Hazard Risk Process

Hazard Identification, Risk Assessment and Control Procedure

Revision	Date	Author	Approver	Description of Change
1	25/01/21	M. Windsor		

Contents

References / Compliance Requirements

Document ID	Title
-	Work Health and Safety Act 2012 and Reg 2012
-	Work Health and Safety Codes of Practice
-	Electrical Safety act 2002
-	AS/NZ 3100:2009 Risk Management Principles and Guidelines

1 PURPOSE

To ensure that there is a formal process for hazard identification, risk assessment and control to effectively manage workplace and safety hazards at Windsor Moulding LTD.

2 OUTLINE

The Work Health and Safety Act 2011 (WHS Act) and the Work Health and Safety Regulation 2011 (WHS Regulation) are laid out to define and manage risks to health and safety so far as is reasonably practicable.

The risk management approach involves identification and assessment of risks followed by putting into place control measures. These control measure should ideally be in the form of hard stops such as safeguarding against harm or injury by physical controls such as guards, emergency stops etc. Where these are not practicable soft measure through process control can be used but should only be used in cases where all other means have been exhausted.

The risk management approach is important for reasons of:

- The process form part of the duty of care to its workers, customers, contractors, visitors and other personnel on-site or in the employment of Windsor Moulding LTD.

- The risks process follows the legislative requirement under the HSE acts to ensure a duty of care and due diligence to all personnel

A key requirement of managing risks in the workplace is consulting with workers affected by a health and safety matter. Workers should be involved in the hazard identification, risk assessment and risk control processes.

Where workers are represented by a Health and Safety Representative (HSR), this HSR must be involved in the consultation process. Legislation requires that where several representatives within the business have duties for a health and safety matter, and must consult, cooperate and coordinate their risk management activities to ensure effective management of the health and safety matter.

3 WHAT IS A HAZARD?

There are many definitions for hazard but the most common definition when talking about workplace health and safety is

"A hazard is any source of potential damage, harm or adverse health effects on something or someone."

The CSA Z1002 Standard "Occupational health and safety - Hazard identification and elimination and risk assessment and control" uses the following terms:

- Harm – physical injury or damage to health
- Hazard – a potential source of harm to a worker.

Basically, a hazard is the potential for harm or an adverse effect (for example, to people as health effects, to organizations as property or equipment losses, or to the environment).

4 WHEN TO PERFORM A RISK ASSESSMENT

Workplace hazard identification, assessment and control is an on-going continued development and improvement activity; risk assessments shall be undertaken when:

- If no risk assessment has been undertaken prior for a given activity
- When a hazard has been identified
- When a change to the workplace may introduce or change a hazard. Such as when changes occur to the work equipment, practices, procedures or environment.
- As part of responding to a workplace incident, even where an injury has not occurred.
- Where new information about a risk becomes available or concerns about a risk are raised by worker
- At regularly scheduled times appropriate to the workplace.
- When contractors are on-site to undertake work or activities outside of normal SOP are to be undertaken. This will often fall under the guidance of the SWMWS process however, a risk assessment must be performed in support of a SWMS to ensure all risks have been identified with that activity

Implementation of safe working practices at the most cost-effective manner are found in the early stages within the life cycle ideally at the planning and design stages for products, processes and places of work and so risk assessments should be performed at the earliest practicable point.

5 RISK ASSESSMENT PROCEDURE

The following procedure for risk management (involving hazard identification, risk assessment and control) is a practical guide to support safety for workers, contractors, and visitors. It will help both management and workers, through consultation, to comply with the WHS regulations.

These regulations require personal representatives of their respective areas to identify, assess and control hazards in the workplace with the aim of eliminating hazards or minimising hazards, so far as is reasonably practicable. Recording risk management activities, including risk assessments and consultation processes is required.

