



Laboratory Health and Safety

Risk Assessment Matrix

Introduction

The risk assessment matrix is a tool designed to help in determining the quantitative value of various risks in the laboratory. It is an analytical tool that determines the level of risk by plotting the **likelihood of occurrence** against the **severity of the consequence**. There are different kind of matrix for calculating health and safety risk in laboratories. In all of them severity, frequency and likelihood of identified risks are considered.

What is risk assessment

Risk assessment is the practice of identifying health and safety hazards and evaluating the risks presented to ensure they are suitably eliminated, reduced, or controlled.

How to calculate the risk matrix (i.e. how to fill the table)

1. First identify the risk/risks in the laboratory;
2. Complete the matrix for each risk separately, by:
 - a) Determining the proper consequence severity of the risk, according to descriptions above the matrix (reported in columns D-H);

b) Determining the proper likelihood of occurrence of the risk, according to descriptions on the left hand of the matrix (reported in rows 5-9);

3. Once the two numbers are identified, multiply them and report the result in the table, where the axes of the two numbers intersect;
4. The result of this multiplication is the quantitative value of the risk you are assessing it. To interpret the results, look at "interpreting the results" reference table, reported below.

Interpreting the results sheet	Insignificant 1	Negligible 2	Moderate 3	Extensive 4	Significant 5		
Almost certain 5	5	10	15	20	25		Acceptable
Likely 4	4	8	12	16	20		Low
Possible 3	3	6	9	12	15		Medium
Unlikely 2	2	4	6	8	10		High
Rare 1	1	2	3	4	5		Very high