Chemical Spill and Response Procedure

Section 1 - Purpose and Scope

(1) This Procedure outlines the requirements at The University of Queensland (UQ) for managing a chemical spill in the workplace and provides information about the hazards and precautions to reduce the risk of harm to people and any potential damage to the environment. This Procedure differs from biological spill procedures referred to in UQ's biosafety procedures. UQ's legislative obligations for managing chemical spills are provided under the Work Health and Safety Regulation 2011 (the Regulation).

(2) This Procedure applies to all areas on all UQ campuses and sites, including controlled entities who use, transport and store chemicals. It also applies to UQ workers in these areas who may be required to manage chemical movements and incidents resulting in a chemical spill. For the purposes of this Procedure, the definition of UQ workers is broad and is intended to ensure UQ meets its responsibilities under the Regulation. The definition of UQ workers is provided in the Section 7 Appendix. The Chemical Spill and Response Guideline supports this Procedure.

Section 2 - Process and Key Controls

(3) The following requirements apply to all areas when managing chemical spills at UQ:

a. A risk assessment, as a minimum, must be developed for the use, storage, transport and disposal of chemicals.
b. UQ workers using, storing and transporting chemicals must always refer to the Safety Data Sheet (SDS).
c. All areas handling, transporting, storing or disposing of chemicals must have a spill response plan that includes appropriate strategy and procedures to adequately contain and clean up chemical spills. A spill response plan must be included in the area emergency planning.
d. UQ workers in areas handling, transporting, storing or disposing chemicals must be trained in this Procedure and any local safe operating procedure for chemical spill where the chemical is being used, stored or transported.
e. Controls must be in place to minimise the environmental effects of a chemical spill.
f. When there is a major spill of a very toxic chemical or a fire hazard is created by a spill, UQ Security must be called immediately and the HSW Division must be called as soon as practicable.

Section 3 - Key Requirements

Risk Assessments

(4) Risk assessments must be completed in UQSafe based on the chemicals that are handled and stored in the area to inform the spill response plan, and the location and contents of the spill kits; the safety data sheets (SDSs) for the chemicals must be consulted for this purpose. SDSs are available from Chemwatch and/or the chemical manufacturer/supplier.

(5) The quantity of spill that can be safely managed must be considered when developing risk assessments for work involving highly hazardous chemicals.

Safety Data Sheets (SDSs)

(6) Safety Data Sheets (SDSs) are documents that provide critical information about hazardous chemicals. For example, they include information on:

a. the chemical's identity and ingredients;
b. health and physical hazards;
c. safe handling and storage procedures;
d. emergency procedures; and
e. disposal considerations.

(7) SDSs must be used when assessing the risks of hazardous chemicals and in particular when considering chemical spills and waste procedures. Refer to the Safety Data Sheets Guideline.

Training

(8) Supervisors and Managers must ensure that UQ workers are aware or are made aware, by providing adequate information, training and supervision of the health hazards that the use, handling and storage of chemicals may present and be given induction and training (including refresher training) prior to using chemicals, including how to respond to spills and emergencies.

Spill Response Plans

(9) A spill response plan outlines the strategy and steps in responding to spills in an area. Each area must have a spill response plan that is known and communicated to the users. This Procedure and the accompanying Chemical Spill and Response Guideline should be used to inform the spill response plan that must be included in the emergency planning for the area.

Spill Response Procedure

(10) The spill response plan must contain relevant spill response procedures that detail the materials and steps to follow to contain and clean up a spill. Spill response procedures must be displayed in the area where chemicals are used and/or stored.

(11) Prior to cleaning up chemical spills, the SDS must be consulted for the appropriate personal protective equipment (PPE) to be worn and which collection and disposal methods must be followed.

(12) The response to major spills and minor spills differs, regarding evacuation, high risk chemicals and other factors. Refer to the Chemical Spill and Response Guideline for more detail.

(13) Areas that use phenol or hydrofluoric (HF) acid must have specific first aid procedures included in their plan – refer to the First Aid Treatment for Burns Guideline for specific information. These must be posted in close proximity to where the chemicals are used and/or stored so UQ workers in these areas can access the information quickly.

