THE UNIVERSITY OF SYDNEY

RISK ASSESSMENT FORM

Use this form to assist you to complete risk assessments for hazardous activities and processes. Any serious or ongoing hazards should be reported via RiskWare to ensure that appropriate corrective actions are tracked and completed.

Faculty/School:	Faculty of Science / School of Molecular Bioscience	**Initial Issue Date: Oct 2015** **Next Review Date: Oct 2016**
Risk Assessment Reference Number:	SMB13.3	
Risk Assessment Name:	Use, storage and disposal of flammable liquids	
Jenny Phuyal	Jenny Phuyal	
Responsible supervisor/s:	Markus Hofer (Chair WHS committee) & Dianne Fisher (Safety Officer)	

Identify the activity and the location	**Identify who may be at risk** This may include fellow workers, students, visitors, contractors and the public
Activity or process: The use and storage of flammable liquids in laboratories and their disposal.	**Persons at risk**: All staff and students at SMB that work in areas where flammables are used and stored.
Location: Chemical store L2, research and teaching labs at SMB	**Risk assessment team (Who was consulted?):** WHS committee at SMB

List of Legislation, Code of Practice, Australian Standards, Guidance Materials used to determine control measures
See Safe Work Procedure SMB013.3 Consult SDS of specific chemical

Risk Assessment Methodology

Assessing the risk is a brainstorming exercise, which is most effectively carried out in a team environment with the people required to complete the activity or process. Most activities or processes are broken down into a variety of separate tasks. For each task, consider the hazards, the potential harm or negative outcomes and the conditions required for those negative outcomes to occur.

Whenever assessing the health and safety risks associated with a task, always consider the following primary risk factors.

- The **physical activities** required to complete the task e.g. repetitive movement, high force, physical exertion, awkward posture
- The **work environment** e.g. lighting, work layout, traffic, thermal comfort, working in isolation
- The **nature of the hazard itself** e.g. working with chemicals, microorganisms, radiation, machinery, potentially violent clients
- The **individual workers involved**, e.g. level of training, skills, experience, health, age, physical capacity

The information gathered from the **risk assessment** process must be used to develop a **Safe Work Procedure (SWP).**

Task or scenario	**Hazard/s**	**Associated harm,** e.g. what could go wrong?	**Existing Risk Controls**	**Current risk rating** Use the Risk Matrix	**Any additional controls are required?**[1]	**Residual risk rating** Use the Risk Matrix
Carrying/transporting flammables	Chemical spill and broken glass.	Cut from broken glass Spillage of flammable liquid.	Large bottles of flammable liquids should be transported using a Winchester carrier. Smaller bottles should be transported inside a secondary container where possible (e.g. polyethylene). Use two hands to carry bottles. Wear PPE, especially eye protection, lab coat and gloves. Keep an appropriate spill kit in lab and be informed how to use it (ensure you are properly trained).	Medium L5	No	N/A
Storing flammables in the laboratory	Fuel source for fires	Excess flammables will increase the damage caused by a fire	Minimise the amount of flammables kept in the work area. Store these in dedicated flammables/solvent cabinets away from incompatible materials (e.g. oxidisers and acids), and away from heat/ignition sources.	Medium L4	No	N/A
Decanting flammables between containers	Spill	Spill creating flammable vapours increasing the risk of fire.	Flammables should be used in a well-ventilated area, preferably a working fumehood (volumes > 100 mL). Keep an appropriate spill kit and	Low L5	No	N/A

[1] Always consider whether or not it is possible to eliminated the hazard or hazardous task altogether. If this is not possible, refer to the hierarchy of risk controls.

		Release of toxic, corrosive or carcinogenic fumes.	PPE in lab and be informed how to use. Flammable chemicals may also have other hazardous properties such as “toxic”, “corrosive”, carcinogenic”, etc – these properties should also be taken into account when storing/using the chemicals.			
Using flammables in labs containing ignition sources	Flammable vapours may ignite from ignition sources in the lab.	Burns caused by fire	Users to know the locations of the nearest fire extinguisher, fire blanket, and spill kit and know how to use these in an emergency. Manipulation of flammable chemicals should be carried out in a working fume hood when ever possible. Do not use flammables near naked flames (e.g. Bunsen burners) and other ignition sources such as power points and electrical equipment (e.g. hot plates, fridges and freezers).	Medium L4	No	N/A
Disposal of flammable waste	Flammable and may ignite.	Burns caused by fire	Dispose of as hazardous chemical waste (See SOP/risk assessment for chemical waste).	Low L5	No	N/A
					< refer to the hierarchy of risk control -> see link at bottom of page; for most cases the answer should be “no” as we have done the SOP/SWP and determined the best procedured >	

Implementation of Additional Risk Controls				
Additional controls needed	**Resources required**	**Responsible person**	**Date of implementation**	**RiskWare Reference**
Safe Work Procedure (SWP)	DONE	WHS committee	2.3.15	N/A
Train workers to complete process in accordance with SWP	Time – supervisor and workers	Supervisor		N/A
University and local WHS training	Time	Supervisor		N/A

List emergency controls for how to deal with fires, spills or exposure to hazardous substances and/or emergency shutdown procedures
If a fire occurs use appropriate fire extinguisher and blanket. Sound alarm and evacuate the area. If a spill occurs outside the fume hood use an appropriate spill kit and PPE, clear all ignition sources and turn off electrical equipment within 3m

REVIEW			
Scheduled review date	**1 year**	**2 years**	**3 years**
Are control measures in place (YES/NO)			
Are controls eliminating or minimizing the risk (YES/NO)			
Are there any new problems with the risk (YES/NO)			
Reviewed by:			
Actual Review date:			

Risk Matrix.

			Potential Consequences				
			L6	L5	L4	L3	L2
			Minor injuries or discomfort. No medical treatment or measureable physical effects.	Injuries or illness requiring medical treatment. Temporary impairment.	Injuries or illness requiring hospital admission.	Injury or illness resulting in permanent impairment.	Fatality
			Not Significant	**Minor**	**Moderate**	**Major**	**Severe**
Likelihood	Expected to occur regularly under normal circumstances	**Almost Certain**	**Medium**	**High**	**Very High**	**Very High**	**Very High**
	Expected to occur at some time	**Likely**	**Medium**	**High**	**High**	**Very High**	**Very High**
	May occur at some time	**Possible**	**Low**	**Medium**	**High**	**High**	**Very High**
	Not likely to occur in normal circumstances	**Unlikely**	**Low**	**Low**	**Medium**	**Medium**	**High**
	Could happen, but probably never will	**Rare**	**Low**	**Low**	**Low**	**Low**	**Medium**

In signing this section the assessor agrees that the following persons are competent in following this Risk Assessment.

Name	Signature	Date Competent	Name of Assessor/Authoriser	Assessor/Authoriser signature