Laboratory-Specific Standard Operating Procedures

TITLE: SOP for the safe use of Bromodeoxyuridine (BrdU)

Date: Review Date: Revised:

Principle Investigator:

Authors (Names):

Department, Building, Room(s):

Contact Phone Number:

This SOP must be kept on file for all laboratory employee training and review.

Section 1: (Check One)
There are three methods that can be used to write SOPs. They are: by process (distillation, synthesis, chromatography, etc.); by individual hazardous chemical (benzene, phenol, arsenic, etc.); and by hazardous chemical class (flammable, corrosive, oxidizer, etc.).

_____ Process _____ Chemical _____ Hazard Chemical Class

Section 2: Describe Process, Hazardous Chemical or Hazard Class
Provide a general description of what activities are covered under this SOP.

Bromodeoxuridine (CAS # 59-14-3) is a white powder, used to label cells undergoing S-phase synthesis. Due to its cytotoxic and mutagenic properties, exposure presents potential health and safety hazards.

Section 3: Potential Hazards
Describe the potential hazards for each process, hazardous chemical or hazard class. Include physical and health hazards.

- May cause eye and skin irritation.
- May be harmful if absorbed through the skin by causing redness and fluid buildup with crusting and scaling.
- If ingested causes gastrointestinal irritation with nausea, vomiting and diarrhea.
- If inhaled may cause respiratory tract irritation.
- BrdU may cause reproductive disorders and genetic alterations.

Section 4: Personal Protective Equipment
Identify the required PPE. If a respirator is required, contact EH&S before using.

Wear double nitrile gloves, full-length lab coat, and safety glasses/face shield in addition to long pants and closed-toe shoes. Always wash hands after removing gloves following handling Brdu.

Section 5: Engineering Controls
Describe engineering controls that will be used to prevent or reduce employee exposure to hazardous chemicals.

Always handle BrdU inside a certified chemical fume hood or a ducted biosafety cabinet. Animals exposed to BrdU may require special engineering controls.

Section 6: Special Handling and Storage Requirements
List storage requirements for hazardous chemicals involved with the SOP, including specific area, and policies regarding access to chemicals. Special procedures such as dating peroxide formers are appropriate here. Is a special "designated area" required?

Wash hands thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation to minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Store BrdU in a tightly closed container.

Section 7: Spill and Accident Procedures
Indicate how spills or accidental release will be handled. List the location of appropriate emergency equipment. Any special requirements for protection of personal from exposure should be identified here.

- In case of eye exposure: rinse eyes for 15 minutes and then seek medical attention.
- If inhaled: remove to fresh air, seek medical attention immediately
- If absorbed: through skin, immediately flush with plenty of water, remove contaminated shoes and clothing, seek medical attention immediately
- If ingested: Do NOT induce vomiting, loosen tight clothing, and seek medical attention immediately.
- For Spills:
  Chemical spill kit is located in the laboratory. For all spills, large or small, refer to the EHS 200.002, Chemical Spill Response Procedures (See attachment for spill response procedures). For large spills and accidents, place absorbent material on the spill, evacuate, and contact University Police (568-8999) or EH&S (952-1337).

Section 8: Decontamination Procedures
Specify decontamination procedures to be used for equipment, glassware, and clothing: including equipment such as hoods, lab benches, and controlled (special "designated area") areas within the lab.

Clean areas where BrdU has been handled by adding water, followed with a soap and water wash.

Section 9: Waste disposal Procedures
Waste must be disposed in accordance with LSUHSC EHS 200.04, Chemical Waste Management Procedures.

- No waste streams containing BrdU shall be disposed of in sinks or general refuse. Biological specimens contaminated with trace amounts of BrdU maybe be disposed of as regulated medical waste.
- Label waste as "HAZARDOUS WASTE – BrdU" and the date collection began.
- To schedule a waste pick-up by EH&S, use the bob.lsuhsc.edu service request system.