Spill Kits

(14) Spill kits are used to control, contain and clean up spills. All areas using and/or storing chemicals must have a spill kit available strategically located around work areas in fixed locations so they can be easily accessed.

(15) Selection and placement of spill kits should be based on the chemical register, the risks present in each area and work activities. The decision for the area must be informed by a risk assessment based on these factors and be reflected in spill response plans. Other relevant UQ chemical procedures should be consulted.

(16) Spill kits must be checked periodically (recommended every 3 months or quarterly) and restored after each use.

(17) The recommended contents of spill kits can be found in the Chemical Spill and Response Guideline.

First Aid

(18) Immediate and correct first aid for chemical spills is essential. The SDS must be consulted for accurate provision of first aid response in relation to the chemical. Refer to the Chemical Spill and Response Guideline for specific first aid response to chemicals including HF, phenol and cyanide.

Defining Major and Minor Spills

(19) Spills can be either minor or major, depending on the volume, location and hazardous nature of the substance spilt (refer to the SDS).

(20) A major spill involves the release of a type or quantity of a chemical that poses an immediate risk to health; or involves an uncontrolled fire or explosion. For some chemical spills, evacuation of the area or the entire building may need to be considered.

(21) A minor spill is the release of a type or quantity of a chemical which does not pose an immediate risk to health and does not involve chemical contamination to the body. It is a spill that a UQ worker can clean up with confidence and without support due to the less hazardous nature of the chemical, small volume and effective containment.

Minimising Environmental Impact

Storage and Secondary Containment

(22) Containers holding solutions must be placed in a spill tray that is able to hold the volume of substance held within the primary container/s. Spill trays must not contain incompatible chemicals.

(23) Secondary containment is recommended for the storage of chemicals to prevent the spread of the substance if the primary container fails. This requires the primary container to be placed inside a secondary unbreakable container which may then be sealed. This secondary container must contain enough absorbent material to absorb the contents of the primary container and labelled to indicate the dangerous good class and contact details of the responsible person transporting the chemicals, in the event they are lost.

Chemical Transport and Secondary Containment

(24) A risk assessment must be completed when planning to transport chemicals between areas. When transporting chemicals between areas – including laboratories, buildings and campuses – secondary containment must be used to prevent a chemical spill.

(25) Winchester/bottle carriers must be used for solvent Winchesters and other glass bottles.

Decontamination and Disposal

(26) The SDS must be consulted when considering the disposal of the spill waste and the clean-up materials. Appropriate bags or plastic buckets must be used, and these containers must be compatible with the spilled chemical. Contaminated equipment and clothing must be de-contaminated and if necessary, disposed of and replaced. Items that cannot be decontaminated must be disposed of as hazardous waste.

(27) All spill waste containers must be labelled with a hazardous waste label and disposed of as per the SDS and Chemical Waste Operating Procedure (Environmental Management System) through the UQ Science Store.

Incident Reporting

(28) Incidents involving chemicals spills must be reported by completing an incident report in UQSafe. It is especially important that major chemical spills and/or those that involve personal contamination are reported in UQSafe.

(29) In the event of an incident defined as "notifiable" by Work Health and Safety Queensland (WHSQ) (refer to Health and Safety Incident and Hazard Reporting Procedure) the area must firstly be made safe and then not be disturbed until any investigation is complete or the Regulator has given authority to release the site.

Section 4 - Roles, Responsibilities and Accountabilities

Head of Organisational Units

(30) Heads of Organisational Units must ensure that:

a. UQ workers are not put at risk from work with hazardous chemicals, or substances in their area of responsibility;
b. hazardous chemicals are used, handled and stored safely;
c. sufficient resources are available to enable compliance with the requirements of this Procedure (for example, the availability of spill kits and trained personnel); and
d. the reporting of chemical spills is in UQSafe.

