



This form is to be used in conjunction with the Environment Health and Safety Manual Procedure 3.2 Hazard Identification, Assessment and Control - Application.

## Information of Activity

Activity: Solvent Waste Disposal Location: Chemistry

Identified by: G. Papadopoulos Date: 30/11/06

Identified Hazard / Aspect: Spills and exposure to waste solvents (unknown substances)

## Risk Analysis matrix – level of risk

Identified Hazards	Risk Assessment			Risk Score	Risk Level
	Exposure (E)	Likelihood (L)	Consequence (C)	E x L x C	
Spills/leaks while in transit from lab to loading dock	2	0.1	10	2	L
Exposure to waste fumes	6	0.3	5	9	M
Spills in the lab	6	0.3	5	9	M

Definitions							
Exposure	E	Likelihood	L	Consequence	C	Risk Score	Hierarchy of Risk Controls
Continuously	10	Almost Certain	1.0	Catastrophic	20	<b>E</b> >20 <b>H</b> >10 <b>M</b> 3-10	<b>Elimination</b> is a permanent solution and should be attempted in the first instance. <b>Substitution</b> involves replacing the hazard or environmental aspect by one of lower risk. <b>Engineering</b> controls involve physical barriers or structural changes to the environment or process. <b>Administrative</b> controls reduce hazard by altering procedures and providing instructions. <b>Personal protective equipment</b> last resort or temporary control.
Frequently	6	Likely	0.6	Major	10		
Occasionally	3	Possible	0.3	Moderate	5		
Infrequently	2	Unlikely	0.1	Minor	2	<b>L</b> < 3	
Rarely	1	Rare	0.05	Insignificant	1		

### LEGEND

E: extreme/significant risk; immediate action required; must be managed by senior management with a detailed plan, notify RMO immediately.

H: high risk, senior management attention needed, detailed research and management planning at senior levels

M: moderate risk, management responsibility must be specified; manage by specific monitoring or response procedures

L: low risk, manage by routine procedures; unlikely to need specific allocation of resources

## Details of Risk Controls to be Taken

Risk Controls: (These should be determined by both the person(s) identifying the risk and the responsible manager and HSR or Environmental Representative). When determining risk controls refer to Hierarchy of Risk Control. Some examples are operating manuals, safe work procedures, licenses, permits to work, training and instruction etc

Before commencing any work in a laboratory, a written disposal procedure is required for all waste that will be generated. Supervisors should include waste storage and handling procedures in the project risk assessment.

Each lab or research group store their waste in 2.5, 10 or 20lt plastic containers in containment trays until it is delivered to the storage area on the loading dock. Appropriate flat trolleys should be used to transport the waste containers. The container should be appropriately labeled either as Water Soluble, Water Insoluble, Chlorinated, Acid/Pyridine, or Benzene/Diethyl Ether/THF waste.

Waste solvent is as flammable as pure solvent and containers should not be left open in the laboratory. All waste containers in fume cupboards or on lab benches etc should be closed with a screw cap or lid when not in immediate use to minimise evaporation.



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Where possible, waste drums should be stored in an area that minimises worker exposure to fumes while transferring waste from container to waste drum. Ideally waste drums should be stored in a fume hood, inside a spill tray. If fume hood space is limited, local ventilation such as a venting arm should be employed. Storing drums under fume hoods is not recommended because the worker would typically stand over the open drum, therefore potentially increasing exposure during transfer. (One option is to house a transfer hose and funnel in the fume hood, with the hose going into a waste drum under the fume hood).

Heavy solvents such as Dichloromethane waste should preferably be stored in 10lt containers rather than 20lt ones, to reduce manual handling issues.

Where appropriate all waste should be treated or processed to the lowest level of hazard practicable. All mercaptans and thiols must be treated using the appropriate peroxide, permanganate or bleach (sodium hypochlorite solution) before disposal to any waste container.

Person assessing the risk:  G. Papadopoulos  Date:  30/11/06

Authorised by:  G. Papadopoulos  Planned completion date:  30/11/06

**Risk Control Measures Completed**

Actions by:  G. Papadopoulos  Completed (Initials & date):  30/11/06