(2)(vi) Material appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.

(g)(2)(vii) The training program shall contain at a minimum the following elements:

(g)(2)(vii)(A) An accessible copy of the regulatory text of this standard and an explanation of its contents;

(g)(2)(vii)(B) A general explanation of the epidemiology and symptoms of bloodborne diseases;

(g)(2)(vii)(C) An explanation of the modes of transmission of bloodborne pathogens;

(g)(2)(vii)(D) An explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan;

(g)(2)(vii)(E) An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;

..1910.1030(g)(2)(vii)(F)

(g)(2)(vii)(F) An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;

(g)(2)(vii)(G) Information on the types, proper use, location, removal, handling, decontamination and disposal of

personal protective equipment;

(g)(2)(vii)(H) An explanation of the basis for selection of personal protective equipment;

(g)(2)(vii)(I) Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;

(g)(2)(vii)(J) Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;

(g)(2)(vii)(K) An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;

(g)(2)(vii)(L) Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident;

..1910.1030(g)(2)(vii)(M)

(g)(2)(vii)(M) An explanation of the signs and labels and/or color coding required by paragraph (g)(1); and

(g)(2)(vii)(N) An opportunity for interactive questions and answers with the person conducting the training session.

(g)(2)(viii) The person conducting the training shall be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the workplace that the training will address.

(g)(2)(ix) Additional Initial Training for Employees in HIV and HBV Laboratories and Production Facilities. Employees in HIV or HBV research laboratories and HIV or HBV production facilities shall receive the following initial training in addition to the above training requirements.

(g)(2)(ix)(A) The employer shall assure that employees demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HIV or HBV.

(g)(2)(ix)(B) The employer shall assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.

..1910.1030(g)(2)(ix)(C)

(g)(2)(ix)(C) The employer shall provide a training program to employees who have no prior experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents.

A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The employer shall assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

(h) Recordkeeping.

(h)(1) Medical Records.

(h)(1)(i) The employer shall establish and maintain an accurate record for each employee with occupational

exposure, in accordance with 29 CFR 1910.1020.

(h)(1)(ii) This record shall include:

(h)(1)(ii)(A) The name and social security number of the employee;

(h)(1)(ii)(B) A copy of the employee's hepatitis B vaccination status including the dates of all the hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination as required by paragraph (f)(2);

(h)(1)(ii)(C) A copy of all results of examinations, medical testing, and follow-up procedures as required by paragraph (f)(3);

(h)(1)(ii)(D) The employer's copy of the healthcare professional's written opinion as required by paragraph (f)(5);

and

..1910.1030(h)(1)(ii)(E)

(h)(1)(ii)(E) A copy of the information provided to the healthcare professional as required by paragraphs

(f)(4)(ii)(B)(C) and (D).

(h)(1)(iii) Confidentiality. The employer shall ensure that employee medical records required by paragraph

(h)(1) are:

(h)(1)(iii)(A) Kept confidential; and

(h)(1)(iii)(B) Not disclosed or reported without the employee's express written consent to any person within or outside the workplace except as required by this section or as may be required by law.

(h)(1)(iv) The employer shall maintain the records required by paragraph (h) for at least the duration of employment plus 30 years in accordance with 29 CFR 1910.1020.

(h)(2) Training Records.

(h)(2)(i) Training records shall include the following information:

(h)(2)(i)(A) The dates of the training sessions;

(h)(2)(i)(B) The contents or a summary of the training sessions;

(h)(2)(i)(C) The names and qualifications of persons conducting the training; and

..1910.1030(h)(2)(i)(D)

(h)(2)(i)(D) The names and job titles of all persons attending the training sessions.

(h)(2)(ii) Training records shall be maintained for 3 years from the date on which the training occurred.

(h)(3) Availability.

(h)(3)(i) The employer shall ensure that all records required to be maintained by this section shall be made available upon request to the Assistant Secretary and the Director for examination and copying.

(h)(3)(ii) Employee training records required by this paragraph shall be provided upon request for examination and copying to employees, to employee representatives, to the Director, and to the Assistant Secretary.

(h)(3)(iii) Employee medical records required by this paragraph shall be provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, to the Director, and to the Assistant Secretary in accordance with 29 CFR 1910.1020.