Supervisors and Managers

(31) Supervisors and Managers of work groups that undertake work with chemicals at UQ must ensure that:

a. risk assessments for the handling, use, transport, storage and disposal of chemicals are completed, including emergency procedures and spill kits;
b. safe work instructions or safe operating procedures (SOPs) are developed if the risk assessments require them;
c. risk assessments and SOPs are made available to UQ workers, where required under this Procedure (for example, in relation to the safe response to spills);
d. UQ workers are provided with adequate information, training and supervision in the use, handling and storage of chemicals to minimise spills;
e. less hazardous chemicals are considered as alternatives;
f. appropriate PPE and spill kits are purchased for their area of responsibility;
g. UQ workers adhere to these procedures; and
h. spills are cleaned up and reported in UQSafe.

UQ Workers

(32) UQ workers that work with chemicals at UQ are required to comply with this Procedure, including:

a. assessing the health and safety risks of using chemicals in the workplace prior to their use through assisting in completing risk assessments;
b. following the safe and correct procedure in responding to chemical spills;
c. adhering to operational level safe work instructions and operating procedures regarding the use, transport storage, disposal and safe response to spills;
d. reporting chemicals spills in UQSafe; and
e. participating in training.

HSW Managers and Work Health and Safety Coordinators

(33) HSW Managers and Work Health and Safety Coordinators (WHSCs) are responsible for assisting workers in their areas in complying with the requirements of this Procedure. They will assist Managers and Supervisors assess the risks in the areas and advise on mitigation of these risks through the completing of risk assessments.

(34) They will work with senior management to decrease chemical spill hazards through their use, storage or transport, especially for large quantities of chemicals.

(35) For areas in their responsibility, they will assess whether UQ workers are able to demonstrate compliance with this Procedure and that any compliance issues that are identified are rectified in a timely manner.

Health, Safety and Wellness Division

(36) The Health, Safety and Wellness Division (HSW Division) in conjunction with local Health, Safety and Wellness staff, is responsible for providing UQ workers with education and advice regarding the safe clean-up of chemical spills at UQ.

(37) The HSW Division is also responsible for ensuring that this Procedure is reviewed regularly and kept up to date.

Section 5 - Monitoring, Review and Assurance

(38) Organisational Units and Supervisors must review the need for local chemical emergency response procedures, spill kits, and trained personnel for their areas of responsibility following incidents, near misses or if there are any changes to processes or procedures. They must also undertake annual workplace inspections and review the local chemical emergency response, updating it as required.

(39) The HSW Division will periodically review chemicals (use, storage, transport and emergency response at UQ) through its internal audit program against the procedure for compliance.

Section 6 - Recording and Reporting

(40) Organisational Units are responsible for accurate recording of local emergency response procedures, training of personnel and the reporting of incidents into UQSafe.

(41) The HSW Division is responsible for reporting an incident defined as “notifiable” to Work Health and Safety Queensland (WHSQ) (refer to the Health and Safety Incident and Hazard Reporting Procedure).

Section 7 - Appendix

Definitions

Term	Definition
Bund	a small wall or barrier that restricts the flow of substances and contains them in a particular area.
Major spill	the release of a type or quantity of a chemical that poses an immediate risk to health; or involves an uncontrolled fire or explosion.
Minor spill	the release of a type or quantity of a chemical which does not pose an immediate risk to health and does not involve chemical contamination to the body.

Term	Definition
SDS (Safety Data Sheets)	provide workers with information such as physical data (melting point, boiling point, flash point, etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill-handling procedures.
Spill kit	provides the equipment and reagents for cleaning up spills and is appropriate to the quantities and types of chemicals in that work area.
UQ workers	for the purposes of this Procedure includes: • Staff - continuing, fixed-term, research (contingent funded) and casual staff; • Contractors, subcontractors and consultants working under UQ systems and control (e.g., contingent workers); • Visiting academics and researchers; • Affiliates - academic title holders, visiting academics, emeritus professors, adjunct and honorary title-holders, industry fellows and conjoint appointments; • Higher degree by research students; and • Volunteers and students undertaking work experience.

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