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Standard Operating Procedure

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Read the EH&S Standard Operating Procedures Fact Sheet before filling out this form. Print out the completed form and keep a readily accessible hard copy in the lab (also keeping an electronic copy is highly recommended).

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Date: 03/30/2010

SOP Title: Acrylamide Gel

Principal Investigator: Room and Building: Lab Phone Number:

Section 1 – Process

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| Acrylamide Gels are often used for the size separation of proteins and nucleic acids during electrophoresis. It can be used premixed with Bis Acrylamide as a liquid or it may be weighed out as a powder to make solutions of desired concentrations. The addition of Tetramethylethylenediamine and Ammonium Persulfate cause liquid Acrylamide to polymerize. |

Section 2 – Hazardous Chemicals

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| Acrylamide, Bis-Acrylamide, Tetramethylethylenediamine, Ammonium Persulfate |

Section 3 – Potential Hazards

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| Unpolymerized powder and solutions of Acrylamide should be handled with great care. Wear a labcoat, nitrile gloves and safety goggles and use absorbent bench protectors. Avoid contact of unpolymerized acrylamide solutions with skin; skin contact can cause toxic and systemic effects. Do not inhale acrylamide powder. Avoid handling powder, purchase premixed solutions instead. If powder must be used, a dust mask must be worn. Dispose mask after use. Acrylamide is a suspected carcinogen and neurotoxin, and may cause reproductive toxic effects. Read MSDS prior to use. |

Section 4 – Approvals Required

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| By Principal Investigator |

Section 5 – Designated Area

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| None |

Section 6 – Special Handling Procedures and Storage Requirements

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| Acrylamide solutions and powder should be stored in dark containers. Acrylamide should always be handled with nitrile gloves, while wearing a labcoat and goggles while working on an absorbent bench liner. If powdered acrylamide is handled, always wear a dust mask (or work in fume hood), gloves, goggles and a labcoat. Dispose mask after use. |

Section 7 – Personal Protective Equipment

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| Nitile gloves, labcoat, goggles, absorbent bench protectors. |

Section 8 – Engineering/Ventilation Controls

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| None |

Section 9 – Spill and Accident Procedures

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| If you accidentally spill liquid on your skin, immediately wash area with water and soap, seek medical attention if irritation or concern. For liquid spills use absorbent powder from the spill kit. . Place contaminated powder into a container for disposal with EHS. Treat spill site with 1.6% potassium persulfate, then with 1.6 % sodium metabisulfite. Let stand for 30 minutes, and then wash with plenty of water. In case of a dry spill scrape material into a clean container without creating airborne dust. Treat site with 1.6% potassium persulfate, then with 1.6 % sodium metabisulfite. Let stand for 30 minutes, then Wash with plenty of water. |

Section 10 – Waste Disposal

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| Dispose both unpolymerized and polymerized acrylamide through EHS as hazardous waste.Complete a Materials Packing List (MPL) online at mpl.ehs.berkeley.edu. Call EH&S (642-3073) if you need MPL forms or have questions about the disposal of phenol waste. See the EH&S Fact Sheet “Unwanted Hazardous Chemicals” for general instructions on disposing of hazardous materials. |

Section 11 - Decontamination

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| Treat spill site with 1.6% potassium persulfate, then with 1.6 % sodium metabisulfite. Let stand for 30 minutes, and then wash with plenty of water. |

Section 12 – Process Steps

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| **Process Steps** | **Safety Measures** |
| Pouring gels for electrophoresis. | Wear nitrile gloves, a labcoat, goggles, and use absorbent bench liner. |
| Handling of polymerized gels for Western Blot Analysis. | Wear nitrile gloves. |
| Disposal of polymerized and unpolymerized acrylamide through EHS only. |  |

Training Documentation

Acrylamide

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