These procedures will assist in:

- Finding hazards in the workplace
- Assessing the risks that may result from these hazards
- Determining control measures to eliminate or minimise the level of the risks
- Monitoring and reviewing the effectiveness of control measures
- When planning projects, to anticipate and neutralize possible problems
- When you're deciding whether or not to move forward with a project.
- When improving safety and managing potential risks in the workplace.
- When preparing for events such as equipment or technology failure, theft, staff sickness, or natural disasters.
- When planning for changes in the environment, such as new competitors coming into the market, or changes to government policy

5.1 Definitions

Hazard: Anything (e.g., condition, situation, practice, behaviour) that has the potential to cause harm, including injury, disease, death, environmental, property and equipment damage. A hazard can be a thing or a situation.

Hazard Identification: This is the process of examining each work area and work task for the purpose of identifying all the hazards which are “inherent in the job”. Work areas include but are not limited to machine workshops, laboratories, office areas, stores and transport, maintenance and grounds. Tasks can include (but may not be limited to) using screen based equipment, audio and visual equipment, industrial equipment, hazardous substances and/or teaching/dealing with people, driving a vehicle, dealing with emergency situations, construction. This process is about finding what could cause harm in work task or area.

Risk: The likelihood, or possibility, that harm (injury, illness, death, damage etc) may occur from exposure to a hazard.

Risk Assessment: Is defined as the process of assessing the risks associated with each of the hazards identified so the nature of the risk can be understood. This includes the nature of the harm that may result from the hazard, the severity of that harm and the likelihood of this occurring.

Risk Control: Taking actions to eliminate health and safety risks so far as is reasonably practicable. Where risks cannot be eliminated, then implementation of control measures are required, to minimise risks so far as is reasonably practicable. A hierarchy of controls has been developed and is described below to assist in selection of the most appropriate risk control measure/s.

Monitoring and Review: This involves ongoing monitoring of the hazards identified, risks assessed and risk control processes and reviewing them to make sure they are working effectively

Responsibilities

Effective risk management requires the commitment to WHS from all personnel.

It is the responsibility of all managers and supervisors to ensure that this policy is fully implemented in their area(s) of control and to consult with workers as part of undertaking the hazard identification, risk assessment and control process.

It is the responsibility of workers to cooperate and comply with this policy. This includes providing effective and constructive information and feedback to aid the risk management process.

All people have a responsibility to ensure that the areas under their control and are working within are complying with legislative requirements. This includes the understanding the hazards and risks associated with their operations and ensuring that appropriate resources and processes are in place to eliminate or minimise these risks.

The risk assessment procedure is shown diagrammatically below:

Risk Identification
concentrates on identifying and naming the risks through use of experience, and observations

Risk Evaluation and Analysis
involves developing an understanding of the risk in terms of probability and severity

Risk Handling
action taken to avoid, mitigate, or accept risks based on functional data

Risk Controlling
a continuous, disciplined process. This includes; organization, planning and budgeting, and cost control

6 STEP 1: IDENTIFY AND EVALUATE

In consultation with workers all potentially hazardous items, processes, interactions or situations that may cause harm are to be identified.

In general, hazards are likely to be found in the following;

- Physical work environment
- Equipment, materials or substances used,
- Work tasks and how they are performed
- Work design and management

6.1 When should Hazards be Identified?

In order to identify hazards the following are recommended:

- During design and implementation
  - Designing a new process or procedure
  - Purchasing and installing new machinery
- Before tasks are done
    - Checking equipment or following processes
    - Reviewing surroundings before each shift
- While tasks are being done
    - Be aware of changes, abnormal conditions, or sudden emissions
    - During inspections
- Formal, informal, supervisor, health and safety committee
    - After incidents
  - Near misses or minor events
  - Injuries

To be sure that all hazards are found:

- Look at all aspects of the work and include non-routine activities such as maintenance, repair, or cleaning.
- Look at the physical work environment, equipment, materials, products, etc. that are used.
- Include how the tasks are done.
- Look at injury and incident records.
- Talk to the workers: they know their job and its hazards best.
- Include all shifts, and people who work off site either at home, on other job sites, drivers, teleworkers, with clients, etc.
- Look at the way the work is organized or done (include experience of people doing the work, systems being used, etc).

- Look at foreseeable unusual conditions (for example: possible impact on hazard control procedures that may be unavailable in an emergency situation, power outage, etc.).

