First Aid Treatment for Burns Guideline

Section 1 - Purpose and Scope

(1) Staff, students, visitors and volunteers at The University of Queensland (UQ) undertake activities that have the potential to result in burn injuries from exposure to hazardous chemicals, and extreme cold or heat sources. This Guideline is to assist in the first aid management and treatment of chemical and thermal burns.

Section 2 - Immediate Response

(2) For serious burn injuries requiring an emergency response, contact UQ Security on (07) 3365 3333 as soon as practicable after the incident has occurred in addition to applying first aid treatment to the injured person.

Section 3 - General First Aid Procedure for Burns

(3) The following first aid procedure applies to most burns including chemical burns:

a. Cool burnt area under cold running water for twenty minutes (approximately 15°C).
b. Cover burn with a sterile non-adherent dressing. If not available, use plastic wrap or a clean wet cloth – do not wrap circumferentially.
c. Do not apply ice, lotion or creams to any burn.

(4) Once first aid has been applied, seek medical advice for:

a. any chemical burn and take the chemical safety data sheet (SDS) with you;
b. any full skin thickness burn;
c. any electrical burn;
d. any burn affecting airway, hands, face, eyes or genitals; or
e. any burn greater in size than a 20 cent piece.

Section 4 - First Aid Procedure for Specific Types of Burns

Cold Thermal Burns

(5) The following first aid procedure applies to cold thermal burns:

a. Warm affected area in lukewarm water. Do not use hot water or radiant heat sources.
b. Apply a sterile non-adherent dressing (if not available, use plastic wrap or a clean wet cloth).

(6) Once first aid has been applied, seek medical advice if the injury is a full skin thickness burn or for any burn affecting airway, hands, face, eyes or genitals, or any burn greater in size than a 20 cent piece.

This document may be varied, withdrawn or replaced at any time. Printed copies, or part thereof, are regarded as uncontrolled and should not be relied upon as the current version. It is the responsibility of the individual reading this document to refer to The University of Queensland's Policy and Procedure Library for the latest version.

Phenol Spills on Skin

(7) The following first aid procedure applies to phenol spills on skin:

a. Remove contaminated clothing and begin decontamination as soon as possible.
b. Mop affected skin with polyethylene glycol (PEG) 300 or 400 (which can be diluted to 50% for easier application) to remove dermal contamination.
c. If PEG 300 or 400 is not readily available, PEG/methylated spirit mixture, glycerol, methylated spirit, olive oil or vegetable oil can also be used.
d. Do not use mineral oil such as liquid paraffin. Mineral oils are unsuitable as they do not have both lipid and water-soluble groups present in their structure and will not be effective in removing phenol from the skin.
e. After decontamination, skin should be gently washed with soap and water for 20 minutes.
f. If no suitable decontamination substance is available, skin should be irrigated using a high density shower and the skin washed with soap and water until a suitable decontamination agent is sourced or until medical assistance arrives.

(8) Staff are required to call UQ Security and seek urgent medical assistance as soon as practicable after an incident. A copy of the SDS for phenol should accompany the casualty.

Phenol Eye Exposure

(9) The following first aid procedure applies to phenol eye exposure:

a. If the injured person is wearing contact lenses, assist the injured person by removing contact lenses (ensure all hands assisting removal are not contaminated with phenol). Refer to the Eye Protection Guideline for further guidance on wearing contact lenses in laboratory environments.
b. Immediately hold eyelids apart and flush eyes continuously with copious amounts of cool flowing water for at least 20 minutes.
c. Ensure complete irrigation of the eye by keeping eyelids apart and moving the eyelids by occasionally lifting the upper and lower lids.
d. Call UQ Security and seek urgent medical assistance. A copy of the SDS for phenol should accompany casualty.