..1910.1030(h)(4)

(h)(4) Transfer of Records.

(h)(4)(i) The employer shall comply with the requirements involving transfer of records set forth in 29 CFR

1910.1020(h).

(h)(4)(ii) If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall notify the Director, at least three months prior to their disposal and transmit them to the Director, if required by the Director to do so, within that three month period.

APPENDIX D

QUICK START GUIDE



Quick-Start Guide

Be Familiar with the Bloodborne Pathogens Standard

- Become familiar with the requirements of the standard
- Understand employer's responsibilities and employees' rights

Identify the employees that new to be trained by evaluating job descriptions/tasks

- Exposure determination must be performed to identify those individuals at risk of occupational exposure
- Supervisors of each department are responsible for informing the Departments of Environmental Health and Safety of any changes in the job classification status of an employee. This includes any new hires that need to be trained.

Know each of the biohazards that are associated with working in your setting

- By being aware of the risks associated with each task, the Supervisor can determine what type of training is needed for each of the individuals.

Review and update existing methods of controlling workplace exposures

- Universal precautions: treat all blood and blood products, body fluids and all other potentially infectious material as infectious regardless of the original source
- Engineering controls: these include biological safety cabinets, glove boxes, sharps containers
- Work practice controls: standard practices, housekeeping, infectious waste disposal, decontamination
- Personal protective equipment: safety glasses, gloves. Face shields, lab coats.

Develop methods to communicate this information to your employees

- Requirements of the training program
- Requirements of the Medical Surveillance Program

Follow-up

- Evaluate the training program to ensure employees are aware and know how to prevent exposures in their workplace

- Develop a way to identify new tasks that would place an individual at risk and methods to control that exposures
- Train new employees before they are introduced into the work area
- Keep all training records
- Observe constantly for employee compliance

APPENDIX E

SELF-AUDIT FORM



BLOODBORNE PATHOGENS

Inspection / Audit: Ref 29CFR 1910.1030
CDC Recommendation PL 100.607 (1988)

- A. EXPOSURE CONTROL PLAN (ECP)**
 - A. Written Plan
 - B. Identifying tasks
 - C. Procedures
 - D. Classification where occupational exposure to blood may occur

- B. SCHEDULE FOR IMPLEMENTATIONS, OTHER PROVISIONS**
 - A. Evaluating circumstances surrounding exposure incidents.

- C. PLAN (written) AVAILABLE AND ACCESSIBLE TO**
 - A. Employees
 - B. Statutory Authorities (State & OSHA)
 - C. Review & Update Procedures

- D. METHODS OF COMPLIANCE FOR PERFORMANCE STANDARDS**
 - A. Universal Precautions Practiced
 - B. Engineering & Work Practice
 - C. Hand washing Facilities
 - D. Packaging of Specimens
 - E. Methods for Regulated Waste-Labeling
 - F. Decontamination Procedures
 - G. Disposal of Regulated Waste Procedures

Use Of PPE Provided

 - A. Hazard evaluation for type of PPE
 - B. Mandatory use of PPE instituted.
 - C. Types of PPE available
 - D. Disposable Types
 - E. Non-disposable types
 - Cleaning
 - Disinfection
 - Repair
 - Storage etc
 - G. Label contaminated equipment

- E. WRITTEN SCHEDULE FOR CLEANING**
 - Method of Decontamination
 - Standards for Containers
 - Required Equipment Contaminant.

F. HEPATITIS B

*Requirement: **VACCINATION** available to all employees who have occupational exposure to blood - written 10 working days of assignment - no cost to worker.*

Declination form must be signed by workers who choose not to be vaccinated.

Booster doses- free.

G. POST EXPOSURE FOLLOW UP Follow up procedures to be made available **EVALUATION** to all employees who have had an exposure

FOLLOW UP

incident. Records to be kept of Lab Tests.

Confidentiality of Records & Diagnosis and Information.

H. HAZARD COMMUNICATION

A. Warning Labels

B. Orange Red / Biohazard Symbol

affixed to containers of regulated waste.

C. Restricted Area Signs.

I. TRAINING AND INFORMATION

Initially upon assignment and annually.