- Determine whether a product, machine or equipment can be intentionally or unintentionally changed (e.g., a safety guard that could be removed).

- Review all of the phases of the lifecycle.

- Examine risks to visitors or the public.

- Consider the groups of people that may have a different level of risk such as young or inexperienced workers, persons with disabilities, or new or expectant mothers.

Any hazard which is identified by this process should be recorded on the Risk Assessment template and further action taken to assess and then control the risks from this hazard performed.

6.2 Identifying Risks

A common way to classify hazards is by category:

- biological – bacteria, viruses, insects, plants, birds, animals, and humans, etc.,
- chemical – depends on the physical, chemical and toxic properties of the chemical,
- ergonomic – repetitive movements, improper set up of workstation, etc.,
- physical – radiation, magnetic fields, temperature extremes, pressure extremes (high pressure or vacuum), noise, etc.,
- psychosocial – stress, violence, etc.,
- safety – slipping/tripping hazards, inappropriate machine guarding, equipment malfunctions or breakdowns.
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6.3 Department / Function Risks

The following sections cover the risk identification and Hazards associated with three key discipline areas, these are:

1. Physical Risks
2. Business Risks
3. Laboratory Risks

The following sections break out each area defining the risk and hazard identification.

6.3.1 Physical Risks

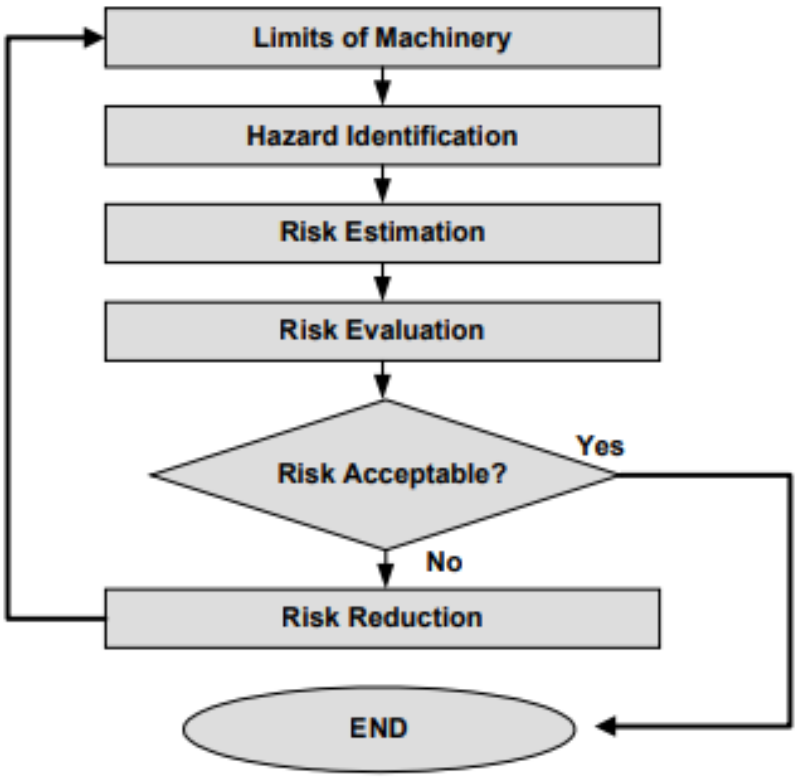
Physical risk assessment shall be conducted in accordance with ISO 12100, the risk assessment is implemented in a series of logical steps to enable a systematic examination of the hazards associated with machinery.

The risk assessment is followed, whenever necessary by risk reduction as described in clause 6 of ISO 12100: 2010.

