

# Risk assessment and risk management

Risk is a function of the probability of an unwanted event and the consequences thereof.

## Risk assessment

Risk assessment is a thorough review of what can cause injury or illness, so you can assess whether adequate precautions have been taken or more should be done.

Three simple questions is the core of risk assessment:

- What could go wrong?
- What can we do to prevent something going wrong?
- What can we do to reduce the consequences if something goes wrong?

## Safe Job Analysis

Safe Job Analysis is a method that may be suitable for risk assessment of individual tasks, such as a laboratory analysis. The task is broken down into sub-tasks and for each sub-task the possibility of an unwanted event is considered and what may be done to prevent this. Needs for protection and training are also considered. The risk assessments can be set up in a separate form.

## Risk Matrix

The risk assessment can be shown in a matrix where the marks of the probability of an undesirable incident on one axis and the consequences on the other. Criteria for the different probabilities and consequences can be:

Probability		Consequence	
1	Very rarely	1	Harmless
2	Rarely	2	Slight risk
3	Happened	3	Hazardous
4	Sometimes	4	Very dangerous
5	Often	5	Catastrophic

The matrix may well be on the 3x3 even though the example here is the 5x5.

LIKELIHOOD	5					
	4					
	3					
	2					
	1					
		1	2	3	4	5
	CONSEQUENTIAL					

## **Risk management**

Risk management is a process designed to identify, assess, manage and monitor risk so that risk is within the accepted level. The risk is then under control.

Risk management requires

- a goal that one should try to reach
- information and communication
- management involvement

Critical success factors in this process can be:

- Adequate training of all employees and students.
- Documented local procedures for important and / or hazardous tasks. (The documentation can be log books, minutes of meetings, etc., not just traditional procedures.)
- Reviewing that the practices are appropriate and are followed up. (This will be achieved by HSE audits.)
- Established system for recording and learning from adverse events.

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