Hydrofluoric Acid Spills on Skin

(10) The following first aid procedure applies to hydrofluoric acid spills on skin:

a. Remove contaminated clothing as soon as possible. Any clothing that has to be pulled over the head should be cut off.
b. Irrigate contaminated areas with copious volumes of water for at least one minute.
c. Immediately apply calcium gluconate gel (2.5%) on and around the burn. Continue applying to the burned skin for a minimum of 30 minutes and for as long as the pain persists.
d. For burns to the hand, place the gel in a latex glove and put this on the affected hand. Or cover the area with a gel soaked dressing and lightly bandage.
e. Call UQ Security and seek urgent medical assistance, send calcium gluconate gel with injured person, repeat application during transit to medical assistance as necessary.
f. A copy of the SDS for hydrofluoric acid should accompany the casualty.

Hydrofluoric Acid Eye Exposure

(11) The following first aid procedure applies to hydrofluoric acid eye exposure:

This document may be varied, withdrawn or replaced at any time. Printed copies, or part thereof, are regarded as uncontrolled and should not be relied upon as the current version. It is the responsibility of the individual reading this document to refer to The University of Queensland's Policy and Procedure Library for the latest version.

a. If the injured person is wearing contact lenses, assist the person by removing contact lenses (ensure all hands assisting removal are not contaminated). Refer to the Eye Protection Guideline for further guidance on wearing contact lenses in laboratory environments.
b. Immediately flush the affected eye thoroughly for at least 30 minutes with water whilst eyelids held apart.
c. Do NOT apply calcium gluconate gel to eyes.
d. Call UQ Security and seek urgent medical assistance, continue flushing eye during transport to hospital if possible.
e. A copy of the SDS for hydrofluoric acid should accompany the injured person.

Section 5 - Appendix

Descriptions

Term	Description
Cold thermal burns	Cryogens are substances which produce very low temperatures and are often used in laboratory settings at UQ. Cryogens such as liquid nitrogen can rapidly freeze human tissue resulting in a cold 'burn' injury on contact with exposed skin. If clothing becomes saturated with a cryogenic liquid, there is a high risk of frostbite to the skin underneath the clothing. It is therefore important to ensure appropriate personal protective equipment (PPE) is used when handling cryogenic substances to enable the quick removal of PPE if a spill occurs.
Phenol	Exposure to phenol by any route can cause systemic poisoning and can be life threatening. Symptoms of acute phenol poisoning may include nausea, vomiting, diarrhoea, blood dyscrasias, profuse sweating, hypotension, heart arrhythmias, breathing difficulties and central nervous system effects such as the development of seizures and coma. Symptoms may be delayed for up to 18 hours after exposure. Staff are required to wear protective clothing and gloves while applying first aid to someone whose skin is contaminated with phenol. Phenol is mildly acidic but causes chemical burns through its ability to denature protein. Although phenol is moderately soluble in water, it is readily absorbed into the skin and binds to skin lipids making removal with water a protracted process. Refer to the Working Safely with Phenol Guideline for further guidance.
Hydrofluoric acid	Hydrofluoric acid is extremely corrosive. Burns can be penetrating and very painful. Absorption of the chemical can lead to life threatening systemic toxicity. Treatment is designed to neutralise the fluoride ions and prevent metabolic poisoning. Refer to Working Safely with Hydrofluoric Acid Guideline for further guidance.

Contacts for Further Information

(12) Occupational Health Nurse Advisor – ohna@uq.edu.au or hsw@uq.edu.au

(13) Occupational Hygiene Advisors – hsw@uq.edu.au

This document may be varied, withdrawn or replaced at any time. Printed copies, or part thereof, are regarded as uncontrolled and should not be relied upon as the current version. It is the responsibility of the individual reading this document to refer to The University of Queensland's Policy and Procedure Library for the latest version.

Status and Details

Status	Current
Effective Date	28th January 2021
Review Date	28th January 2024
Approval Authority	Director, Health Safety and Wellness
Approval Date	28th January 2021
Expiry Date	Not Applicable
Policy Owner	Lucy Beikoff Director, Health, Safety and Wellness
Enquiries Contact	Health, Safety and Wellness Division

This document may be varied, withdrawn or replaced at any time. Printed copies, or part thereof, are regarded as uncontrolled and should not be relied upon as the current version. It is the responsibility of the individual reading this document to refer to The University of Queensland's Policy and Procedure Library for the latest version.