When this process is repeated it gives an iterative process for eliminating hazards as far as possible and for implementing safety measures. The risk assessment methodology approach includes:

- Risk analysis
- Determination of limits
- Hazard identification
- Risk estimation
- Risk evaluation

The risk assessment provides the information required for the risk evaluation, which in turn allows judgements to be made on the safety of machinery. The following diagram shows the step-by-step process of risk analysis:



When undertaking the risk assessment, question such as what materials or situations do I come into contact with? Possibilities could include:

- electricity
- chemicals (liquids, gases, solids, mists, vapours, etc.)
- ionizing/non-ionizing radiation (e.g., x-rays, ultraviolet (sun) rays)
- oxygen deficiency
- water

Below is an Engineering table of potential hazards to aid in identifying the risks associated with an object or activity.

Table 1. Physical Hazards

Nature Of Hazard	Clarification of Hazard
Mechanical Hazards	
Slip, Trip or Fall	Hazards from slips, trips or falls on a surface.
Falling From Height	Hazards of falling from a height above floor level, from any height deemed hazardous.
Unsafe Access or Egress	Hazards specific to accessing or leaving and area
Inadequacy of mechanical strength	Hazards relating to the equipment having inadequate mechanical strength to perform operations.
Stored Energy – Mechanical / Fluid / Gas	Hazards relating to mechanical stored energy from springs or strain in a system / hydraulics / gases
Crushing/Pinching	Hazards relating to equipment landing on each other.
Shearing/Cutting/Severing/ Stabbing/Puncture	Hazards relating to equipment passing each other in close proximity.
Entanglement & Entrapment	Hazards from equipment that can entangle and entrap. Includes draw-in hazards.
Friction / Abrasion	Hazards relating to friction and abrasion or lack of friction.
Manual handling	Hazards specifically relating to manually handling equipment.
Eye Injury	Hazards resulting in eye injury 9likely mitigation of eye protection).
Electrical Hazards	
Direct Contact	Hazards of direct contact with live parts.
Fault Direct Contact	Hazards of direct contact with live parts following a fault.
High Voltage	Hazards relating to high voltage parts.
Electrostatic Charge	Hazards from electrostatic discharge.
Arcs & Fires	Hazards relating to electric arcs and fires.
Thermal Hazards	
Burns/Scalds - High Temperature	Hazards of burns & scolds from high temperature surfaces.
Burns/Scalds - Low Temperature	Hazards of burns & scolds from low temperature surfaces.
Fire / Explosion Risk	Hazards that can result in a fire or explosion
Hot /Cold Environment	Hazards relating to hot or cold environments, inc. when equipment runs too hot.

Noise Hazards	
Excess Noise	Hazard of excess noise from the equipment.
Vibration Hazards	
Excessive Vibration - Hand/Limb /Whole body	Hazard of excessive vibration to a hand or limb.
Excessive Shaking / Shock	Hazard of excessive shaking of the equipment or its mounting / shock loads
Radiation Hazards	
Ionic Radiation	Hazard of Ionic Radition. E.g. Alpha, Beta, Electron & Ion beams.
Lasers & LEDs	Hazards relating to lasers & LEDs E.g. reflection of beam and class of lasers
Materials and Substances	
Harmful Gases / Particulates	Hazards relating to harmful gases / particulates - includes suffocation.
Harmful Fluids / Materials	Hazards relating to harmful fluids e.g. fuels.
Biological / Microbe Risk	Hazards relating to biological or microbial risk sources.
Ergonomic Hazards	
Poor posture / Excessive Effort	Hazard of promoting poor posture or requiring excessive effort to work the equipment.
Inadequate Space	Hazard from inadequate space in or around the equipment.
Inadequate Lighting	Hazard of inadequate lighting.
Poor Operator Visibility	Hazard relating to poor operator visibility.
Human Error	Hazards relating to human error.
Inadequate design / location of controls	Hazards relating to the design or location of controls.
Inadequate design / location of VDUs	Hazards relating to the design or location of visual displays.
Operational Hazards	
Unexpected Start Up/ Overrun	Hazards from unexpected start up or overun of the equipment.
Failure of Control System	Hazards from a failure in the control system.
Restoration of Power	Hazrds from re-establishing power after an interruption.