Training to include:

A. Copy of the Regulatory Text and Explanation of Contents.

B. Discussion on Bloodborne diseases and transmission means.

C. Written exposure control plan (ECP).

D. Emergency and work practice controls.

E. Personal Protective Equipment - use, limitations etc.

F. Hepatitis B Vaccine.

G. Response to emergencies involving blood.

H. How to handle exposure incidents.

I. Post exposure evaluation and follow up program.

J. Signs, Labels and color coding (Biohazard Symbol).

Note: Records of all training must be kept

J. ADDITIONAL Sharps encounter; unpredictable violent or **SPECIALIZED** psychotic behavior. Unusual circumstances or events, e.g. fights, assaults, CPR, searches and evidence handling, autopsies, and body removals

K. RECORD KEEPING

Records of all related training
SS#, address, work occupation etc HBV Status -
Vaccination
Records of Incident Exposures required Declination
Forms Signed
Examination Results- Confidentiality made
available only to Employee Records to be kept for 30
years
Classification of Workers Class I, 11, III

APPENDIX F

PERSONAL PROTECTIVE EQUIPMENT FORM



Personal Protective Equipment Form

To be used for identification of individual employee's Personal Protective Equipment needed for each task performed. Copies are to be forwarded to the Department of Environmental Health and Safety **Biosafety/Exposure Control Officer**.

Employee's Name _____

I.D. # _____

Job title: _____

Tasks performed: _____

Required Personal Protective Equipment:

___ Sterile medical gloves

___ Lab coat or apron

___ Work/Utility gloves

___ Mask

___ Eye protection

___ Other: _____

Signature: _____

Title: _____

Date: _____

APPENDIX G

EXPOSURE INCIDENT INVESTIGATION FORM



Exposure Incident Investigation Form

Date of Report: _____

Employee Name: _____ Job Title: _____
Date of Exposure Incident: _____ Employees Phone: _____
Social Security #: _____ (W) _____ (H) _____

Location of Occurrence (Bldg. & Rm. No.): _____
Potentially Infectious Materials Involved: _____
(Blood, body fluid, etc)

Source: _____ Telephone: _____
(Individual or Supplier)

Describe the task being performed at the time of the exposure:

Identify the route of exposure (skin, eye, mucous membrane, etc):

List PPE being used at the time of exposure:

To whom has the incident been reported? _____

Witnesses present (P.T.O. for witness statement):

1. Name: _____ Phone # (W/H): _____
2. Name: _____ Phone # (W/H): _____

Form completed by:

Name: _____
Title: _____
Signature: _____

APPENDIX H

BIOHAZARD SPILL DECONTAMINATION



Biohazard Spill Decontamination

Spills of biohazardous materials can occur in any workplace setting. This document is to provide a framework for cleanup procedures involving biohazardous materials that may potential expose workers to BBP.

For this framework, potentially infectious materials include: 1) blood, semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pericardial, peritoneal, amniotic fluid, or any body fluid that is visibly contaminated with blood or any body fluid where it is difficult to differentiate between body fluids; 2) any unfixed tissue or organ from a human or any HIV-containing cell or tissue cultures and HIV-infected blood, organs or tissues from animals infected with HIV and HBV.

Step 1: Required PPE:

The following items must be worn for protection when cleaning up a spill **before** entering the area of contamination. Instructions are for small spills only.

- Gloves: Nitrile, two pairs worn. For larger spills, vinyl or rubber gloves can be placed over the nitrile gloves.
- Eyewear: safety glasses should be used for eye protection and a face shield should be used to prevent exposure of mucous membranes such as nose and mouth.
- Clothing: for small spills a lab coat will be acceptable, but for larger spills a full-body Tyvek-type suit should be used.
- Boots: wear disposable Tyvek boot covers when cleaning spills.

Step 2: Cleanup Procedure:

- Completely cover the spill area with 10% bleach and water solution. Apply this solution from the outside edge of the spill and work your way in. Try not to create any type of splashes or aerosols while doing this.
- Under no circumstances is broken glass or sharps to be picked up by hand. A mechanical device such as dustpan, tongs, or forceps should be used. Glass and sharps should be disposed of in the proper containers.
- Cover with paper towels and let stand for approximately 20 minutes to assure proper decontamination.
- Wipe up the area with new, clean paper towels and pick up the contaminated paper towels at the same time.
- Place these materials into a labeled biohazard bag for disposal.
- Using a 10% bleach and water mix, decontaminate all instruments used including face shield, goggles, brooms, etc. Nitrile gloves and non-reusable items must be discarded into biohazard bags for sterilization.

