

Chemical Hazard Assessment Matrix

There are many ways to evaluate and analyze a chemical hazard. Most companies have developed a hazard matrix for their work site hazards, which should be used for chemical evaluation as well. One way to calculate the chemical risk is as follows:

1. Estimate the likelihood of exposure
2. Estimate the severity of that exposure
3. Find the risk
4. Classify that risk and prioritize the action

HAZARD ASSESSMENT MATRIX

Estimate the Likelihood (probability)		Estimate the Severity (potential consequence)	
Quantitative	Qualitative	Quantitative	Qualitative
1	No exposure: e.g. no dust, no liquid vapour or mist is detected	1	Negligible: first aid required and/or minor irritation
2	Minimal exposure: e.g. slight dust, slight liquid vapour or mist is detected	2	Marginal: minor injury or illness, medical aid without lost time, and/or ongoing condition (e.g. dermatitis)
3	Moderate exposure: e.g. dust, liquid vapour or mist is detected and causes concern	3	Critical: a lost-time injury or illness without permanent impairment and/or confirmed occupational disease or illness
4	Definite exposure: e.g. dust, liquid vapour or mist is present and is a concern	4	Catastrophic: fatality or permanent impairment and/or confirmed chronic occupational disease or illness (e.g. cancer)

Determine the Risk

		Likelihood			
Description		1 No Exposure	2 Minimal Exposure	3 Moderate Exposure	4 Definite Exposure
Severity	1 Negligible				
	2 Marginal				
	3 Critical				
	4 Catastrophic				

Classify the Risk and Prioritize the Action

Green	Low - Review Documentation to Determine Next Steps (SDS, JSA, etc.)
Yellow	Moderate - Develop a Plan (talk to your supervisor)
Red	High - Requires Immediate Action and Written Plan to Implement Controls (talk to your supervisor and engage subject matter experts)

If you do not know the risks of the chemicals you are using, stop and ask!