







Safe Work Procedure

Process/Equipment: Toluene Distillation		Location : Chemistry Department	
Procedure Developed by : Dr L. Chaker and Mr J. Williams		Approved by : William Price (HOD)	Date : 20/05/2005
Referenced UOW Guidelines, legislation, codes of practice, Australian Standards etc:		UOW Working with hazardous substances guidelines (OHS114.2) UOW Laboratory safety guidelines (OHS048.2) OH&S Regulation 2001 Clause 62 (Fire and explosion) OH&S Regulation 2001 Clause 161-174 (Use of hazardous substances) AS2242.2 (1997) Laboratory safety – Chemical aspects AS2243.8 (2001) Laboratory safety – Fume cupboards	
Personal Protective Equipment Required:			
   			
Activity <i>(Steps in the process/task)</i>	Hazards Identified <i>(What could cause an injury)</i>	Risk Score <i>(How harmful is it)</i>	Controls <i>(What can be done to minimise the risk of injury)</i>
Still Preparation	Fire Inhaling vapour may effect central nervous system (CNS) Eye and skin irritation Burns	Medium	Keep away from sources of ignition Use in a well ventilated area (fume cupboard) Keep sodium metal in an anhydrous environment (do not expose to water or air) Check glassware is sealed and without cracks Check water hoses are connected Check nitrogen gas line is connected PPE: safety footwear, gloves, eyewear, protective clothing
Distillation	Fire Explosion	High	Keep away from sources of ignition Use in a well ventilated area (fume cupboard) Ensure solvent volume is greater than that of the collecting reservoir to prevent boiling dry and possible explosion Once heating mantle in on check still regularly for signs of overheating Ensure that at all times the sodium metal is not exposed PPE: safety footwear, gloves, eyewear, protective clothing

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Solvent Collection	Fire Inhaling vapour may effect central nervous system (CNS) Eye and skin irritation Burns	High	Keep away from sources of ignition Use in a well ventilated area (fume cupboard) Ensure the fume cupboard sash is down whilst collecting the solvent Take precautions not to overflow collection vessel PPE: safety footwear, gloves, eyewear, protective clothing Sash should be down while collecting
Turning Off Still	Fire Explosion	Medium	Use in a well ventilated area (fume cupboard) Turn heating mantle off and allow to cool before water to condenser or nitrogen gas are turned off PPE: safety footwear, gloves, eyewear, protective clothing
Still Disposal	Fire Eye and skin irritation Inhaling vapour may effect central nervous system (CNS) Burns	High	Keep away from sources of ignition Use in a well ventilated area (fume cupboard) Keep sodium metal in an anhydrous environment (do not expose to water or air) Appropriately dispose of remaining toluene and sodium metal PPE: safety footwear, gloves, eyewear, protective clothing