- Once the area of contamination has been cleaned, clean the area again with fresh water and dry the area to remove any leftover bleach residue.

APPENDIX I

GENERAL INFORMATION



Directory of Service and Emergency Providers

FIU Public Safety	
Emergency	5911
Non-Emergency	
Modesto Maidique Campus	(305) 348-2626
Biscayne Bay Campus	(305) 919-5555
Environmental Health & Safety & Risk Management Services	
University Park Campus	(305) 348-2621/2622
Biscayne Bay Campus	(305) 919-5225
Lab Safety:	
Biosafety	(305) 348-3387
Chemical Safety	(305) 348-7835
Environmental Compliance	(305) 348-6971
Radiation Safety	(305) 348-0489
Worker's Compensation	(305) 348-7960
University Health Services	
University Park Campus	(305) 348-2401/2402
Biscayne Bay Campus	(305) 919-5620
Office of Human Resources	
University Park Campus	(305) 348-3273
Biscayne Bay Campus	(305) 919-5545

EPA's Registered Antimicrobial Products Effective Against *Mycobacterium tuberculosis*, Human HIV-1 and Hepatitis B Virus

(Updated January 27, 2005)

Product: ACTRIL COLD STERILANT **EPA Reg#:** 52252-7 **Registrant:** MINNTECH CORP
Approval Date: 08/11/88 **Active Ingredients:** Hydrogen peroxide 0.800% Peroxyacetic acid 00.0600%

Product: CAVICIDE **EPA Reg#:** 46781-6 **Registrant:** METREX RESEARCH CORP
Approval Date: 08/22/1988 **Active Ingredients:** Isopropanol 17.200% Diisobutylphenoxyethyl dimethyl benzyl ammonium chloride 0.280%

Product: CAVIWIPES **EPA Reg#:** 46781-8 **Registrant:** METREX RESEARCH CORP
Approval Date: 12/05/01 **Active Ingredients:** Isopropanol 14.3% Diisobutyl-phenoxy-ethoxyethyl dimethyl benzyl ammonium chloride 0.230%

Product: CPPC STORM **EPA Reg#:** 67619-13 **Registrant:** CLOROX PROFESSIONAL PRODUCTS CO
Approval Date: 24-Nov-2004 **Active Ingredients:** Sodium hypochlorite 2.4%
2

Product: CPPC TSUNAMI **EPA Reg#:** 67619-12 **Registrant:** CLOROX PROFESSIONAL PRODUCTS CO
Approval Date: 30-Nov-2004 **Active Ingredients:** Sodium hypochlorite 0.55%

Product: DETERGENT DISINFECTANT PUMP SPRAY **EPA Reg#:** 1839-83 **Registrant:** STEPAN CO
Approval Date: 10/22/80 **Active Ingredients:** Alkyl*dimethyl ethylbenzylammonium chloride*(68%C12,32%C14)0.105% Alkyl* dimethyl benzyl ammonium chloride*(60%C14, 30%C16, 5%C18, 5%C12) 0.105%

Product: DISCIDE ULTRA DISINFECTING SPRAY **EPA Reg#:** 10492-5 **Registrant:** PALMERO HEALTH CARE
Approval Date: 31-Mar-1998 **Active Ingredients:** Isopropyl alcohol 63.25% Alkyl* dimethyl ethylbenzyl ammonium chloride *(68%C12, 32%C14) 0.12% Alkyl* dimethyl benzyl ammonium chloride *(60%C14, 30%C16, 5%C18, 5%C12) 0.12%

Product: DISINFECTANT D.C. 100 **EPA Reg#:** 70627-2 **Registrant:** S.C. JOHNSON COMMERCIAL MARKETS INC.
Approval Date: 09/29/1997 **Active Ingredients:** Alkyl*dimethyl benzyl ammonium chloride*(60%C14,30%C16,5%C18,5%C12) 0.1050% Alkyl*dimethyl ethylbenzyl ammonium chloride*(68%C12,32%C14) 0.1050%