External Influences	Hazards resulting from external influences on the equipment.
Software Errors	Hazards resulting from errors in software.
Emergency Stops	Hazards resulting from emergency stops at any stage.
Power Failure	Hazards resulting from power failure.
Environmental Hazards	
Environmental Influences	Hazards from the changing environment. E.g. Gravity / Wind / Rain / Ice.
Pollution - Water & Air	Hazard of pollution to water and air.
Pollution - Mechanical	Hazard of pollution to surrounding area.
Pollution - Noise	Hazard of pollution to surrounding area through noise.

6.3.2 Business Risks

Managers and supervisors are to identify hazards, assess the risks of harm resulting from exposure to the hazards and set a priority for corrective action by using a clearly laid out process.

The process is as follows:

(i) Identified hazards are placed on the Risk Assessment and Control Form.

(ii) A Risk Category Table (below) is then used to categorise the type of risk

Table 2. Business Hazards

Risk Category	Clarification of Hazard
Behaviors	Internal code of conduct; reckless (disasters), conservative (opportunities lost), observation of policies and procedures, fraud, corrupt conduct, loss of IP
Environmental	Water, soil, air contamination, waste management, incidents causing damages, injury/ death, environmentally triggered emergencies
Financial	Reductions in income, liquidity, financial loss, insurances, debt, budget overruns, tenders.
Infrastructure	The physical fabric of the building, roads, pathways, utilities (electricity, waste) access
Legal	Contracts and agreements, high profile litigation - financial and reputational impact.
Legislation	Breach, financial penalty/ impact on reputation, laws, regulations, codes
Organization	Strength of policies and procedures, planning, staffing, morale, training, ethical culture, leadership and management.
Political	Ability to respond to major changes in education policies, level of government consultation
Reputation	Damaging media reports, employability of graduates, research links, regional involvement.
Technology	Strategic direction of IT, reliance on ecommerce/ email/ internet, cyber attacks

6.3.2.1 Typical Business Risks

By way of example, a list of typical and potential top level business risks may include:

- Non-adherence to account opening procedure
- Non generation of sufficient liability through trade products
- Mis-selling
- Effective Customers service
- Un planned growth
- Implementation of planned strategy
- Speed of implementation of strategy
- Incomplete documentation
- Forged Documentation
- Concentration of customers
- Product portfolio planning

- Staff attrition 13 Foreign currency
- Regulatory risk
- Regulatory reporting on liability
- Liability / Sustainability

6.3.3 Laboratory Risks

When installing and commissioning the equipment the installer and lab supervisor must undertake a risk assessment of the installed equipment to ensure that all risks associated with its use have been minimised practicably, the physical hazard matrix can be used for this activity.

For experimental and processes used within the laboratory, the primary responsibility for proper hazard evaluations and risk assessments lies with the person performing the experiment. The actual evaluations and assessments may be performed by trained laboratory personnel, but these should be checked and authorized by the supervisor. The supervisor is also responsible for ensuring that everyone involved in an experiment and those nearby understand the evaluations and assessments. For example, depending on the level of training and experience, the immediate laboratory supervisor may be involved in the experimental work itself.

6.3.3.1 Hygiene Management Procedure

The purpose of Hygiene Management Procedure is to prevent illnesses and injuries by identifying, assessing and controlling hazards associated with exposure to contaminants in the workplace in particular those items borne from Laboratory conditions.

The procedure applies to the management of hygiene related hazards that may be experienced in all Department workplaces. Hygiene related hazards may include:

- Noise
- Dust
- Gases, vapours and fumes
- Radiation.
- Biological Hazards

The hygiene management procedure must be followed when undertaking laboratory tests.

6.3.3.2 Material Safety Data Sheets (MSDSs)

Trained laboratory personnel should examine any plan for a proposed experiment and identify the chemicals with toxicological properties they are not familiar with from previous experience. The MSDS for

each unfamiliar chemical should be examined for their hazard, and all requirements for storage and usage complied with.

All chemicals, solutions, agents must have an associated MSDS stored in a central location for ease of access in case of an emergency.

6.3.4 Globally Harmonized System for Hazard Communication

The GHS of Classification and Labeling of Chemicals is an internationally recognized system for hazard classification and communication.

