

DEFINITIONS

Work Group Risk Register

A collection of Risk Assessments of materials, items or Standard Operating Procedures used, or situations, procedures, or activities occurring in a work group.

Task

The element being assessed may involve one or more tasks. A task may be a step or process within a procedure or activity, or a component or aspect of a material or item. Each task will have identifiable hazards associated with it that may not be shared with other tasks within the assessment (see examples).

Hazard

A hazard is an identifiable material, situation, or activity that has the potential to cause harm to people, property, or the environment. By definition, no measure of likelihood is included in the identification of a hazard. In reality, however, hazards are identified because they represent material, situations or activities that conceivably cause harm.

Hazard Ranking

A measure of the potency of a hazard (low, medium, high, very high) based on perception of harm in the absence of reasonable controls.

3 Variable Risk Assessment

A method used to quantify the combination of the likelihood and the consequences of a hazard actually causing harm, taking into account the frequency of exposure to the hazard.

Risk

A risk is the measure of the acceptability of exposure to a particular hazard.

INSTRUCTIONS

Complete a 3 Variable Risk Assessment (method on next page) for each hazard identified.

As guides to assist in identifying hazards use the following Risk Assessment forms and Checklists which are produced by the Faculty of Medicine, Dentistry and Health Sciences, and by the University of Melbourne EHS Unit. The Risk Assessment forms listed below do not need to be completed and retained, they are to be used as reference material to prompt you in identifying all the hazards relevant to the assessment being conducted for your Work Group Risk Register.

Reference Risk Assessment forms and Checklists (these are available from the Department of Microbiology and Immunology EHS website):

- Chemical Risk Assessment Worksheet
- Laboratory Task Risk Assessment Worksheet
- Plant – General Plant Assessment Form
- Workplace Safety – Manual Handling and Ergonomics
- Keyboard Workstation Assessment Inspection Checklist

3 VARIABLE RISK ASSESSMENT METHOD – Adapted from the EHSM Risk Management Section 3

Select a SCORE from each column in the table below (intermediate values can be used):

Consequence (how serious injury)	Score	Exposure (how often it is done)	Score	Likelihood (chance of occurring)	Score
<u>Noticeable</u> First aid needed	1	<u>Very rarely</u> yearly	0.5	<u>Almost Impossible</u> 1 : 10,000	0.1
<u>Important</u> Medical attention	5	<u>Rarely</u> 6 monthly	1	<u>Conceivable</u> 1 : 1,000	0.5
<u>Serious</u> Hospital injury	15	<u>Infrequently</u> monthly	2	<u>Remotely possible</u> 1 : 1:00	1
<u>Very serious</u> Lasting disability	25	<u>Occasionally</u> weekly / monthly	3	<u>Unusual</u> 1 : 10	3
<u>Disaster</u> Fatality	50	<u>Frequently</u> once a day	6	<u>Likely</u> 50 : 50	6
<u>Catastrophe</u> Multiple fatalities	100	<u>Continuously</u> many times a day	10	<u>Almost certain</u>	10

Calculate the RISK SCORE by multiplying the Consequence by the Exposure by the Likelihood:

Consequence	Multiplied by	Exposure	Multiplied by	Likelihood	TOTAL (=Risk Score)
	X		X		

Compare the score to the table below to determine a RISK LEVEL:

0 – 90 LOW RISK	91 – 299 MEDIUM RISK	300 – 599 HIGH RISK	600 + VERY HIGH RISK
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Assessment of Office work/workstation use

Date of Assessment	Task	Room ID	Hazard	Hazard Ranking (L, M, H, VH)	SOP No.	Existing Controls	3 Variable Risk Assessment				Residual Risk Level
							C	E	L	Risk Score	
May 2006	Using a laptop computer		Sustained awkward posture	Low	-	Undertake workstation assessment	1	6	0.5	3	Low
May 2006	Using a workstation computer		Sustained awkward posture	Low	-	Undertake workstation assessment	1	6	0.5	3	Low
May 2006	Written work		Sustained awkward posture	Low	-	Phasing out written work with use of a computer	1	6	0.5	3	Low

Assessment of Manual Handling (SOP No. 85)

Date of Assessment	Task	Room ID	Hazard	Hazard Ranking (L, M, H, VH)	SOP No.	Existing Controls	3 Variable Risk Assessment				Residual Risk Level
							C	E	L	Risk Score	
May 2006	Lifting items over 10 kg		High force and heavy loads	Medium	85	Manual Handling training Use trolleys provided Use pallet mover provided	5	10	1	50	Low
	Moving items of equipment		High force and heavy loads	Low	“	Manual Handling training Use trolleys provided Use pallet mover provided	5	6	1	30	Low
	General repetitive duties		Repetitive force causing RSI	High	“	Manual Handling training Job rotation Bench heights provided Trolleys provided External assessment completed	5	10	3	150	Medium

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Assessment of Autoclave – Atherton, model DLS1060 (SOP No. 1020)

