

Laboratory Safety Notes

SAFETY: LABORATORY RULES

It is important that you adopt safe working practices, both for your own benefit and for those working close to you.

There are five general rules in the laboratories:

1. You are expected to wear a lab coat, gloves and safety glasses at all times during experimentation unless directed specifically in the practical instructions not to wear gloves. Gloves must also be removed when you are writing up your experiment or using your calculator etc. or leaving the lab.
2. Long hair must be tied back.
3. Closed shoes must be worn and legs must be covered up. Open-toed shoes, sandals and flip-flops are not permitted, even when the weather is hot.
4. It is not permitted to use mobile phones or other technical equipment in the laboratory. They must be switched off and put away before you enter the lab.
5. You must dispose of broken glassware and glass pipettes in the glass bins provided. They must not be placed under any circumstances in the normal bins. Due to several incidents in previous years, which have caused injury to cleaners emptying bins and resulted in hospital visits, this is now one of the laboratory rules and is treated extremely seriously.

SAFETY: COSHH (Control of Substances Hazardous to Health) Regulations

The COSHH regulations require that all substances and procedures, which may be hazardous to health, be identified and that a safe handling protocol be described. It is imperative that you comply with the COSHH regulations by adhering carefully to the safety notes and procedures identified within your Laboratory Manual and Experimental Information.

A Chemical Hazard Assessment is provided with the experiment. This identifies, as far as possible, the HAZARDS (the potential to cause harm) associated with each compound

being used and describes the control measures that should be put in place to minimise the RISK (the likelihood of causing harm) to health by their use in the laboratory. This should be read and signed by you before you commence laboratory work. It should then be handed in to your Demonstrator.

IF YOU ARE EVER IN DOUBT ABOUT THE SAFETY OF A PROCEDURE OR THE MEANING OF THE TERMS USED IN THE CHEMICAL HAZARD ASSESSMENT, CONSULT YOUR DEMONSTRATOR!

Handling Chemicals in the Laboratory

Never allow any compound to come into contact with your skin or eyes; do not inhale the dust from a solid or spray from a liquid. In case of skin contact wash the affected area with plenty of soap and water. Disposable nitrile gloves are available to protect your hands. Gloves must be removed before leaving the laboratory.

Removal of chemicals

Under no circumstances should any chemical or product be removed from the laboratory.

Accidents

Please report all accidents immediately to your demonstrator. If you need treatment of any kind, find a technician immediately. There are safety sprays in each lab next to the main sink.

Eye injuries

Always beware of rubbing your eyes with dirty hands or contaminated gloves; when holding a reaction vessel, always remember to point the opening away from yourself and others in the vicinity and take care when using acetone wash bottles. ALL eye injuries require flushing out with eyewash immediately followed by treatment at Addenbrooke's Hospital. Eye-wash stations are located by the hand washing sinks at the front and back of each lab.

FIRE

In the event of a fire alarm, you need to be aware that the fire alarm system in this building is a voice system. If you hear the message: 'Prepare to evacuate': this is exactly what it means. Make sure that you are ready to leave the building but do not leave at that moment. 'Evacuate the building via the nearest safe exit': you do need to leave the building immediately and gather outside the Scott Polar Building. The closest exit will

depend upon where you are situated in the laboratory: there is an exit through the stairs at the back of the laboratory and you can also leave the laboratory (and therefore the building) through the main front entrance to the lab.

DO NOT STOP TO COLLECT PERSONAL BELONGINGS

DO NOT RE-ENTER THE BUILDING UNTIL TOLD TO DO SO

Acetonitrile

Hazard

Highly flammable liquid and vapour
Harmful if swallowed, in contact with skin or if inhaled
Causes serious eye irritation

Wear protective gloves/protective clothing/eye protection/face protection

Description of first aid measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion: Do NOT induce vomiting. Call a physician or poison control centre immediately.

Inhalation: Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Firefighting measures

Water spray. CO₂, dry chemical, dry sand, alcohol-resistant foam.

Acetyl salicylic acid

Hazard

Harmful if swallowed.

Description of first aid measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact:

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion: Clean mouth with water and afterwards drink plenty of water. Get medical attention if symptoms occur.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Benzaldehyde

Hazard

Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
Harmful to aquatic life with long lasting effects
Harmful if swallowed or if inhaled
Combustible liquid

Wear protective gloves/protective clothing/eye protection/face protection

Description of first aid measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion: Clean mouth with water and afterwards drink plenty of water.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Firefighting measures

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

Benzoic acid

Hazard

Causes skin irritation
Causes serious eye damage
Causes damage to organs through prolonged or repeated exposure if inhaled

Wear protective gloves/protective clothing/eye protection/face protection

Description of first aid measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.

Ingestion: Do NOT induce vomiting. Get medical attention.

Inhalation: Remove from exposure, lie down. Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ethanol

Hazard

Highly flammable liquid and vapour
Causes serious eye irritation
May cause damage to organs
Harmful if swallowed or if inhaled

Wear protective gloves/protective clothing/eye protection/face protection

Description of first aid measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion: Clean mouth with water and afterwards drink plenty of water.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Firefighting measures

Water spray. Carbon dioxide (CO₂). Dry chemical. Chemical foam.

Ethyl Benzoate

Hazard

Combustible liquid.

Wear protective gloves/protective clothing/eye protection/face protection

Description of first aid measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion: Clean mouth with water and afterwards drink plenty of water.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Firefighting measures

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

2-Propanol

Hazard

Highly flammable liquid and vapour

Causes serious eye irritation

May cause drowsiness or dizziness

Wear protective gloves/protective clothing/eye protection/face protection.

Description of first aid measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Ingestion: Do NOT induce vomiting. Get medical attention.

Inhalation: Remove to fresh air. Get medical attention. If not breathing, give artificial respiration

Firefighting measures

CO₂ , dry chemical, dry sand, alcohol-resistant foam.

Propanone

Hazard

Highly flammable liquid and vapour

Causes serious eye irritation

May cause drowsiness or dizziness

Repeated exposure may cause skin dryness or cracking

Wear protective gloves/protective clothing/eye protection/face protection

Description of first aid measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion: Clean mouth with water and afterwards drink plenty of water.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Firefighting measures

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

Propionamide

Hazard

Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
Harmful to aquatic life with long lasting effects
Harmful if swallowed or if inhaled
Combustible liquid

Wear protective gloves/protective clothing/eye protection/face protection

Description of first aid measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion: Clean mouth with water and afterwards drink plenty of water.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Firefighting measures

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

Name of student.....	Name of demonstrator.....
Signature of student.....	Signature of demonstrator.....
Date.....	Date.....