Standard Operating Procedure

**Chloramphenicol**

*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**

Chloramphenicol is a select carcinogen. It is an antibiotic commonly used in the laboratory in agar plates and growth medium to select for the growth of bacterial strains with a gene conferring chloramphenicol resistance. Chloramphenicol is lipid soluble and remains relatively unbound to protein. Despite its benefits, chloramphenicol can also have adverse effects of aplastic anemia, bone marrow suppression, and leukemia.

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

CAS#: 56-75-7

Class: **Select Carcinogen**

Molecular Formula: C11H12Cl2N2O5

Form (physical state): crystalline

Color: light yellow

Boiling point: N/A

**Potential Hazards/Toxicity**

Chloramphenicol is a CARCINOGEN and is moderately toxic after an acute exposure.

* Chloramphenicol exposure can occur through ingestion, inhalation, skin and/or eye contact.
* Chloramphenicol is an irritant to the eyes and respiratory tract. It is only a minor irritant to skin.
* Acute exposure of the digestive tract can result in gastrointestinal irritation with nausea, vomiting and diarrhea. It may cause liver damage or hemorrhaging of the digestive tract. Exposure may also cause anemia and other blood abnormalities.

**Personal Protective Equipment (PPE)**

**Respiratory Protection**

A ½ or full face respirator equipped with appropriate cartridges should be used any time there is the potential for exposure to vapor and/or dust and a fume hood cannot be used.

Respirators should be used only under any of the following circumstances:

* As a last line of defense (i.e., after engineering and administrative controls have been exhausted).
* When Permissible Exposure Limit (PEL) has exceeded or when there is a possibility that PEL will be exceeded.
* Regulations require the use of a respirator.
* An employer requires the use of a respirator.
* There is potential for harmful exposure due to an atmospheric contaminant (in the absence of PEL)
* As PPE in the event of a chemical spill clean-up process

Lab personnel intending to use/wear a respirator mask must be trained and fit-tested by EH&S. This is a regulatory requirement. (<http://map.ais.ucla.edu/go/1004655>)

**Hand Protection**

Handle with nitrile or chloroprene gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

NOTE: Consult with your preferred glove manufacturer to ensure that the gloves you plan on using are compatible with chloramphenicol.

Refer to glove selection chart from the links below:

<http://www.ansellpro.com/download/Ansell_8thEditionChemicalResistanceGuide.pdf>

OR

<http://www.allsafetyproducts.biz/page/74172>

OR

<http://www.showabestglove.com/site/default.aspx>

OR

<http://www.mapaglove.com/>

**Eye Protection**

ANSI approved glasses or goggles.

**Skin and Body Protection**

Lab coats should be worn. These laboratory coats must be appropriately sized for the individual and be buttoned to their full length. Laboratory coat sleeves must be of a sufficient length to prevent skin exposure while wearing gloves. 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 should not be exposed.

**Hygiene Measures**

Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse.

**Engineering Controls**

Work with this chemical in a certified ducted fume hood. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**First Aid Procedures**

**If inhaled**

If chloramphenicol dust is inhaled, move the victim to a source of fresh air. If the victim is not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**In case of skin contact**

Immediately wash the affected area with soap and copious amounts of water for 15 minutes and consult a physician.

**In case of eye contact**

Immediately flush eyes with copious amounts of water for at least 15 minutes, preferably in an emergency eyewash and consult a physician.

**If swallowed**

Call a physician immediately. Do not induce vomiting without medical advice. Drink 1 or 2 glasses of water.

**Special Handling and Storage Requirements**

**Conditions for safe storage:** Store in secondary containment with carcinogen label on the primary container, secondary containment and the storage location. Keep containers tightly closed in a dry, cool, and well-ventilated place.

**Spill and Accident Procedure**

**Chemical Spill Dial 911 and x59797**

**Spill** – Assess the extent of danger. Help contaminated or injured persons. Evacuate the spill area. Avoid breathing vapors. 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.).

