



INTEGRATED BIOREPOSITORY OF H3AFRICA UGANDA

**MAKERERE UNIVERSITY
COLLEGE OF HEALTH SCIENCES**

POLICY

TITLE: OCCUPATIONAL HEALTH AND SAFETY POLICY		PAGE 1 of 9
POL #: IBRH₃AU-POL-008.1	Effective Date: 06/01/2014	Next Rev: DEC 2015
Prepared by: _____	Reviewed by: _____	Approved by: _____
(Signature & Date) NAME: Musinguzi Henry TITLE: Lab Manager	(Signature & Date) NAME: Dr. Samuel Kyobe TITLE: Coordinator	(Signature & Date) NAME: Prof. Moses Joloba TITLE: Principal Investigator

VALIDATION AND RETIREMENT

	NAME	DATE
Validated by:		
Retired by:		

ACKNOWLEDGEMENT OF READING AND UNDERSTANDING

I have received and understood the training on this Policy. If I have not understood the training I have asked the trainer to retrain me to ensure that I completely understand all the requirements.

	NAME	SIGNATURE	DATE
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			



INTEGRATED BIOREPOSITORY OF H3AFRICA UGANDA

POLICY

TITLE: OCCUPATIONAL HEALTH AND SAFETY		Supersedes POL#: None
POL#: IBRH₃AU-POL-008.1	Effective Date: 06/01/2014	Next Rev: DEC 2015

Table of Contents

VALIDATION AND RETIREMENT.....1

ACKNOWLEDGEMENT OF READING AND UNDERSTANDING1

1 INTRODUCTION.....3

2 PURPOSE3

3 SCOPE.....3

4 RESPONSIBILITY.....3

5 POLICIES.....3

6 REFERENCES7

7 REVISION HISTORY8



INTEGRATED BIOREPOSITORY OF H3AFRICA UGANDA

POLICY

TITLE: OCCUPATIONAL HEALTH AND SAFETY		Supersedes POL#: None
POL#: IBRH₃AU-POL-008.1	Effective Date: 06/01/2014	Next Rev: DEC 2015

1 INTRODUCTION

Working with biological materials usually involves working with various chemical, physical, and biological hazards. Employers and employees must address the hazards in their workplaces by developing and implementing occupational health and safety policies and procedures. The Integrated biorepository of H3Africa Uganda is committed to the highest health and safety standards and practices in the reception, processing, storage, retrieval and distribution of biospecimen for research purposes

2 PURPOSE

The purpose of this IBRH3AU health and safety policy is to outline general principles that shall be developed and implemented to ensure health and safety of personnel working at the biorepository

3 SCOPE

This policy applies to major health and safety issues that relate to operations of The Integrated biorepository of H3Africa Uganda. The following principles apply to all members of IBRH3AU; and a commitment to develop and maintain a manual on occupational health and safety

4 RESPONSIBILITY

This policy applies to IBRH3AU management members and personnel involved in biospecimen handling operations of the biorepository

5 POLICIES

The biorepository shall:

Develop a safety manual, covering

Health and safety information such as written work procedures, respiratory protection requirements, procedures for controlling spills and accidental releases, and emergency response procedures, including special first aid procedures such as antidotes

General prohibitions (for example, mouth pipetting, storage of food, smoking, drinks, and application of make)

Safety rules (for example, when to use the various types of personal protective equipment)

Provide documented evidence for having trained and educated workers about occupational health and safety in the biorepository

Workers must be trained in how to read and understand supplier labels and material safety data sheets.

All employees who work with or near controlled products must have specific training for all such products.

Use appropriate biohazard labels when required



INTEGRATED BIOREPOSITORY OF H3AFRICA UGANDA

POLICY

TITLE: OCCUPATIONAL HEALTH AND SAFETY		Supersedes POL#: None
POL#: IBRH₃AU-POL-008.1	Effective Date: 06/01/2014	Next Rev: DEC 2015

Encourage staff to be immunized against common biological agents

Maintenance and cleaning personnel who may be exposed to spills and other accidental releases of controlled products will also be given the necessary training before starting work

Conduct regular and special inspections of workplace equipment, methods, and practices

Investigate workplace accidents and provide reports of these investigations

Maintain first aid equipment and procedures i.e. first aid box, eye wash station, emergency shower facilities and drugs for Post Exposure Prophylaxis

Have periodic management meetings to review occupational health and safety activities

Maintain records and statistics of occupational health and safety accidents/incidents

5.1 Material Safety Data Sheets (MSDSs)

A material safety data sheet is a technical bulletin provided by suppliers for each controlled product they sell. It contains detailed, product-specific hazard, precautionary, and emergency information that workers need to read, understand, and use. The data sheet supplements the information provided on supplier labels.

