



Standard Operating Procedure (SOP)



SODIUM AZIDE

Effective Date: 8/23/2013

Revised Date: 8/23/2013

INTRODUCTION

- This SOP applies to SODIUM AZIDE. Sodium azide is extremely toxic .

GENERAL LAB RULES

- No eating, drinking, smoking, handling contact lenses, or applying cosmetics in the laboratory.
- Persons shall wear buttoned lab coat, long pants, safety glasses or goggles and appropriate gloves when working with hazardous chemicals.
- Mouth pipetting is prohibited; mechanical pipetting devices are to be used at all times.
- All procedures are performed carefully to minimize the creation of splashes or aerosols.
- Wash hands
 - after handling chemicals materials,
 - after removing gloves, and
 - before leaving the laboratory.

POTENTIAL HAZARDS

- Shock sensitive!
- Forms toxic hydrazoic acid on contact with water or acids.
- May undergo violent decomposition at temperatures greater than 270°C.
- Sodium azide reacts with heavy metals and their salts to form heavy metal azides, which are shock-sensitive explosives. Do not store on metal shelves or use metal items to handle sodium azide (i.e., spatulas). Contact with metal shelves, containers, and utensils can result in formation of heavy metal azides and the risk of explosion.
- Sodium azide reacts violently with nitric acid, bromine, carbon disulfide, dimethylsulfate, and several heavy metals including copper and lead.
- Sodium Azide may react with lead and copper plumbing to form highly explosive metal azides.

HEALTH HAZARDS

- Sodium azide is extremely toxic (LD50 oral [rat] 27mg/kg). Ingesting a small amount can be lethal.
- Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.
- Skin:** May be fatal if absorbed through skin. May cause skin irritation.
- Eyes:** May cause eye irritation.
- Ingestion:** May be fatal if swallowed.

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PERSONAL PROTECTIVE EQUIPMENT

EYE PROTECTION

- Safety glasses, goggles or face shields shall be worn during operations in which SODIUM AZIDE might contact the eyes (e.g., through vapors or splashes of solution).
- Ordinary (street) prescription glasses do not provide adequate protection. Adequate safety glasses must meet the requirements of the Practice for Occupational Education Eye and Face Protection (ANSI Z87.1-1989) and must be equipped with side shields.

HAND PROTECTION

- Use disposable nitrile gloves when working with chemicals. Check chemical compatibility chart for breakthrough time when using
- Laboratory personnel should thoroughly wash hands with soap and water before and immediately upon removal of gloves.

LAB COATS, ETC.

- Button lab coats, closed toed shoes, long pants and long sleeved clothing shall be worn when handling SODIUM AZIDE. Protective clothing shall be worn to prevent any possibility of skin contact with SODIUM AZIDE.

WORK PRACTICES

- If hydrazoic acid or aerosols may be produced, sodium azide (and sodium azide solutions) must be handled in a chemical fume hood, exhausted biological safety cabinet with negative pressure ductwork, or other exhausted enclosure.
- If weighing dry powders and the balance cannot be located in a fume hood or BSC, tare a container then add the powdered sodium azide to the container in a hood and seal the container before returning to the balance to weigh the powder. (Do not use a metal scoop to transfer sodium azide powder!)
- Change gloves regularly (at least every two hours) and wash hands at the time of the glove change.
- Do not use a HEPA vacuum for cleaning up sodium azide – sodium azide could react with metal inside the vacuum.
- Keep containers closed as much as possible.
- Once work with sodium azide is complete, wipe down the work area with a soap and water solution.

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SPECIAL HANDLING PROCEDURES AND STORAGE REQUIREMENTS

- Do not store with incompatible material.
- Avoid formation of dust and aerosols.
- Never allow product to get in contact with water during storage.
- Do not store near acids.

Additional Lab Specific Special Handling/Storage Procedures



WASTE DISPOSAL

- Chemicals shall not be drain disposed unless prior approval is given by EH&S.
- Excess SODIUM AZIDE and all waste material containing SODIUM AZIDE must be placed in a container labeled with the following **“HAZARDOUS WASTE SODIUM AZIDE”**, AND THE FULL CHEMICAL NAME.
 Contact EHS at x3427 for hazardous waste removal.

EMERGENCY PROCEDURES

Emergency Numbers:

| | |
|-----------------------------------|---------------------------|
| Fire and Medical Emergencies | x5911 (911 on cell phone) |
| Environmental Health and Safety | x3427 |
| Hillcrest Urgent Care (employees) | 336-760-8999 |
| Student Health (students only) | x5218 |
| Poison Control | 800-222-1222 |

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|  WAKE FOREST UNIVERSITY | Standard Operating Procedure (SOP) |  | |
| SODIUM AZIDE | | | |
| Effective Date: | 8/23/2013 | Revised Date: | 8/23/2013 |
| FIRST AID | | | |
| <ol style="list-style-type: none"> 1. If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Call x5911 for medical assistance. 2. In case of skin contact: Take off contaminated clothing and shoes immediately. Wash off in safety shower for at least 15 minutes. Call x5911 for medical assistance. 3. In case of eye contact: Rinse thoroughly with plenty of water at eyewash for at least 15 minutes and call x5911 for medical assistance. 4. If swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Call x5911 for medical assistance. 5. Call x5911 and describe the extent of injuries. 6. Report all accidental exposures to EHS and Human Resources (employees) or Student Health (students). 7. Complete an online injury/illness report if there is an over-exposure to the chemical or if there is an accident involving the chemical. | | | |
| SPILL AND ACCIDENT PROCEDURES | | | |
| | SPILL QUANTITY | PROPER SPILL RESPONSE | |
| | Spill less than 500 mL | Contact Environmental Health and Safety (x3427) and clean up spill using spill kit. Avoid breathing vapors. DO NOT use metal instruments. | |
| | Spill greater than 500 mL | Do not attempt to clean up spill. Leave the area and immediately report to WFU Police (x5911) and EHS (x3427). | |