



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: Decanting 20 Lt solvent drums Location: Roof - outside distillation lab
 Identified by: G. Papadopoulos Date: 1/9/05
 Identified Hazard / Aspect: Potential chemical release

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	
Manual handling	2	0.3	5	3	L
Chemical spill (exposure to worker & environmental impact)	2	0.3	10	6	M
Release of fumes during decant (exposure to worker)	2	0.6	5	6	M
Spark/fire	2	0.1	10	2	L

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

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

- 20 Lt drums must be brought to the roof on a trolley. Drums greater than 20 Lt must have a manual handling assessment done on the task.
- Self closing taps to be used. Decanting to be done on the bunded area provided to contain any possible spill.
- Procedures (in Safety Manual and posted in area) to be followed at all times.
- Use earth leads provided to prevent static.



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- Decanting is done in a sheltered outdoors location to dilute any possible vapour build up during decanting, thereby reducing the risk of exposure. Dichloromethane and Methanol are probably the most toxic substances decanted. Their vapour pressures and other typically decanted substances are between 1.1 to 2.93, so the vapours would fall to the ground rather than linger in the worker's breathing zone. Measurements taken with the School's hydrocarbon detector have confirmed this. Almost nothing was picked up by the detector at the breathing zone but a 4% LEL was detected for 10 seconds during the decanting of 2.5lts of Petroleum spirit 40-60, which took 75 seconds to decant.
- As a minimum, lab coat, safety glasses, long pants, closed shoes and appropriate gloves are to be worn while decanting.
- Diethyl ether must not be decanted on days when temperatures are expected to go beyond 30 degrees.

Person assessing the risk: G. Papadopoulos Date: 1/9/05

Authorised by: G. Papadopoulos Planned completion date: _____

Risk Control Measures Completed

Actions by: G. Papadopoulos Completed (Initials & date): 1/9/05