

Hazard Identification & Risk Assessment

Identify the hazard or hazards present, make an assessment of the risk associated with the hazard and identify control measures that should be implemented to eliminate or reduce the risk as far as is reasonably practicable. The emphasis is on doing a quantitative risk assessment, assigning a risk of High, Medium or Low and identifying the necessary controls.

Definitions:

Hazard: anything in the workplace which can cause harm (eg. dangerous chemicals, electricity, working at heights, poor housekeeping).

Risk: the likelihood, large or small, that someone will be harmed by the hazard, together with the severity of harm suffered. Risk also depends on the number of people exposed to the hazard.

Severity: when considering a particular hazard, first ask yourself, 'realistically, what is the worst that could happen?' Is it minor injury or ill-health. Serious injury or ill-health, or could it even be death?

Likelihood: make a judgement about the chance or likelihood of that injury or ill-health actually happening, is it unlikely, highly likely, or somewhere in between? *Be sure to take existing control measures into account.*

Risk Assessment: the careful examination of, what in your work, could cause harm to people, so that you can weigh up whether you have taken enough precautions or should do more to prevent harm.

Simple numerical risk evaluation: numbers can be assigned to describe the severity and the likelihood and these multiplied together give the risk rating for each hazard.

$$\text{Severity} \times \text{Likelihood} = \text{Risk}$$

Severity x	Likelihood	= Risk
3 / Very harmful	3 / Very likely	6-9 / High
2 / Harmful	2 / Likely	4-5 / Medium
1 / Slightly harmful	1 / Unlikely	1-3 / Low

Likelihood;

1/Unlikely: Rare – may only occur in exceptional circumstances

2/Likely: Possible – might possibly occur at some time

3/Very likely: Probable – expected to occur in most circumstances

Severity (consequences);

1 / Slightly harmful: minor or no injury – no treatment or first aid only required

2 / Harmful: reversible injury – medical treatment required

3 / Very harmful: irreversible injury or death – hospitalisation or on-going medical treatment

Risk Response;

1-3 Low: Routinely manage or rectify in normal maintenance cycle

4-5 Medium: Specific management/procedures required, specific maintenance actions

6-9 High: Immediate action, senior management involvement, possibly stop work

Hazard Spotting Made Easier

The following list may be of use to personnel carrying out risk assessments. Whilst not exhaustive it covers most hazards to be found in the normal workplace.

Mechanical

Entanglement, trapping, friction / abrasion, cutting, shearing, stabbing / puncturing, impact, crushing, drawing in, fluid injection, ejection, compressed air, hand tools, pressure/ vacuum systems, stored energy

Transport

Fork lift trucks, mobile cranes, reversing vehicles, manoeuvring vehicles, loading and unloading, pedestrian vehicle interface

Access

Lighting, scaffolding, slips trips and falls, objects falling or moving, confined space, obstruction or projection, contact with hot/cold surface or object, hot/ cold working environment, dangerous parts of machinery, falling from heights, drowning, excavation, housekeeping

Electricity

Work with exposed live conductors, work adjacent to exposed live conductors, damage to electrical apparatus, incorrect installation of equipment, electric shock, burns, ultra violet radiation, arcing/ overheating

Substances / Chemicals

Asphixiants, toxic, irritant, sensitising, flammable, corrosive, explosive, carcinogens, fumes, inhalation, particles/ dust, ingestion, abrasion of skin or eye

Handling Lifting

Safe storage/ stacking, manual handling operations, lifting and carrying, rigging and slinging, mechanical aids

Fire and Explosion

Combustible materials, flammable liquids/gases, spraying of flammable liquids, gas cylinders, hot work, ignition sources

Radiation

Ionising radioactive sources, non-ionising, radiography, ultra violet light, microwaves and radio frequencies, lasers

Biological

Bacterial, fungal, food hygiene, legionella, leptospirosis, animals

Environment

Noise, vibration, light, humidity, ventilation, temperature, climate, pressure/ vacuum

Behavioural

Cognitive errors (slips, lapses, mistakes). Violations of rules. Failures in interpersonal communication. Work overload. Insufficient personal discretion. Failures in role design. Failures in managing foreseeable change at work. Lack of requisite employee support.

Sample Risk Assessment template

RISK ASSESSMENT FORM			Ref:	
Date of Issue: _____ Next Review: _____				
Area/department/activity: _____				
Assessment undertaken by: _____ Date: _____				
Checked by: _____ (Safety Officer) Date: _____				
Hazards and Risks	Those at risk	Resources / controls in place for eliminating or reducing the risk and where the information may be found	Residual Risk (S x L = R)*	Responsible Person(s)
Hazard:				
Risk:				
Hazard:				
Risk:				

* **Severity x Likelihood = Risk**

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1 / Slightly harmful	1 / Unlikely	1-3 / Low

Sign: _____ (Head of Department) Date: _____

Record any further actions required, responsibility and action date on a separate sheet for review.

Further action: Yes _____, (see action report ref: _____) No _____