OFF-LINE LABS
Safety, Health, Environmental Issues

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Hazardous Waste Regulations and Requirements

- Resource Conservation & Recovery Act
- Florida Administrative Code Chapter 62-730
- Kennedy Handbook 8800.7
- Standard Practices and Procedures S-08
    - *Hazardous/Controlled Waste Management*

Definitions

• **Hazardous Waste**: Include, but not limited to, wastes containing substances that are corrosive, flammable, reactive or toxic. Additionally, a specific list of hazardous wastes and acutely hazardous wastes are defined in Title 40 Code of Federal Regulations Part 261.

• **Controlled Waste**: Those wastes not defined as hazardous under 40 CFR Part 261 but which cannot be indiscriminately discarded due to disposal/discharge regulations established by the Clean Air Act, Clean Water Act, Florida Administrative Code, etc.

Generator Pre-Processing Requirements

- Identify all types and quantities to be generated at Kennedy Space Center
    - Process Waste Questionnaire
    - Submit for all chemicals or chemical contaminated material (rags, applicators, empty containers)
    - Submit Material Safety Data Sheets (MSDS)
- Designate an Environmental Point of Contact
- Manage Satellite Accumulation Area (SAA)
- Must comply with all applicable Hazardous Waste Regulations
    - Trained in Hazardous Waste Management
    - Other

Hazardous Waste Management
Satellite Accumulation Area

- At or near the point of generation
- Waste container labeled with contents
- Segregate wastes according to compatibility
- All solids should be bagged and labeled with waste contents
- Notify SHEA when container is full

Bloodborne Pathogens/Biomedical Waste Regulations and Requirements

- OSHA 29 CFR 1910.1030
- Florida Administrative Code Chapter 64E-16
- Kennedy Handbook 8800.7
- Standard Practices and Procedures S-14
    - *Bloodborne Pathogens/Biomedical Waste Management*

Definitions

• **Bloodborne Pathogens**: Pathogenic microorganisms that are present in human or animal blood and can cause disease in humans. These pathogen include, but are not limited to, Hepatitis B (HBV) and Human Immunodeficiency Virus (HIV).

• **Biomedical Waste**: Any solid or liquid waste that may present a threat of infection to humans. Examples include non-liquid tissue and body parts from humans and/or animals, laboratory or veterinary waste which contain human disease-causing agents, discarded sharps, blood, blood products and body fluids, or Other Potentially Infectious Materials (OPIM).

• **Other Potentially Infectious Materials (OPIM):** Several examples: semen, vaginal secretions, cerebrospinal, synovial, pleural, amniotic, and any body fluid that is visibly contaminated with blood.

Generator Pre-Processing Requirements

- Identify all types (solid, liquid, sharps) and quantities to be generated at Kennedy Space Center
    - Process Waste Questionnaire
- Designate an Environmental Point of Contact
- Must comply with all applicable BBP/Biomedical Waste Regulations
    - Employee Exposure Plan
    - Training
    - Offer Hepatitis B Vaccine
    - Other

Biomedical Waste Categories

- **Sharps** (i.e. needles, pipettes, razor blades, microscope slides)
  - hard plastic containers
  - label with date when container is full

- **Non-Sharps** (i.e. gauze, wipes, contaminated PPE)
  - red plastic bags within a box
  - label with date when first item placed into bag

- **Liquid**
  - plastic drum
  - label with date when first item placed into drum

BBP/Biomedical Waste Management

- Place ONLY biomedical waste non-sharp items into red bag (no trash)
- Place ONLY sharps in sharps container (no soft items)
- Ensure biomedical waste is picked-up from the lab within 30 days from date on container
    - Notify SHEA 20 days after date on container
- Spill kits located in lab- all contaminated spill kit material must be handled as biomedical waste
- Surfaces/equipment must be decontaminated after completion of procedures or end of work shift

Hazard Communication

- OSHA 29 CFR 1910.1200

- Kennedy Management Instruction 1800.2

- Material Safety Data Sheets will be maintained on-site for all chemicals used in the workplace

- Chemicals will be labeled with manufacturer and product name
    - to include transfer containers
    - must be in English

- Must comply with all applicable Hazard Communication Regulations
    - Training
    - Other

Fume Hood

- Regulated by the Clean Air Act
    - Title V Permit
- Must complete vent log identifying chemical name and quantity
- No chemical storage in the fume hood
- Perchloric acid and radioisotopes require special fume hood
    - Must coordinate prior to arrival at KSC

Radiological Safety

- Kennedy Handbook 1860.1 and 1860.2
- All radiation sources must be identified to the NASA-KSC Radiation Protection Officer
    - Use Authorization Request Form must be submitted and approved
- Controls identified in approved Use Authorization must be implemented for all procedures