

**STANDARD OPERATING PROCEDURE**

**Sodium Azide**

According to the Material Safety Data Sheet (MSDS) for **Sodium Azide** special precautions must be taken when working with this chemical. Below are some of the characteristics of **Sodium Azide** followed by some recommendations in handling the chemical and finally any paperwork needed in order to use the chemical in the laboratory. This Standard Operating Procedure will be followed along with the requirements of the Chemical Hygiene Plan.

Classification: **Reproductive Toxin, Acutely Toxic and Department of Homeland Security(DHS) Chemical of Interest**

Brief description of proposed chemical work: **Sodium Azide is commonly used as a preservative of samples and is a reagent in synthetic work.** **More specifically in our lab sodium azide is used to help stabilize purified proteins in solution.**

**Brief Safety Overview:**

● The Principal Investigator is responsible for training employees using the material on site. The training should include a discussion of the known and potential hazards; an explanation of the relevant policies, techniques and procedures including the proper use of personal protective equipment, emergency/spill procedures and containment equipment (engineering controls).

● Limit access to authorized users.

● Minimize the possibility of inadvertent ingestion, inhalation and direct skin or eye contact with the substance.

● Chemical has been placed in the Chemical Inventory (EHS Assistant)

● Require annual training.

**Routes of Exposure**

Skin - **May be fatal if absorbed through skin.**

Inhalation - **May be fatal if inhaled.**

Ingestion- **May be fatal if ingested.**

Injection- **N/A**

**Toxicological Effects**

Acute Effects/ Precautionary Safety Measures: **May be fatal if inhaled, absorbed through skin or ingested.**

Chronic Effects/ Precautionary Safety Measures: **May cause liver and kidney damage. Repeated exposure may cause damage to the spleen or blood. Some mutagenic effects have been reported.**

**Handling and Storage Instructions**

Example: (Preparation of the stock solutions): **Preparation can depend upon the laboratory practices. Proper laboratory procedure must be followed and employees must be trained to handle the material.** **When using sodium azide students are required to wear a lab coat, gloves, safety goggles and work in a ventilated hood.**

Storage: **Sodium Azide reacts with heavy metals and heat to form explosive compounds. Contact with acids liberates toxic gas. Sodium Azide should not be stored above eye level. Containers must be closed and labeled.**

***Location – Engineering controls***

[x]  Ventilation (example: Fume Hood, Canopy Hoods, etc): **Fume Hood**

[x]  Designated area (specify): **Fume Hood**

***PPE required:***

[x]  Skin/Body Protection (example: Lab Coat) **Laboratory Coat**

[x]  Eye protection

[ ]  Face shield

[ ]  Respirator (example: N95):

[x]  Hand protection (example: Nitrile gloves): **Latex or Nitrile Gloves**

Cleanup/Decontamination procedures for work area after use:

**Laboratory personnel should use 70% Ethanol to decontaminate work surfaces after use.**

**Exposure Response and First Aid Measures**

Skin: **Wash skin with plenty of water and remove contaminated clothing. Seek immediate medical treatment.**

Eyes: **Flush eyes for at least 15 minutes while holding eyelids open. Remove contacts if they do not flush out. Seek immediate medical treatment.**

Inhalation: **Remove victim from the exposure area and take to fresh air immediately. Seek immediate medical treatment. Do not perform mouth-to-mouth resuscitation.**

Ingestion: **Do not induce vomiting. Seek medical immediately treatment. Do not perform mouth-to-mouth resuscitation.**

**Emergency Procedure for Chemical Spills and Accidental Releases**

**Small Spills:**

**Small spills which do not enter drains can be cleaned by trained personnel. Proper PPE must be worn when cleaning the spill. Sweep up all powder. Post the door with the chemical spill sign from the spill kit. Collect all contaminated materials in a bag labeled as “Sodium Azide waste” and contact Environmental Health and Safety for chemical pickup. Clean area with soap and water.**

**Large Spills:**

**Make sure that the fume hood is working properly for appropriate ventilation. Place some absorbent materials on top of the spill. Evacuate all personnel from the space and shut the door. Post the door with the chemical spill sign from the spill kit. Call Environmental Health and Safety Emergency Response Team and report the chemical spill.**

**Disposal Procedures**

**All unused Sodium Azide or waste must be collected and disposed of through Environmental Health and Safety. Waste must be collected in an appropriate specifically labeled, leak-proof container.**

This Standard Operating Procedure must be placed in the Chemical Hygiene Plan and the MSDS must be accessible. Also, all laboratory personnel must be familiar with safe handling practices (i.e., training with documentation of training) when working with these chemicals. This must be incorporated into the comprehensive chemical hygiene plan of the laboratory. If you have any questions regarding a comprehensive mandatory laboratory chemical hygiene plan please contact your Representative at Environmental Health and Safety (292-1284).

For any other questions or concerns, please contact:

PI contact information

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