Date of Assessment	Task	Room ID	Hazard	Hazard Ranking (L, M, H, VH)	SOP No.	Existing Controls	3 Variable Risk Assessment				Residual Risk Level
							C	E	L	Risk Score	
Aug 2005	Using the autoclave	7.10	General Use	Medium	1020	Personal protective equipment Safe operation procedures posted Competent users only	5	10	1	50	Low
			Steam	Medium	“	Personal protective equipment Safe operation procedures posted	5	10	1	50	Low
			High force manual handling	Low	85, 1020	Training in safe manual handling Trolleys provided	5	10	1	50	Low
			Repetitive motion	Medium	“	Training in manual handling Trolleys provided Job rotation	5	10	1	50	Low
			Heat	Medium	1020	Personal protective equipment Equipment is shielded	5	10	1	50	Low
			Bacteria / viruses	Medium	“	No known viruses or bacteria are used	5	10	1	50	Low
			Electric shock	High	“	Power is isolated at rear Electrical testing and tagging	5	10	0.1	5	Low
			Hazardous substances	Low	“	No known hazardous substances are used	5	10	0.1	5	Low
			Slips from wet floor	Low	“	Floor is cleaned regularly Non slip floor installed Special footwear is required	5	10	1	50	Low
	Cleaning the autoclave	”	Cleaning and Maintenance	Low	“	Cleaning procedure posted Checklist to be done	5	3	0.5	4.5	Low
	Servicing the autoclave	”	Inspection and Servicing	Low	“	By service technicians only Report provided on outcomes	5	3	0.5	4.5	Low

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Assessment of *Electrical safety*

Date of Assessment	Task	Room ID	Hazard	Hazard Ranking (L, M, H, VH)	SOP No.	Existing Controls	3 Variable Risk Assessment				Residual Risk Level
							C	E	L	Risk Score	
Feb 2006	Use of electrical equipment		Electric shock	High	-	Testing and tagging of all electrical equipment	5	10	0.5	25	Low

Assessment of *Use of Carcinogens in the Laboratory (SOP No. 26)*

Date of Assessment	Task	Room ID	Hazard	Hazard Ranking (L, M, H, VH)	SOP No.	Existing Controls	3 Variable Risk Assessment				Residual Risk Level
							C	E	L	Risk Score	
April 2005	Handling and using carcinogenic chemical		Contact with carcinogen	Medium	26	Prepare solutions using fumehood – use in hood if inhalation is possible Wear personal protective equipment: lab coat, gloves, eye protection, face mask Dispose of carcinogen and disposable PPE, eg. gloves, in appropriate containers Avoid use of sharps	25	2	3	150	Medium

*Frequency of use dependent on specific carcinogen and user

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Assessment of *DNA Electrophoresis (SOP No. 400)*

Date of Assessment	Task	Room ID	Hazard	Hazard Ranking (L, M, H, VH)	SOP No.	Existing Controls	3 Variable Risk Assessment				Residual Risk Level
							C	E	L	Risk Score	
March 2006	Preparing agarose gels	7.11	Contact with hot liquid	Medium	400	Use appropriate size flask for the volume of gel solution (allow at least 2/3 vol headspace) Do not cover flask when melting agarose in microwave oven Use thermal-protection gloves when handling hot agarose solution	15	3	1	45	Low
	Handling and loading of ethidium bromide-agarose gels	7.11, 3.01	Contact with a mutagen (ethidium bromide)	Medium	26, 400	User must be trained and competent in SOP 26 Wear labcoat, gloves, safety glasses Change gloves after handling gel or electrophoresis equipment Place gel in container for transportation to gel documentation room Dispose of used gloves and ethidium bromide-agarose gels as cytotoxic waste	25	3	1	75	Low
	Running the electrophoresis unit	7.11	Electric shock	High	400	Electrical testing and tagging Secure lid on tank before turning on power Turn off power prior to removing the gel tank lid	5	10	0.5	25	Low

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Date of Assessment	Task	Room ID	Hazard	Hazard Ranking (L, M, H, VH)	SOP No.	Existing Controls	3 Variable Risk Assessment				Residual Risk Level
							C	E	L	Risk Score	
	Cleaning electrophoresis equipment	7.11	Contact with a mutagen (ethidium bromide)	Medium	26, 400	User must be trained and competent in SOP 26 Wear labcoat, gloves, safety glasses Dispose of used gloves as cytotoxic waste	25	3	1	75	Low
	Disposal of ethidium bromide staining solution	7.11	Release of ethidium bromide into waterways	Medium	“	Run staining solution through an activated charcoal filter Dispose of used filter units as cytotoxic waste	5	6	3	90	Low

Assessment of *Decontamination of Equipment contaminated with Ethidium Bromide (SOP No. 308)*

Date of Assessment	Task	Room ID	Hazard	Hazard Ranking (L, M, H, VH)	SOP No.	Existing Controls	3 Variable Risk Assessment				Residual Risk Level
							C	E	L	Risk Score	
Nov 2006	Decontamination of equipment contaminated with ethidium bromide	7.12	Contact with a mutagen (ethidium bromide)	Medium	26, 308	User must be trained and competent in SOP 26 Wear labcoat, gloves, safety glasses Dispose of gloves carefully as cytotoxic waste	25	0.5	3	37.5	Low
			Using acids (strong fumes)	Medium	308	Wear personal protective equipment, including eye protection, face mask Handle hypophosphorous acid very carefully Prepare decontamination solution in fumehood	25	0.5	3	37.5	Low
			Risk of fire (sodium nitrite mixed with combustible material may cause fire)	Low	“	Handle sodium nitrite very carefully Prepare decontamination solution in fumehood	15	0.5	3	22.5	Low
			Pollution of waterways (sodium nitrite toxic to aquatic organisms)	Low	“	Undiluted decontamination solution not disposed of down the sink	5	0.5	3	2.5	Low