**Small (<1 L)** – If you have training, you may assist in the clean-up effort. Use appropriate personal protective equipment and clean-up material for chemical spilled. Double bag spill waste in clear plastic bags, label and take to the next chemical waste pick-up.

**Large (>1 L)** – Dial **911** (or 310-825-1491 from cell phone) and EH&S at x59797 for assistance.

**Chemical Spill on Body or Clothes** – Remove clothing and rinse body thoroughly in emergency shower for at least 15 minutes. Seek medical attention. *Notify supervisor and EH&S at x59797 immediately.*

**Chemical Splash Into Eyes** – Immediately rinse eyeball and inner surface of eyelid with water from the emergency eyewash station for 15 minutes by forcibly holding the eye open. Seek medical attention. *Notify supervisor and EH&S at x59797 immediately.*

# **Medical Emergency Dial 911 or x52111**

**Life Threatening Emergency, After Hours, Weekends And Holidays** – Dial **911** (or 310-825-1491 from cell phone) or contact the Ronald Reagan UCLA Medical Center (emergency room) directly at **x52111** (located at 757 Westwood Plaza, enter from Gayley Avenue). *Note: All serious injuries must be reported to EH&S at* ***x59797*** *within 8 hours.*

**Non-Life Threatening Emergency** – Go to the Occupational Health Facility (OHF), **x56771,** CHS room 67-120(This is on the 6th floor, 7th corridor, room 120. Enter through the School of Dentistry on Tiverton Drive and proceed to the “O” elevator to the 6th floor.)Hours: M - F, 7:30 a.m. to 4:30 p.m. At all other times report to Ronald Regan UCLA Medical Center (emergency room) at **x52111**. *Note: All serious injuries must be reported to EH&S at x59797 within 8 hours.*

**Needle stick/puncture** **exposure** (as applicable to chemical handling procedure) – Wash the affected area with antiseptic soap and warm water for 15 minutes. For mucous membrane exposure, flush the affected area for 15 minutes using an eyewash station. Page the needle stick nurse by dialing **231** from a campus phone, enter **93333** when prompted and then enter your extension. Hours: M – F, 8:00 a.m. to 4:00 p.m. At all other times report to Ronald Regan UCLA Medical Center (emergency room) at **x52111**. *Note: All needle stick/puncture exposures must be reported to EH&S at x59797 within 8 hours.*

**Decontamination/Waste Disposal Procedure**

Wearing proper PPE, decontaminate equipment and bench tops using soap and water. Dispose of the used chloramphenicol and disposables contaminated with chloramphenicol as hazardous waste.

**Label Waste**

* Affix an on-line hazardous waste tag on all waste containers using the Online Tag Program <http://otp.ucop.edu/> as soon as the first drop of waste is added to the container

**Store Waste**

* Store hazardous waste in closed containers, in secondary containment and in a designated location
* Double-bag dry waste using transparent bags <http://map.ais.ucla.edu/go/1002774>
* Waste must be under the control of the person generating & disposing of it

**Dispose of Waste**

* Dispose of regularly generated chemical waste within 90 days
* Call EH&S at x61887 for questions
* Empty Containers
* Dispose as hazardous waste if it once held extremely hazardous waste (irrespective of the container size) <http://ehs.ucla.edu/Pub/ExtremelyHazardousWaste.pdf>
* Consult waste pick-up schedule <http://ehs.ucla.edu/pub/HazWaste%20Pickup%20Schedule.pdf>

Prepare for transport to pick-up location

* Check on-line waste tag
* Write date of pick-up on the waste tag
* Use secondary containment

**Safety Data Sheet (SDS) Location**

Online SDS can be accessed at [http://msds.ehs.ucla.edu](http://msds.ehs.ucla.edu/).

**Protocol/Procedure (Add lab specific Protocol/Procedure here)**

Click here to enter text.

**NOTE**

Any deviation from this SOP requires approval from PI.

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

* Prior to conducting any work with chloramphenicol, 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 a copy of 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 one year.

**Principal Investigator SOP Approval**

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

Approval Date:

I have read and understand the content of this SOP:

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| --- | --- | --- |
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