

## Risk Assessment Guidance

The assessor can assign values for the hazard severity (a) and likelihood of occurrence (b) (taking into account the frequency and duration of exposure) on a scale of 1 to 5, then multiply them together to give the rating band:

Hazard Severity (a)		Likelihood of Occurrence (b)	
<b>1 – Trivial</b>	(eg discomfort, slight bruising, self-help recovery)	<b>1 – Remote</b>	(almost never)
<b>2 – Minor</b>	(eg small cut, abrasion, basic first aid need)	<b>2 – Unlikely</b>	(occurs rarely)
<b>3 – Moderate</b>	(eg strain, sprain, incapacitation > 3 days)	<b>3 – Possible</b>	(could occur, but uncommon)
<b>4 – Serious</b>	(eg fracture, hospitalisation >24 hrs, incapacitation >4 weeks)	<b>4 – Likely</b>	(recurrent but not frequent)
<b>5 – Fatal</b>	(single or multiple)	<b>5 – Very likely</b>	(occurs frequently)

The risk rating (high, medium or low) indicates the level of response required to be taken when designing the action plan.

	Trivial	Minor	Moderate	Serious	Fatal
Remote	1	2	3	4	5
Unlikely	2	4	6	8	10
Possible	3	6	9	12	15
Likely	4	8	12	16	20
Very likely	5	10	15	20	25

Rating Bands (a x b)		
LOW RISK (1 – 8)	MEDIUM RISK (9 – 12)	HIGH RISK (15 – 25)
Continue, but review periodically to ensure controls remain effective	Continue, but implement additional reasonably practicable controls where possible and monitor regularly	<b>-STOP THE ACTIVITY-</b> Identify new controls. Activity must not proceed until risks are reduced to a low or medium level

# Risk Assessment Record

<b>Risk Assessment of:</b> Baran Anil	<b>Assessor(s):</b>	<b>Date:</b> 26/10/2021
<b>Overview of activity / location / equipment / conditions being assessed:</b>	<ul style="list-style-type: none"> <li>Optimisation of the fractional index of water and ethanol via distillation column</li> </ul>	
<b>Generic or specific assessment?</b> Specific	<b>Context of assessment:</b> Analysing different distillate sample by increasing the power of the rig gradually between samples.	

#	Hazard(s) identified	Persons affected	Existing controls & measures	A	B	A x B	Additional controls required
1	Leakage of fluid from the column	<ul style="list-style-type: none"> <li>Person operating the column</li> <li>People in close proximity to the column</li> </ul>	<ul style="list-style-type: none"> <li>Inspection of the pipes to check for any loose ends or any ends of the tubing that is not directed to the correct location.</li> <li>Wear lab coats at all time to protect clothing from such contamination.</li> <li>Wear goggles at all times present in the lab, to prevent any eye damage that could be severe.</li> </ul>	3	2	6	
2	Shock from electrical equipment	<ul style="list-style-type: none"> <li>Person operating the column</li> </ul>	<ul style="list-style-type: none"> <li>Potentially, make use of rubber gloves.</li> <li>Have inspection before attempting the experiment.</li> <li>Keep liquids away from the electrical equipment.</li> <li>Be aware of surroundings when working with the equipment, for people and hazardous objects,</li> </ul>	4	1	4	
3	Ethanol Volatility (Could catch flame)	<ul style="list-style-type: none"> <li>Everybody near the column</li> </ul>	<ul style="list-style-type: none"> <li>Wear goggles fore eye protection from potential flames.</li> <li>Wear lab coat at all times for protection of clothing and any exposed parts of body such as forearms.</li> <li>Tie long hair up so that it is out of the ay of the flame.</li> <li>Wear gloves , protect hands from potential burns.</li> </ul>	4	1	4	

#	Hazard(s) identified	Persons affected	Existing controls & measures	A	B	A x B	Additional controls required
4	Hot liquid during the collection of ethanol from bottom of column	<ul style="list-style-type: none"> <li>Person collecting the ethanol</li> </ul>	<ul style="list-style-type: none"> <li>Wear goggles at all time in case of potential splashing into the eye.</li> <li>Keep the beaker close to the tap underneath the column, to again prevent and splashing over the place.</li> <li>Wear lab coats to prevent contamination of clothing.</li> <li>Never have your head below or near the end of the tap.</li> <li>Wear gloves to protect hands from splashing of the ethanol onto hands to prevent contamination.</li> </ul>	2	2	4	
5	Faulty in the piping	<ul style="list-style-type: none"> <li>Person operating the column</li> <li>People in close proximity to the column</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that there is no damage to the piping</li> <li>Ensure that all the pipes are secured in their positions and are correctly directed to where the ethanol needs to be transported.</li> </ul>	3	1	3	

	<b>Assessor signature:</b>	<b>Print name:</b>	<b>Review date:</b>