Standard Operating Procedure

Asbestos (actinolite, amosite, anthyphyllite, chrysotile, Crocidolite, tremolite)

*This is an SOP template and is not complete until: 1) lab specific information is entered into the box below 2) lab specific protocol/procedure is added to the protocol/procedure section and
3) SOP has been signed and dated by the PI and relevant lab personnel.*

 Print a copy and insert into your
*Laboratory Safety Manual* and *Chemical Hygiene Plan*.
Refer to instructions for assistance.

|  |  |
| --- | --- |
| **Department:** | Click here to enter text. |
| **Date SOP was written:** | Click here to enter a date. |
| **Date SOP was approved by PI/lab supervisor:** | Click here to enter a date. |
| **Principal Investigator:** | Click here to enter text. |
| **Internal Lab Safety Coordinator/Lab Manager:** | Click here to enter text. |
| **Lab Phone:** | Click here to enter text. |
| **Office Phone:** | Click here to enter text. |
| **Emergency Contact:** | Click here to enter text. |
| *(Name and Phone Number)* |
| **Location(s) covered by this SOP:** | Click here to enter text. |
| *(Building/Room Number)* |

**Type of SOP:** ☐ Process ☒Hazardous Chemical ☐ Hazardous Class

**Purpose**

(*State the procedure the specific chemical is used for in lab/the purpose of the chemical*)

**Physical & Chemical Properties/Definition of Chemical Group**

CAS# 1332-21-4

Class: **OSHA Regulated Carcinogen**

 Carcinogen (IARC Group 1)

Molecular formula: Asbestos is the generic name for a variety of naturally formated hydrated silicates containing metal cations such as sodium, magnesium, calcium, or iron.

Form (Physical State): White, cream, brown or blue fibrous material; cream to beige or brown hard solid if present as asbestos cement

**Potential Hazards/Toxicity**

* *Acute Toxicity (inhalation)*: Pleural effusion, dyspnea, structural or functional change in trachea or bronchi, enzyme inhibition.
* *Repeated Exposure*: An increase in the incidence of pneumonitis and abnormalities detected by chest X-ray after more than 20 years of initial exposure. Potentially fatal asbestosis after more than 20 years of incubation. Mild increase in the incidence of fatal, nonmalignant or malignant respiratory diseases after 20-40 years of incubation. An increase in the incidence of chronic laryngitis.
* *Carcinogencity*: Known to cause cancer (OSHA Regulated, IARC & NTP Group 1).

**Personal Protective Equipment (PPE)**

* All persons shall wear personal protective equipment when handling asbestos. This includes wearing a lab coat, nitrile gloves, and closed toe shoes when working with asbestos. Leave lab coats, gloves, and other personal protective equipment in the lab once your work is complete to prevent the spread of this or other chemicals outside of the lab.

**Engineering Controls**

* All operations involving asbestos should be carried out in a certified chemical fume hood, glovebox, or a ducted Biosafety cabinet to keep airborne level below recommended exposure limits.
* Chemical fume hoods used as containment areas asbestos must have a face velocity of 100 feet/min, averaged over the face of the hood and must be certified annually.
* Laboratory rooms must be at negative pressure with respect to the corridors and external environment. The laboratory/room door must be kept closed at all times.
* Vacuum lines are to be protected by HEPA (high efficiency particulate air) filters or higher efficiency scrubbers.

**First Aid Procedures**

* *General Advice*: Wash off immediately with soap and plenty of water. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.
* *Inhalation*: Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.
* *Skin Contact*: Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persists, consult a physician.
* *Eye Contact*: Remove any contact lenses at once. Flush eyes well with a large amount of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists, consult a physician.
* *Ingestion*: Rinse mouth, give plenty of water to dilute the substance. Never give anything by mouth to an unconscious person. Consult a physician.

**Special Handling and Storage Requirements**

* An exposure determination for the lab’s use of asbestos must be performed prior to any work. Contact the Industrial Hygiene division of ESD at (706) 542-5801 to schedule an exposure determination before beginning work with asbestos.
* All work with asbestos is to be done in the "asbestos" designated area in order to keep contamination to a minimum. (*State the location of the designated area including the fume hood where work should be done and the storage location)*
* All chemicals containing asbestos must be secondarily contained with proper signage. Containers of asbestos and designated areas, including storage cabinets, must be labeled with a “CANCER HAZARD” warning. Any persons in this area are required to wear personal protective equipment. Safety shower and eye wash stations should be easily accessible where asbestos is used.
* All laboratory equipment (such as beakers, pipettes, etc.) used in the "asbestos" designated area are to be labeled as "asbestos contaminated" and are not to be removed from the area without first being decontaminated.

**Spill and Accident Procedure**

**Chemical Spill Dial 911**

**24-7 On-Call Response to Research, Environment, Health or Safety Concerns Dial 2-5561 from a campus phone or 706-542-5561 from a non-campus line.**

**Spill** – Follow the procedures set out in the [UGA Chemical and Laboratory Safety Manual.](http://research.uga.edu/docs/units/safety/manuals/Chemical-Laboratory-Safety-Manual.pdf)

[If there are any chemical-specific protocols for responding to a spill, insert them here or mark “none”:]

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# **Medical Emergency Dial 911**

**Life Threatening Emergency, After Hours, Weekends And Holidays** – Dial **911** or the emergency phone numbers listed at the beginning of the UGA Chemical and Laboratory Safety Manual

*Note: All incidents that result in an injury or property damage must be reported to ORS / ESD using a University Incident/Accident Report.*

**Non-Life Threatening Emergency** – Follow the instructions in the UGA Chemical and Laboratory Safety Manual.

*Note: All incidents that result in an injury or property damage must be reported to ORS / ESD using a University Incident/Accident Report.*

**Decontamination/Waste Disposal Procedure**

**For general hazardous waste disposal procedures, see Appendix H of the UGA Chemical and Laboratory Safety Manual.**

**Chemical Specific Procedures: [to be inserted or marked as “none”]**

**Safety Data Sheet (SDS) Location**

UGA personnel can access Online SDS through a link in the upper left corner of the ESD home page (<https://esd.uga.edu>) and logging in by using their UGA email user name and password.

**Protocol/Procedure**

 *(Add specific description of procedure.)*

**Note**

 Any deviation from this SOP requires written approval from PI.

**Documentation of Training** *(signature of all users is required)*

* Prior to conducting any work with asbestos, designated personnel must provide training to his/her laboratory personnel specific to the hazards involved in working with this substance, work area decontamination, and emergency procedures.
* The Principal Investigator must provide his/her laboratory personnel with a copy of this SOP and access to the SDS provided by the manufacturer.
* The Principal Investigator must ensure that his/her laboratory personnel have attended appropriate laboratory safety training or refresher training within the last 12 months.

**Principal Investigator SOP Approval**

Print name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Approval Date:

I have read and understand the content of this SOP:

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