Standard Operating Procedure: Isobutyl chloroformate

According to the Safety Data Sheet (SDS) for Isobutyl chloroformate special precautions must be taken when working with this chemical. Below are some of the characteristics of Isobutyl chloroformate followed by handling and storage requirements necessary to use the chemical in the laboratory. Include this information in the laboratory Chemical Hygiene Plan.

Chemical Classifications:

CAS:	543-27-1
Class:	Flammable liquids, Acute toxicity (Oral/Inhalation, Dermal),
Molecular Formula:	C5H9ClO2
Form (physical state):	Liquid
Color:	transparent
Boiling Point:	128.8C

Brief Safety Overview:

- ☐ Hazard Classification:
  - Flammable liquid and vapour
  - Acute toxicity, Oral/Inhalation/Dermal
  - Specific target organ toxicity
  - Acute aquatic toxicity
  - Causes severe skin burns and eye damage
- ☐ The Principal Investigator is responsible for training employees using the material. The training should include a discussion of the known and potential hazards and an explanation of the relevant policies, techniques and procedures including the proper use of personal protective equipment and containment equipment (engineering controls). Employees should be trained initially and then annually thereafter. Their knowledge, competence and practices should be evaluated and documented.
- ☐ Limit access to authorized users.
- ☐ Transportation of the chemical within the facility should be performed using a sealed, non-breakable secondary container.

(continued)

Minimum Protective Clothing:

- Lab coat
- Safety glasses (ANSI approved) or chemical splash goggles, Face shield
- 4 mil nitrile gloves (single-use disposable for dexterity)

Minimum Protective Equipment:

- Properly functioning Fumehood or glovebox required.
- Double needle or cannula (optional depending on volume handled)

Handling Instructions

Training and Work Practices

- Avoid contact with skin and eyes.
- Avoid formation of dust and aerosols.
- Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.
- Provide appropriate exhaust ventilation at places where dust is formed.

Storage

- Keep container tightly closed in a dry and well-ventilated place.
- Dispose contents/ container to an approved waste disposal plant

Waste disposal:

- Contact Office of Research Safety by emailing labsafety@uthsc.edu for pickup.

Emergency Procedures

Spills or fires

- Use water spray, alcohol resistant foam, dry chemical or carbon dioxide
- If this happens, secure all reaction containers and stop work. Report all fires to Research Safety and the Principle Investigator. Consult with the Principle Investigator to identify causes and solutions.
- Advice for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.
- ***Call Safety Affairs @ 8-6114 (if there is no answer, call UT Police @ 8-4444.)*** *(Provide your name, phone number, location, and amount of material spilled)*

Exposure Response

- Skin: Take of contaminated clothing and shoes immediately, wash off with soap and plenty of water, take victim immediately to hospital and consult a physician
- Eyes: Rinse under water for 15 minutes then seek medical treatment.. Continue rinsing eyes during transport to hospital.
- Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

- Ingestion: **DO NOT INDUCE VOMITING.** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Technical Notes:

- Stable under normal temperatures and pressures.
- Incompatibilities with carbon oxides, hydrogen chloride gas