5.2 Compressed Gas Cylinders

Compressed gas cylinders shall be safely secured, handled and maintained carefully to prevent falling or rolling during transportation, storage, and use and to prevent the gas from escaping from the cylinder

5.3 Decontamination

Appropriate decontamination agents shall be employed for general facilities maintenance and during disposal of materials

5.4 Personal Protective Wear

All persons, including visitors, shall wear appropriate clothing (i.e., lab coats, long pants, and covered shoes; not shorts, skirts, or open-toed shoes). Appropriate gloves shall be used in handling any specimens, chemicals or hot/cold equipment and supplies. For example, Cryogenic gloves will be used when handling LN₂. If exposure to hazardous materials occurs, hands and other exposed areas of skin shall be washed and appropriate assistance sought. Laboratory coats shall be laundered on a regular basis

Eyes and other mucous membranes must be protected from exposure to biohazard materials and chemicals. Depending on the likelihood of exposure, this protection may be accomplished via goggles, safety glasses, or face shields. These shall be worn any time there is a likelihood of exposure of the face.

Respiratory protection is only necessary when the exposure to vapors to toxic chemicals exceeds the standard specified by regulatory agencies. If respirators are required, they



INTEGRATED BIOREPOSITORY OF H3AFRICA UGANDA

POLICY

TITLE: OCCUPATIONAL HEALTH AND SAFETY		Supersedes POL#: None
POL#: IBRH₃AU-POL-008.1	Effective Date: 06/01/2014	Next Rev: DEC 2015

must be individually fitted. Appropriate safety equipment for specific tasks must be utilized by all staff as designated in the SOPs.

5.5 Dry Ice Safety

Prolonged exposure to dry ice can cause severe skin damage through frostbite. Those working with dry ice in the laboratory shall use appropriate protective wear approved for low temperatures. Dry ice sublimates into large quantities of carbon dioxide gas which could displace oxygen and pose a danger of asphyxiation. For this reason, dry ice shall only be exposed to open air in a well-ventilated environment

5.6 Liquid Nitrogen Safety

At atmospheric pressure, liquid nitrogen (LN₂) boils at -196C (77K; 321F) and is a cryogenic fluid which can cause rapid freezing leading to cryogenic burns or frostbite. Cryogenic burns can also be caused by the contact of skin with substances cooled with liquid nitrogen (e.g., vials, hoses, storage racks). Since the liquid to gas expansion ratio of LN₂ is 1:694, a tremendous amount of force can be generated if LN₂ is rapidly vaporized. As LN₂ evaporates it will reduce the oxygen concentration in the air and cause a potential risk of asphyxiation, especially in confined spaces. Nitrogen is odorless, colorless and tasteless, and may produce asphyxia without any sensation or prior warning.

Those working with or around LN₂ shall use appropriate protective wear. A full face shield shall be used to protect the eyes and face from splashes when working with large volumes of LN₂. Non-absorbent, insulated gloves (cryogenic gloves) shall be worn when handling anything that is or has been in recent contact with LN₂. Cryogenic gloves are made to be used only in the vapor phase of LN₂ and shall not be immersed in the liquid itself. A long-sleeved, buttoned lab coat shall be worn at all times when working with LN₂ to protect the body. Non-absorbent cryogenic aprons can also be used and shall be used when splashes may occur. Open pockets and turn-ups where liquid may collect shall be avoided. Open-toed shoes shall in no circumstances be worn when working with LN₂. Shoes shall be sturdy and non-absorbent. Oxygen depletion sensors shall be installed in places where liquid nitrogen is handled

5.7 Biological Safety

All biospecimens shall be considered as potential biohazards. Consequently, all biopecimens independent of their state shall be treated with universal precautions, i.e., shall be handled as if infected with agents that may be pathogenic to humans.

Individuals shall receive training so that they can recognize symptoms that accompany the exposure to certain harmful compounds and diseases to which staff are exposed (Fleming and Hunt, 2006).



INTEGRATED BIOREPOSITORY OF H3AFRICA UGANDA

POLICY

TITLE: OCCUPATIONAL HEALTH AND SAFETY		Supersedes POL#: None
POL#: IBRH₃AU-POL-008.1	Effective Date: 06/01/2014	Next Rev: DEC 2015

The biorepository shall develop an occupational health and safety Plan to eliminate or minimize occupational exposure to pathogens. The plan shall include a determination of employee exposure, methods to control exposure (e.g., universal precautions, personal protective equipment, use of biosafety hoods and engineering controls), appropriate vaccinations, post-exposure evaluation and follow-up, communication of hazards and accurate recordkeeping. Applicable regulations covering occupational exposure to blood borne pathogens shall be determined and designated areas for eating, drinking and applying makeup shall be provided

5.8 Electrical Safety

Electrical injuries can be avoided by ensuring that all equipment is properly grounded. Equipment shall be tested for grounding when first purchased and yearly thereafter. Similarly, all electrical base plugs shall be in good condition (grounding shall be checked/verified) and electrical work shall be done with great care ensuring that personnel in the affected work area are protected by removal of fuses and with written warnings at the fuse box. Also, care shall be taken with electrical appliances/equipment around water sources in the repository/laboratory spaces, especially sinks. Electrical equipment shall be unplugged prior to service, as appropriate, and staff shall have visible control of the plug to avoid inadvertent energizing of the unit.

