#1 PROCESS

Acrylamide (2-Propeneamide, vinyl amide) use in powder/dry form.

#2 DESCRIBE PROCESS, HAZARDOUS CHEMICAL OR HAZARD CLASS

Making electrophoresis gels.

#3 POTENTIAL HAZARDS

Acrylamide monomer is highly toxic by inhalation and via skin contact (can penetrate unbroken skin easily); also a suspected carcinogen and neurotoxin. The polymer is not generally considered as toxic.

Acute toxicity of acrylamide is moderate by ingestion or skin contact. Aqueous acrylamide solutions cause eye irritation.

Chronic toxicity of acrylamide is high. Repeated exposure to ~2 mg/kg per day may result in neurotoxic effects including unsteadiness, muscle weakness, and numbness in the feet (leading to paralysis of the legs), numbness in the hands, slurred speech, vertigo and fatigue.

Acrylamide may polymerize violently on strong heating or exposure to strong base. May react violently with strong oxidizers.

#4 PERSONAL PROTECTIVE EQUIPMENT

Impermeable gloves should be used when potential for skin contact exists. Disposable nitrile, neoprene, natural rubber, viton, PVC, or butyl gloves should be worn.

Safety glasses with side shields or chemical splash goggles should be worn.

A laboratory coat should be worn when working with chemicals.

#5 ENGINEERING/VENTILATION CONTROLS

Use process enclosures, local exhaust ventilation, or other engineering controls such a fume hood or weighing hood to reduce dust concentrations. Engineering controls should be used whenever feasible to maintain airborne acrylamide concentrations at the lowest achievable levels.

#6 SPECIAL HANDLING PROCEDURES AND STORAGE REQUIREMENTS

Powder easily becomes airborne and may result in personal exposure and area contamination. Use care to avoid dispersing dust. Keep container tightly closed to prevent acrylamide from subliming and entering the atmosphere. Store in cool place. Keep from contact with oxidizing materials, reducing agents, acids, bases, metal and contaminants.

#7 SPILL AND ACCIDENT PROCEDURES

In the event of skin contact, immediately wash with soap and water and remove contaminated clothing.

In the event of eye contact, promptly wash with copious amounts of water for 15 minutes (lifting upper and lower eyelids occasionally) and obtain medical attention.
In the event of ingestion, obtain medical attention immediately.

If large amounts of acrylamide dust are inhaled, move the person to fresh air and seek medical attention at once.

**Small spills:** Wear appropriate protective clothing. If potential respiratory hazard exists call the ORCBS (355-0153). Collect spills into appropriate waste container. Avoid creation of airborne dust.
- **Small liquid spill:** Absorb with broad spectrum absorbent materials and place into containers for disposal. Treat site with 1.6% potassium persulfate, then with 1.6% sodium metabisulfite. Let stand for 30 minutes, then wash with plenty of water.
- **Small dry spill:** Scrape material into clean, dry containers and cover. Treat site with 1.6% potassium persulfate, then with 1.6% sodium metabisulfite. Let stand for 30 minutes, then wash with plenty of water.

**Large spills:** Notify others in room of spill. Evacuate room/immediate area. Call the ORCBS for cleanup (355-0153). Post room with warning notifying others of spill. Prevent unnecessary entry into area until arrival of the ORCBS response team. Provide assistance and information to spill responders.

**#8 DECONTAMINATION PROCEDURES**

Periodically treat area where unpolymerized acrylamide is used with 1.6% potassium persulfate, then with 1.6% sodium metabisulfite. Let stand for 30 minutes, then wash with plenty of water.

**#9 WASTE DISPOSAL PROCEDURES**

Place in an appropriate labeled waste container. Dispose of waste through the ORCBS.

**#10 MSDS LOCATION**

Call the ORCBS (355-0153) or on the web at [http://www.orcbs.msu.edu](http://www.orcbs.msu.edu)