

CHEMICAL SAFETY

Standard Operating Procedure (SOP)

<i>Title:</i>	Hydroquinone	<i>WFUHS</i>
<i>Approved by:</i>	<i>Effective Date: November 28, 2007</i>	<i>SOP#</i>
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PURPOSE

The purpose is to act as a developer in stains and/or in skin lightening in research.

SCOPE

The scope of hydroquinone is to use in a laboratory environment.

HEALTH, SAFETY, ENVIRONMENTAL INFORMATION

Physical Hazards

Appearance: colorless, light tan, or light gray crystals.

Warning! Harmful if swallowed. May cause allergic skin reaction. Causes eye and skin irritation. May cause respiratory tract irritation. Air sensitive. May cause methemoglobinemia. Light sensitive. May cause dermatitis. This substance has caused adverse reproductive and fetal effects in animals.

Target Organs: Central nervous system, eyes, skin.

Health Hazards

Eye: May cause eye irritation. Repeated exposure may cause corneal abnormalities including structural changes and brownish discoloration which can lead to decreased visual acuity and blindness.

Skin: Causes severe skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause dermatitis. Repeated exposure may cause hyperpigmentation of fair skin and depigmentation of dark skin.

Ingestion: May cause severe irritation of the digestive tract. May be harmful if swallowed. May cause dizziness, nausea, sense of suffocation, increased respiratory rate, vomiting, pallor, muscle twitching, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), delirium, collapse. May cause green or brownish green urine which continues to darken upon standing. May cause harmful nervous system effects, including tremors and convulsions.

Inhalation: Inhalation of dust may cause respiratory tract irritation. Pure hydroquinone does not readily form a vapor at room temperature. The dust may cause irritation of the nose, throat and upper respiratory tract. In the presence of air and moisture, hydroquinone dust may react to form irritating quinone which forms a vapor at room temperature. The rate of this reaction depends on the pH of the medium, with alkaline solutions reacting more readily. Therefore, exposures to hydroquinone dust may involve exposure to quinone vapor which is a respiratory irritant. The degree of irritation depends on how much quinone is formed.

Chronic: Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration.

Personal Protective Equipment

- **Eye Protection**
 - Safety glasses, goggles or face shields shall be worn during operations in which chloramphenicol crystalline 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.
- Contact lenses shall not be worn if the potential exist for chloramphenicol crystalline exposure.
- **Hand Protection**
 - Nitrile gloves impervious to chloramphenicol crystalline shall always be worn – Safeskin Purple Nitrile Xtra Exam Gloves, 12 inches long, catalog # 19-149-864 (Fisher Scientific).
- **Lab Coats, etc.**
 - Lab coat, closed-toe shoes and long-sleeved clothing shall be worn when handling chloramphenicol crystalline. Protective clothing shall be worn to prevent any possibility of skin contact with chloramphenicol crystalline.
- **Safety Shower / Eye Wash**
 - Where the eyes or body of any person may be exposed to chloramphenicol crystalline, suitable facilities for quick drench or flushing of the eyes and body shall be provided within the work area for immediate emergency use.
 - Bottle type eyewash stations are not acceptable.

Designated Area for Use and Containment Devices

All hydroquinone work shall be done in the laboratory fume hood.

The fume hood's sash must be in the position where a face velocity of 100 feet per minute is achieved.

Waste Disposal

Full containers of hydroquinone must be disposed of according to WFUHS EH&S Hazardous Waste Program.

Decontamination of Equipment and Area

Contact WFUHS EH&S at 716-1201 for decontamination information.

Spill and Accident Procedures

In the event of a liquid spill greater than 300cc, immediately vacate and secure the area. Contact WFUBMC Security at 716-9111.