**INSTRUCTIONS: This is an SOP template; it is complete when**

**1) All form fields have been completed to reflect chemical/lab-specific information,** including adding relevant procedure information, or deleted inapplicable information; and

**2) SOP has been signed and dated by the PI and relevant lab personnel.**

Use safety data sheets (SDSs) as a resource for chemical-specific information. Text highlighted in gray indicates where information should be added or edited. Delete all instructions in red text and “Draft” watermark after the SOP is approved by PI.

Standard Operating Procedure

4-Aminopyridine

Print a copy and insert into your *Lab-Specific Chemical Hygiene Plan*.

**Section 1 – Lab-Specific Information**

**Building/Room(s) covered by this SOP:**

**Unit or department:**

**Principal Investigator Name:**

**Principal Investigator Signature/Date:**

**This SOP was created by (if not PI):**

**Name/Title/Date/Signature:**

**Section 2 – Hazards**

4-Aminopyridine is a potassium channel blocker, with secondary effect on calcium currents, which is used mainly as a research tool and to characterize channel subtypes.

It is very hazardous in case of ingestion, and hazardous in case of skin contact, eye contact, or inhalation. Material is irritating to mucous membranes and upper respiratory tract. Repeated exposure to this highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. Severe over-exposure can result in death.



**Section 3 – Engineering Controls and Personal Protective Equipment (PPE)**

**Engineering Controls:** Use of 4-aminopyridine should be conducted in a properly functioning chemical fume hood whenever possible. The chemical fume hood must be certified by EH&S.

**Hygiene Measures:** Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product.

**Hand Protection:** Two-sets of chemical-resistant gloves (e.g., nitrile) should be worn (“double-gloving”). **NOTE:** Consult with your preferred glove manufacturer to ensure that the gloves you plan on using are compatible with the specific chemical being used.

**Eye Protection:** ANSI approved properly fitting safety glasses or chemical splash goggles are required.

**Skin and Body Protection:** Laboratory coats must be worn and be appropriately sized for the individual and buttoned to their full length. Personnel must also wear full length pants, or equivalent, and close-toed shoes. Full length pants and close-toed shoes must be worn at all times by all individuals that are occupying the laboratory area. The area of skin between the shoe and ankle must not be exposed.

**Respiratory Protection:** Respirators should be used as a last line of defense (i.e., after engineering and administrative controls have been exhausted), when Permissible Exposure Limit (PEL) has been exceeded, when there is a possibility that PEL will be exceeded, or as PPE in the event of a chemical spill clean-up process. If this activity is necessary, contact EH&S at 206.543.7388 so a respiratory protection analysis can be performed.

**Section 4 – Special Handling and Storage Requirements**

* Avoid contact with skin, eyes, and clothing.
* Always use inside a properly functioning chemical fume hood.
* Keep away from sources of ignition.
* Ground all equipment containing this material.
* May be combustible at high temperatures. Products of combustion are carbon oxides and nitrogen oxides.
* When heated to decomposition, it emits toxic fumes.
* Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts.
* Keep container upright and tightly closed in storage cabinet.
* Keep away from incompatible materials: acids, strong oxidizing agents, acid chlorides, acid anhydrides.
* Use in the smallest practical quantities for the experiment being performed. Make up concentrated solutions in amounts that will be used up in the workshift/day.
* Never dispose of this material down the drain.
* Containers should remain closed when not in use.
* Do not over purchase; only a minimum amount should be stored in the laboratory.
* Long term degradation products, which are toxic, may arise. Submit collection requests for containers that are old.

**Section 5 – Spill and Accident Procedures**

If skin is exposed to 4-aminopyridine, remove contaminated clothing and shoes, rinse for 15 minutes in the safety shower and wash with soap. Send someone to call 911 as soon as possible. If eye is exposed to 4-aminopyridine, call 911 as soon as possible, remove contact lenses, and flush eyes for 15 minutes in the eye wash. If 4-aminopyridine is inhaled, remove to fresh air, loosen tight clothing, and call 911. Bring Safety Data Sheet (SDS) with you to show medical personnel.

Immediately evacuate area if fumes present a serious health risk and ensure others are aware of the spill. During normal business hours (Monday – Friday, 8 AM – 5 PM), call EH&S at 206.543.0467 for further assistance. If it is after hours, call 911 for further assistance. If possible, confine the spill to a small area using a spill kit or absorbent material. Keep others from entering contaminated area (e.g., use caution tape, barriers, etc.).

For spills < 1 Liter, use appropriate personal protective equipment listed above and clean-up material for chemical spilled. Neutralize the residue with a dilute solution of acetic acid. Use water spray to reduce vapors. Double bag and securely fasten spill materials. Label as hazardous waste.

For spills > 1 Liter, call EH&S at 206.543.0467 for further assistance during normal business hours (Monday – Friday, 8 AM – 5 PM). If it is after hours, call 911 for further assistance.

Report the spill via the EH&S Online Accident Reporting System (OARS).

**Section 6 – Waste Disposal Procedures**

Store hazardous waste in closed containers that are properly labeled, and in a designated area. Request chemical waste collection via the EH&S website.

**Section 7 – Protocol (Add lab specific Protocol/Procedure here)**

Click here to enter text.

**NOTE:** Any deviation from this SOP requires approval from PI.

**Section 8 – Documentation of Training (signature of all users is required)**

Prior to conducting any work with 4-aminopyridine, the Principal Investigator must ensure that all laboratory personnel receive training on the content of this SOP.

**I have read and understand the content of this SOP:**

| **Name** | **Signature** | **Date** |
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