

CHEMICAL SAFETY

Standard Operating Procedure (SOP)

<i>Title:</i>	Cobalt Chloride Hexahydrate	<i>WFUHS</i>
<i>Approved by:</i>	<i>Effective Date:</i> November 26, 2007	<i>SOP#</i>
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PURPOSE

The purpose is to use cobalt chloride hexahydrate, a water indicator and precursor for synthesis of other cobalt compounds, in a safe manner.

SCOPE

The scope of cobalt chloride hexahydrate is in a laboratory environment.

HEALTH, SAFETY, ENVIRONMENTAL INFORMATION

Physical Hazards

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Moisture

Incompatibilities with Other Materials: Oxidizing agents, Alkali metals.

Hazardous Decomposition Products: Hydrogen chloride gas

Hazardous Polymerization: Has not been reported.

Health Hazards

Eye: Causes burns.

Skin: Causes burns. May be harmful if absorbed through the skin.

Ingestion: Harmful if swallowed.

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Chronic: Target organ: thyroid. Probable carcinogen.

Signs and Symptoms of Exposure

Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Personal Protective Equipment

- **Eye Protection**
 - Safety glasses, goggles or face shields shall be worn during operations in which cobalt chloride hexahydrate might contact the eyes.
 - 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 cobalt chloride hexahydrate exposure.
- **Hand Protection**
 - Nitrile gloves impervious to cobalt chloride hexahydrate 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 cobalt chloride hexahydrate. Protective clothing shall be worn

to prevent any possibility of skin contact with cobalt chloride hexahydrate.

- **Safety Shower / Eye Wash**
 - Where the eyes or body of any person may be exposed to cobalt chloride hexahydrate, 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.
- **Personal Hygiene**
 - Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of the day.
 - Wash contaminated clothing before reuse.
 - Discard contaminated shoes.

Designated Area for Use and Containment Devices

All cobalt chloride hexahydrate 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 cobalt chloride hexahydrate 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.