3

Product: ECOTRU **EPA Reg#:** 70791-1 **Registrant:** ENVIROSYSTEMS INC **Approval Date:** 10/02/98 **Active Ingredients:** 4-Chloro-3,5-Xylenol 0.200%

Product: ISOTEX 70 DISINFECTING TOWELETTES/TELASEPTIC DISINFECTING **EPA Reg#:** 10492-4 **Registrant:** PALMERO HEALTH CARE **Approval Date:** 12-Mar-1984 **Active Ingredients:** Isopropyl alcohol 63.25% Alkyl* dimethyl benzyl ammonium chloride *(60%C14, 30%C16, 5%C18, 5%C12) 0.12% Alkyl* dimethyl ethylbenzyl ammonium chloride *(68%C12, 32%C14) 0.12%

Primary: OPTI-CIDE 2 **EPA Reg#:** 70144-1 **Registrant:** Micro-Scientific Industries Inc. **Approval Date:** 7/22/03 **Active Ingredients:** Isopropanol 21% n-Alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chlorides 0.154% n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chlorides 0.154%

Product: PHENOLIC DISINFECTANT HG **EPA Reg#:** 70627-6
Registrant: S.C. JOHNSON COMMERCIAL MARKETS INC.
Approval Date: 10/06/98 **Active Ingredients:** Benzyl-4-chlorophenol 10.50% Phenylphenol 10.50%

4

Product: PRO-TECH DISINFECTANT CLEANER **EPA Reg#:** 211-63 **Registrant:** CENTRAL SOLUTIONS, INC **Approval Date:** 10-Jul-1996 **Active Ingredients:** Alkyl* dimethyl benzyl ammonium chloride *(60%C14, 30%C16, 5%C18, 5%C12) 0.105% Alkyl* dimethyl ethylbenzyl ammonium chloride *(68%C12, 32%C14) 0.105%

Product: QUANTUM TB DISINFECTANT **EPA Reg#:** 1677-199 **Registrant:** ECOLAB INC
Approval Date: 25-Aug-2004 **Active Ingredients:** Caprylic acid 0.138%

Product: SPRAY 'N SAN II **EPA Reg#:** 2915-66 **Registrant:** FULLER BRUSH COMPANY ,THE **Approval Date:** 12/11/1997 **Active Ingredients:** Alkyl*dimethyl benzyl ammonium chloride*(60%C14, 30%C16,5%C18,5%C12) 0.105% Alkyl*dimethyl ethylbenzyl ammonium chloride*(68%C12,32%C14) 0.105%

Product: STERIPHENE II BRAND DISINFECTANT DEODORANT **EPA Reg#:** 5741-22
Registrant: SPARTAN CHEMICAL COMPANY, INC **Approval Date:** 10/12/88 **Active Ingredients:** Ethyl alcohol 64.000% 2-Benzyl-4-chlorophenol 0.071% o-Phenylphenol 0.051%

Product: VIRAHOL **EPA Reg#:** 60142-1 **Registrant:** VERIDIEN CORP **Approval Date:** 08-Dec-2000 **Active Ingredients:** Isopropyl alcohol 70%

EPA's Registered Antimicrobial Products Effective Against *Mycobacterium tuberculosis*, Human HIV-1 and Hepatitis B Virus

(Updated January 27, 2005)

EPA Reg#	Primary Product Name
211-63	PRO-TECH DISINFECTANT CLEANER
1677-199	QUANTUM TB DISINFECTANT
1839-83	DETERGENT DISINFECTANT PUMP SPRAY
2915-66	SPRAY 'N SAN II
5741-22	STERIPHENE II BRAND DISINFECTANT DEODORANT
10492-4	ISOTEX 70 DISINFECTING TOWELETTES/TELASEPTIC DISINFECTING
10492-5	DISCIDE ULTRA DISINFECTING SPRAY
46781-6	CAVIDIDE
46781-8	CAVIWIPES
52252-7	ACTRIL COLD STERILANT
60142-1	VIRAHOL
67619-12	CPPC. TSUNAMI
67619-13	CPPC STORM
70627-2	DISINFECTANT D.C. 100
70627-6	PHENOLIC DISINFECTANT HG
70791-1	ECOTRU