Mechanical storage units are rated to function at a specific voltage. Shall the level drop below specified levels on board buck boosters will come on to stabilize the voltage. If conditions persist they can result in overheating of the wiring or components leading to failure or fire. Routine checks of facility voltages and/or noting of prolonged use of the buck boosters will alert staff to low voltage conditions. Surge protectors or voltage regulators shall be used on freezers

5.9 Fire Safety

Companies well conversant with fire safety will on an annual basis inspect the biorepository to evaluate fire safety prevention plans. And on a regular basis (e.g., annually), fire drills shall be conducted, fire suppression equipment and safety showers/eye wash units shall be tested, and emergency pathways shall be posted at all room exits. Emergency exits shall never be blocked, obstructed or locked and hallways shall not be obstructed or cluttered. Flammable agents shall be stored appropriately, including storage of large amounts of flammable agents in fire cabinets. Refrigerators/freezers that represent reduced dangers of causing shall be purchased for use. Smoking shall be limited to designated external areas. Furniture, rugs, and equipment shall be constructed of non-flammable material. Regulations for types of doors to serve as fire barriers shall be followed as shall fire requirements for construction of buildings that house specific activities



INTEGRATED BIOREPOSITORY OF H3AFRICA UGANDA

POLICY

TITLE: OCCUPATIONAL HEALTH AND SAFETY		Supersedes POL#: None
POL#: IBRH₃AU-POL-008.1	Effective Date: 06/01/2014	Next Rev: DEC 2015

5.10 Physical Safety

The physical safety of employees shall be considered in all repositories. Physical safety ranges from preventing falls to ensuring employees are not physically injured by other means. Ensuring physical safety involves careful maintenance of the physical plant and facilities, such as handling and/ or prevention of tears in rugs, broken steps and water, soap, paraffin and other slippery substances on floors. Power cords shall be appropriately covered, and inappropriate use of ladders or chairs as ladders shall be prohibited to prevent falls. Similarly, unsecured gas cylinders, unbalanced file cabinets, and inadequately secured shelves all can lead to injuries via falling or moving agents or structures.

Also included in causes of physical injuries are repetitive-motion injuries (e.g. pipetting) and back injuries resulting from movement and inappropriate lifting. Repository staff members may be required to stand on step stools and lift heavy racks vertically out of the freezer in order to access specimens.

Back injuries can be avoided by installing an automatic pulley mechanism to aid in the removal of the racks from the freezers. By analyzing an employee's work environment and improving the proper placement of objects and/or provision of the proper tools, the potential for injury will be reduced greatly.

Physical injuries that are difficult to avoid include minor cuts (e.g., paper), bumps and strains due to inattentive actions. However, such minor injuries shall not be compounded by exposure to biohazards or chemical hazards. The overall safety program shall address other hazards that can be prevented or ameliorated by wearing proper protective equipment and clothing such as the use of gloves to avoid thermal burns from both heat and cold (e.g., dry ice or liquid nitrogen).

For equipment that may be located within a confined space), procedures shall be developed to assure that the equipment is not moved or operated during routine cleaning, maintenance, or repair.

6 REFERENCES

- 6.1 Best Practices for Repositories I. Collection, Storage and Retrieval of Human Biological Materials for Research. International Society for Biological and Environmental Repositories (ISBER). <http://www.isber.org>



INTEGRATED BIOREPOSITORY OF H3AFRICA UGANDA

POLICY

TITLE: OCCUPATIONAL HEALTH AND SAFETY		Supersedes POL#: None
POL#: IBRH₃AU-POL-008.1	Effective Date: 06/01/2014	Next Rev: DEC 2015

7 REVISION HISTORY

Revision No	Effective Date	Description of Changes Made from Preceding Revision	Approved by/ Date



INTEGRATED BIOREPOSITORY OF H3AFRICA UGANDA

POLICY

TITLE: OCCUPATIONAL HEALTH AND SAFETY		Supersedes POL#: None
POL#: IBRH₃AU-POL-008.1	Effective Date: 06/01/2014	Next Rev: DEC 2015

ANNEX 1: DOCUMENTATION OF SUGGESTED CHANGES TO THIS SOP

CLAUSE	SUGGESTION	BY	DATE