



SAFETY POLICY AND PROCEDURE

Procedure Title: *Biological and Chemical Safety Practices*

Policy Number: SP-0003

Implementation Date: 6/5/2002

Date – Reviewed without Revision: N/A

Date – Reviewed with Revision: 10/15/2005; 5/21/2012

PURPOSE:

The purpose of this document is to provide guidelines for the handling and disposal of biological and chemical material.

POLICY:

It is the policy of the NIA/IRP to work cooperatively with employees to provide guidance for safe chemical and biological handling, in order to achieve compliance with NIH/NIA Safety Policies, the NIH Chemical Hygiene Plan, and government regulations. These regulations serve to protect the health and safety of NIA/IRP employees and to protect the environment.

PROCEDURE and RESPONSIBILITY:

The following practices and precautions will be observed in all laboratories and clinical procedure areas dealing with biological and/or chemical materials:

- General Safety Practices:
 - Do not eat, drink, prepare or store food, smoke, handle contact lenses or apply cosmetics within the laboratory/clinical procedure area.
 - Close laboratory doors to restrict access while experiments are in progress.
 - Wash hands after handling chemicals, infectious materials, animals, after removing gloving and before leaving the laboratory/clinical procedure area.
 - Insist upon good housekeeping in your laboratory or clinical procedure area.
 - Decontaminate all work surfaces daily and handle all spills immediately.
 - Check for insects and rodents. If needed, contact the facility's environmental services for pest control services.
 - Know where the nearest eyewash, drench hose, fire alarm and fire extinguisher are located.
 - Be careful with razors, scalpels, used and unused needles and syringes. All such 'sharps' should be placed in biohazard Sharps containers and disposed of as Medical Pathological Waste (MPW).
 - Minimize or contain all aerosol-producing activities, large volume work, concentrated solutions and/or cultures.

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- These activities include, but are not limited to, centrifugation (use safety cups), vortex mixing (use stopper or screw cap tubes), blending (use metal safety blender), sonication, grinding, opening containers of infectious material, inoculating culture flasks, inoculating animals harvesting infectious material from cultures, weighing and/or reconstituting toxic powders.
 - All equipment must be documented to be free of chemical and biological contamination before repair work is done or before sending equipment to surplus. Forms are available from the BRC Property Manager in the NIA IRP Administrative Office.
 - Broken glassware (if not biologically/chemically contaminated) should be placed in a “broken glass disposal box” and discarded as general waste.
- Personal Protective Equipment and Protective Clothing:
 - Wear lab coats and other protective clothing while performing laboratory activities.
 - Do not wear protective clothing outside of the lab; do not wear protective clothing home.
 - Wear appropriate gloves while handling infectious and/or toxic materials.
- Biological Safety Practices:
 - Follow the Bloodborne Pathogen Standard as given in the Code of Federal Regulations (CRF).
 - Use a biological safety cabinet (BSC) to contain splashes and/or aerosols when handling biologically hazardous materials.
 - Put BSCs in low-traffic areas; minimize activities that disrupt airflow in, as well as around the cabinet.
 - Do not use the BSC for work with toxic chemically hazardous or volatile material.
 - Biologically contaminated material, human blood, body fluids and cell lines:
 - Whenever such material is taken out of the lab/clinical area, be certain it is in a closed leak-proof container.
 - To decontaminate, the items may be autoclaved, chemically treated, or placed in a medial pathological waste (MPW) box for incineration.
 - Do not overfill a MPW box. When it is 3/4th full (or less than 40 lbs.), seal the inner bag, close the flaps, and seal the box with tape.
 - Label the MPW box with the room number where the waste was produced.
 - If the material is from a lab designed as a biosafety level 3 (BSL 3) or biosafety level 2 with level 3 practices (BSL 2/3), it must be properly autoclaved and then placed in a MPW box for incineration.
 - Be careful with razors, scalpels, used and unused needles and syringes. All such ‘sharps’ should be placed in biohazard Sharps containers and disposed of as MPW.

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- Chemical Safety Practices:
 - Secure ALL gas cylinders.
 - Chemical waste is managed by Chemical Wastes Services via NIH (301-496-4710 or (<http://orf.od.nih.gov/Environmental+Protection/Waste+Disposal/>)). Waste pickups for disposal are prescheduled; the NIA IRP Safety Office will email reminders prior to a scheduled pick up. Chemical Waste is routinely pickup up at the Gerontology Research Center (GRC) and Biomedical Research Center (BRC). CRB/IRP/NIA removal will be scheduled on an as needed basis.
 - Chemical waste may be accumulated in individual labs for up to sixty (60) days. Waste must be removed prior to 60 days of accumulation start date. Waste may be stored in the waste holding areas maintained by the NIA IRP Safety Office until picked up for disposal.

SCOPE OF PRACTICE:

All NIA/IRP staff will follow the guidelines for biological and chemical safety practices.

COMPLIANCE:

Area managers/supervisors will monitor compliance and maintain staff competencies.

COMMUNICATION/EDUCATION:

The policy will be distributed for inclusion into the NIA IRP Occupational Health and Safety Program. Elements of these guidelines will be included in the NIA IRP Annual Safety Refresher Training.

REFERENCES:

- 29 CFR 1910.1030 – OSHA’s Bloodborne Pathogen Standard (<http://www.osha.gov/law-regs.html>)
- NIH Chemical Hygiene Plan (http://www.ors.od.nih.gov/sr/dohs/healthandsafety/ih/pages/industrial_hygiene.aspx)
- NIA IRP Kiosk (<http://kiosk.grc.nia.nih.gov/>)