**Guidance Protocol for the Use of**

**Complete Freund’s Adjuvant (CFA)**

**Scope:** This protocol is intended for work with Complete Freund’s Adjuvant in research laboratories.

**Background:**

* Complete Freund’s Adjuvant (CFA) is an immunological agent that increases the antigenic response. CFA contains heat-killed mycobacteria (typically Mycobacterium tuberculosis).
* Primary routes of occupational exposure to CFA include: accidental injection, conjunctival contact via splashing, and skin contact.
* Exposure to CFA via accidental exposure typically produces serious and immediate health problems including: severe swelling, granulomatous inflammation, pain, lesions, abscesses, necrosis and ulceration of tissue surrounding injection site.
* Eye and skin exposure may lead to severe ocular irritation, scar tissue formation, and temporary permanent tissue impairment.

**Before beginning work with CFA:**

* All work with CFA will require IBC review before initiation of experiments. The IBC may include additional safety measures as indicated by a risk assessment.
* Prior to incorporating CFA into any protocol, consider using other, less problematic adjuvants.
* All research personnel must be added to the appropriate biosafety protocol (BSP) and must complete Initial Biosafety and Bloodborne Pathogen Training; refresher training must be completed annually.
* All research personnel that will work with CFA will be required to have a TB test; any individual with a positive TB test will be required to consult with Employee Health and Wellness regarding additional precautions.

**Attire and personal protective equipment (PPE) requirements:**

* Long pants or ankle length skirts (no shorts or short skirts) and shoes that cover the entire foot (no sandals or flip flops, no ballet flats) are required for entry into areas where CFA is handled or stored.
* Gloves, lab coat and eye protection (i.e. safety glasses) are required when working with CFA.

**General safety procedures:**

* Research personnel will be educated on the hazards associated with CFA via a hazard communication document that will be maintained in the laboratory for reference.
* All tasks involving the use of CFA will only be conducted by competent laboratory staff whom have received appropriate training regarding the specific CFA-related health and safety risks, SOPs, and procedures to be followed in the event of an exposure incident.
* All persons entering the laboratory must be advised of the potential hazards associated with the use of CFA.
* Access to the laboratory must be limited to staff, or other persons with permission of the Principal Investigator, when work with CFA is being conducted.
* Under NO CIRCUMSTANCES will gloves be reused.
* All procedures must be performed in a manner that minimizes creation of splashes or aerosols.

**Biosafety cabinets (BSCs):**

* A Biosafety Cabinet must be used for all CFA preparations, drawing syringes, and animal injections.

**Administering CFA to research animals**

* Following CFA injections, animals will be housed at ABSL1 with the same protocol that is followed for chemotherapeutic agents:
  + Signs will be placed on the animal room door and on the cages.
  + Lab personnel will attend to all animal husbandry needs for the first five days following CFA injections; on the 6th day lab personnel will change cages and remove postings from cages and rooms, at which time Laboratory Animal Services (LAS) personnel will resume normal husbandry activities.
  + All soiled bedding up to and including the cage change on the 6th day will be placed in the biohazard waste container.

**Decontamination and waste handling:**

* Surfaces
  + Areas where CFA is prepared and/or administered should be cleaned immediately following each task completion using a freshly prepared 10% bleach solution.
* Solids
  + CFA-contaminated no sharp materials must be disposed in a biohazard container.
* Sharps
  + Needles used for CFA injections will be disposed of in approved sharps containers immediately following use.

**CFA spills/accidents/exposures:**

* Spills and laboratory accidents that result in exposure to CFA must be immediately reported to the Principal Investigator and the Biological Safety Office.
* Please consult Augusta University’s Emergency Response flipchart and the Biological Safety Office webpage for guidance documents that are specific to spill clean-up, accidents and injuries: <http://www.augusta.edu/services/ehs/biosafe/>.