



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: Use of oil bath Location: Chemistry

Identified by: G. Papadopoulos Date: 12/6/07

Identified Hazard / Aspect: Contact with hot oil, fire/oil explosion

Risk Analysis matrix – level of risk

Identified Hazards	Risk Assessment			Risk Score E x L x C	Risk Level
	Exposure (E)	Likelihood (L)	Consequence (C)		
Contact with oil	6	0.3	1	1.8	L
Fire/oil explosion	6	0.1	5	3	M
Burns from hot oil (80-200deg)	6	0.6	2	7.2	M

Definitions							
Exposure	E	Likelihood	L	Consequence	C	Risk Score	Hierarchy of Risk Controls
Continuously	10	Almost Certain	1.0	Catastrophic	20	E >20 H >10 M 3-10	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.
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		

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

- Generally paraffin oil is used for temperatures below 200 deg and silicon oil for temperatures up to 300 deg. Ensure oil is not heated close to it's flashpoint (see MSDS). Monitor temperature with a thermometer or other thermal sensing device. Oil baths should be well mixed, with a thermoregulator for example, to ensure that there are no "hot spots" around the elements that take the oil to unacceptable temperatures.
- Keep ignition sources away from apparatus containing oil bath.
- Care must be taken to avoid spilling water or other volatile substances into the bath, which would result in splattering of hot material in a wide area causing serious injury.
- The hot oil should be housed in a metal pan or thick walled porcelain dish. A pyrex dish or beaker can break if struck accidentally with a hard object.



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RISK ASSESSMENT 3D Model

EHS Manual

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PPE: Lab coat, appropriate gloves and safety glasses must be worn. Consider the need to have heat resistant gloves on hand.

Person assessing the risk: G. Papadopoulos Date: 12/6/07

Authorised by: G. Papadopoulos Planned completion date: _____

Risk Control Measures Completed

Actions by: _____ Completed (Initials & date): _____