

Standard Operating Procedure (SOP)



CHLOROFORM

Effective Date: 8/23/2013

Revised Date: 10/6/2022

Introduction

- This SOP applies to CHLOROFORM. Chloroform is a probable human carcinogen and possible reproductive and developmental toxin. Target organs are: Central nervous system, Blood, Liver, Cardiovascular system, Kidney.

POTENTIAL HAZARDS

- Exposure to fire or high temperatures may release Phosgene, a highly toxic gas.
- Inhalation of vapors may cause headaches, drowsiness, dizziness and / or nausea.
- Eye and skin irritant.

Health Hazards

HEALTH HAZARD INFORMATION


Signal word: **Warning**
Hazard statement(s):

- H302** Harmful if swallowed.

- H315** Causes skin irritation.

- H320** Causes eye irritation.

- H351** Suspected of causing cancer.

- H373** May cause damage to organs through prolonged or repeated exposure.

Personal Protective Equipment

EYE PROTECTION

- Safety glasses, goggles or face shields shall be worn during operations in which CHLOROFORM 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.

HAND PROTECTION

- **Chloroform readily penetrates standard nitrile laboratory gloves (and many other types of gloves).**
- Wear two pairs of standard nitrile gloves and work so that gloves do not contact chloroform.
- Remove outer gloves immediately if splashed. Remove inner gloves also if degradation is noted.

Standard Operating Procedure (SOP)



CHLOROFORM

Effective Date: 8/23/2013

Revised Date: 10/6/2022

LAB COATS, ETC.

- Button lab coats, closed toed shoes, long pants and long sleeved clothing shall be worn when handling CHLOROFORM. Protective clothing shall be worn to prevent any possibility of skin contact with CHLOROFORM.

Work Practices

- Perform all work using Chloroform in the fume hood.
- Wear two pairs of standard nitrile gloves and work so that gloves do not contact chloroform.
- Remove outer gloves immediately if splashed. Remove inner gloves also if degradation is noted.
- Plan work so that minimal glove contact is expected, and purchase appropriate gloves for cleaning up small spills.
- **If phenol and chloroform will be used together**, please note that phenol is a severe skin hazard and chloroform's easy penetration of nitrile gloves increases the risk of skin contact. Wear doubled **8-mil thick** nitrile gloves (most lab gloves are 4 mils thick), and change gloves immediately if there is a splash.
- If extensive work with phenol and chloroform is done in the lab, use North Silver Shield/4H gloves or reusable [ChemTek Viton/Butyl glove](#) which provides good protection from both of these chemicals.

Special Handling Procedures and Storage Requirements

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



X — Must not be stored together

O — May be stored together with specific precautions

+ — May be stored together

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.



Standard Operating Procedure (SOP)



CHLOROFORM

Effective Date: 8/23/2013

Revised Date: 10/6/2022

Waste Disposal

- Chemicals shall not be drain disposed unless prior approval is given by EH&S.
- Excess CHLOROFORM and all waste material containing CHLOROFORM must be placed in a container labeled with the following **“HAZARDOUS WASTE CHLOROFORM”**, AND THE FULL CHEMICAL NAME.
Contact EHS at x3427 for hazardous waste removal.

Emergency Numbers

Emergency Numbers:

Fire and Medical Emergencies	x5911 (911 on cell phone)
Environmental Health and Safety	x3427
FastMed Urgent Care (employees)	(336) 714-4616
Student Health (students only)	x5218
Poison Control	800-222-1222

First Aid

INGESTION

- ▶ Avoid giving milk or oils.
- ▶ Avoid giving alcohol.
- ▶ **If swallowed do NOT induce vomiting.**
- ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- ▶ Observe the patient carefully.
- ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- ▶ Seek medical advice.



WAKE FOREST
UNIVERSITY

Standard Operating Procedure (SOP)



CHLOROFORM

Effective Date: 8/23/2013

Revised Date: 10/6/2022

EYE CONTACT

If this product comes in contact with the eyes:

- ▶ Wash out immediately with fresh running water.
- ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.
- ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN CONTACT

If skin contact occurs:

- ▶ Immediately remove all contaminated clothing, including footwear.
- ▶ Flush skin and hair with running water (and soap if available).
- ▶ Seek medical attention in event of irritation.

INHALATION

- ▶ If fumes or combustion products are inhaled remove from contaminated area.
- ▶ Lay patient down. Keep warm and rested.
- ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- ▶ Transport to hospital, or doctor.

Spill and Accident Procedure

MINOR SPILLS

- ▶ Clean up all spills immediately.
- ▶ Avoid breathing vapours and contact with skin and eyes.
- ▶ Control personal contact with the substance, by using protective equipment.
- ▶ Contain and absorb spill with sand, earth, inert material or vermiculite.
- ▶ Wipe up.
- ▶ Place in a suitable, labelled container for waste disposal.