

## Appendix H: Health and Safety Plan

### Introduction

This Site Health and Safety Plan (SHSP) defines applicability and responsibility regarding compliance with the Agency for Toxic Substances and Disease Registry (ATSDR) Health and Safety Program for Hazardous Substance Field Activities.

This SHSP defines site requirements and protocol applicable during all activities. It extends to all ATSDR employees, ATSDR contractors, and site visitors invited by ATSDR.

Site emergency response procedures and any potential fire, explosion, health, or safety hazards of the operation must be communicated to all personnel. Noncompliance with site safety procedures will not be tolerated. Personnel not observing safety procedures could be suspended from participation in site activities.

Development of this plan included consideration of current safety standards and recommendations as defined by the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the American Conference of Governmental Industrial Hygienists (ACGIH), health effects and standards for known contaminants, and procedures designed to account for potential exposure to unknown substances.

### Personnel Training Requirements

All site personnel will be trained in accordance with the requirements contained in the CDC/ATSDR Mandatory Training Requirements. At a minimum, all personnel will be trained to recognize on-site hazards, the provisions of this SHSP, and identification of responsible personnel.

All personnel are required to complete the following training courses:

- Blood Borne Pathogen Training
- Safety Survival Skills Part 1 - General Responsibilities
  
- Personal Protective Equipment Training
- Human Research Protections Training
- First aid/CPR/Automated External Defibrillator (AED) Training

All site personnel and agents (on-site contractors, fellows, and others appointed or retained to work under the auspices of CDC) who intend to collection information from human subjects must have a Scientific Ethics Verification (SEV) number.

### Personal Protective Equipment

Anyone entering the site must be fully aware of and protected against potential hazards. The purpose of personal protective equipment (PPE) is to shield or isolate individuals from chemical, physical, and biological hazards that could be encountered at the site.

Personnel working with blood or urine samples are required to wear Level D PPE to include closed toed shoes, long pants, and gloves. Personnel working with centrifuges should wear eye protection. Respirators are not

required. Gloves should be changed in between handling each participant's sample. Urine containers, used pipettes, gloves, and blood collection materials should be placed in appropriate biohazard containers.

## **Emergency Procedures**

On-site personnel will use the following standard emergency procedures. Notify the site lead of any on-site emergencies. The site lead is responsible for ensuring that appropriate emergency procedures are followed.

### **Personal Injury**

When an injury occurs the site lead will assess its nature. A qualified first aid provider should initiate appropriate first aid and continue appropriate emergency medical services. If necessary, injured personnel will be transported to a local area hospital.

### **Fire or Explosion**

If a fire or explosion occurs on site, the emergency will be announced and all personnel will leave the area through emergency exits (unless directed otherwise). The fire department shall be contacted (911), and all personnel shall be moved a safe distance from the involved area. If it is safe to do so, site personnel can take the following actions:

- Use on site fire-fighting equipment to control or extinguish the fire; and
- Remove or isolate flammable or other hazardous materials that could contribute to the fire.

### **Natural Hazards**

The site lead has responsibility for safety of ATSDR personnel if natural hazards (e.g., thunderstorms, tornadoes, hurricanes, etc.) occur. The site lead will inform personnel of current and impending weather conditions.

### **Equipment Failure**

If any site worker experiences a protective equipment failure or alteration that affects the protection factor, that person shall immediately wash hands as needed and replace the failed equipment.

If any other on-site equipment fails to operate properly, the site lead shall be notified and will then determine the effect of this failure on continuing operations at the site.

## **Centrifuge Safety Procedures**

Prior to starting any operation that deals with a biological, chemical or radiological hazard, emergency procedures should be established to determine the course of action in the case of an incident. The emergency procedures should be based on the materials being used, the hazards associated with the materials, the type of equipment being used, the operations, and the type of incident that could result. The emergency procedures should be posted near the centrifuge. All centrifuge operators should be familiar with the emergency procedures.

1. Put on appropriate personal protective equipment (gloves) when responding to ALL centrifuge incidents and BEFORE opening the centrifuge to retrieve materials.
2. If a tube breaks or a spill occurs, and an aerosol containing an infectious agent is generated, turn off the centrifuge, and immediately evacuate the area. Be sure to notify others in the laboratory to evacuate. Secure the area and notify the Office of Health and Safety.

- If tubes containing hazardous materials break or leak, the entire rotor load and centrifuge should be considered contaminated. The tubes, rotor, adapters, buckets and centrifuge chamber should be decontaminated using appropriate decontamination procedures and then washed.
- There is no single cleaning, disinfecting, or decontaminating process that is suitable for all tubes, rotors, and other centrifuge components. The selection of a disinfectant should be based on the agent involved and the rotor material. If the wrong method or type of cleaner is used, it could result in damaged equipment. It is important to follow the manufacturer's recommendations.
- If a leak should occur, call DLS Logistics for further assistance (Cynthia Weekfall - 770-488-7227)

3. If a liquid spill (with no aerosol) has occurred, contain the liquid and decontaminate as appropriate.

4. If a tube is identified as being broken while removing it from the rotor/carrier, or if there is a suction sound when removing the tube, do not continue to pull the tube from the rotor/carrier. Leave the tube in the rotor/carrier and contain the liquid by sealing the rotor/carrier. Remove the rotor/carrier from the centrifuge, place it in a biological safety cabinet or chemical fume hood, depending upon the hazard, and continue operations to remedy the spill.