GHS classifies substances by the physical, health, and environmental hazards that they pose, and provides signal words (e.g., Danger), hazard statements (e.g., may cause fire or explosion), and standard pictogram-based labels to indicate the hazards and their severity. When transporting hazardous chemicals, use the pictograms specified in the UN Recommendations on the Transport of Dangerous Goods, Model Regulations. For other purposes, the pictograms in Figure 4.1 should be used.

Container labels should have a product identifier with hazardous ingredient disclosure, supplier information, a hazard pictogram, a signal word, a hazard statement, first-aid information, and supplemental information.

Three of these elements—the pictograms, signal word, and hazard statements—are standardized under GHS. The signal words, either “Danger” or “Warning,” reflect the severity of hazard posed. Hazard statements are standard phrases that describe the nature of the hazard posed by the material (e.g., heating may cause explosion).

Items that do not comply with the GHS communication shall not be stored within the laboratory or used for testing purposes. The list of GHS hazard is shown in the following table.

6.3.5 Chemical Safety Hazard Risk Assessment

Any area or laboratory that contains chemicals or hazardous substances shall complete a Chemical Safety Hazard Analysis which will be lodged with the area representative and the site HSE officer.

Physical Hazards	Health Hazards	Environmental Hazards
Explosives	Cute toxicity	Acute aquatic toxicity
Flammable Gases	Skin corrosion or irritation,	Chronic aquatic toxicity with bioaccumulation potential
Flammable aerosols	Serious eye damage or eye irritation,	Chronic aquatic toxicity with rapid degradability
Oxidizing gases;	Respiratory or skin sensitization	
Gases under pressure;	Germ cell mutagenicity	
Flammable liquids;	Carcinogenicity,	
Flammable solids;	Reproductive toxicology	
Self-reactive substances;	Target organ systemic toxicity—single exposure,	
Pyrophoric liquids;	Target organ systemic toxicity—repeated exposure, and	
Pyrophoric solids, self-heating substances;	Aspiration hazard.	
Substances which, in contact with water, emit flammable gases;		
Oxidizing liquids;		
Oxidizing solids;		
Organic peroxides		
Corrosive to metals.		

6.3.6 When to undertake a Laboratory Risk Assessment?

The risk assessment should be performed when undertaking a new experiment. A new experiment is defined as an experiment that has not been performed by the laboratory worker before in the laboratory.

Initially, all experiments performed by the laboratory worker may be defined as new. However, over time, minor modifications to procedures and repeated experiments will occur. These experiments can use the existing documentation or a photocopied, redated and re-initialised form.

• Any modification that introduces a new hazardous substance constitutes a new experiment.

• Any modification involving a new variable bringing different risks and precautions (eg high temperature, pressure) also constitutes a new experiment.

• Scaling up (or a major change in the scale) the experiment does not necessarily involve the same risks and will be considered to be a new experiment. If there is doubt fill out a new form - it only takes a short time and is time well spent, as part of the experimental planning process.

Before starting an experiment, all the necessary information about the experiment, its design and importantly the MSDS for ALL hazardous substances involved (if possible) shall be obtained. A product in a reaction may be both unknown and hazardous – treat it with caution, if the hazards are unclear.

The precautions given on the MSDS should be noted on the Risk Assessment Form. These should include any specific procedures to be followed in case of spillage or accident as well as particular risk controls, precautions and equipment used. Note that the use of Class 1 carcinogens is only allowed in specially designated isolated carcinogen labs and will require approval from WorkCover.

7 STEP 2: ASSESS RISKS

Risk assessment involves considering the possible results of someone being exposed to a hazard and the likelihood of this occurring.

A risk assessment assists in determining:

- How severe a risk is
- Whether existing control measures are effective
- What action should be taken to control a risk

- How urgently action needs to be taken.

A risk assessment should include:

(i) Identify factors that may be contributing to the risk,

(ii) Review health and safety information that is reasonably available from an authoritative source and is relevant to the particular hazard

(iii) Evaluation of how severe the harm could be. This includes looking at the types of injuries/illnesses/harm/damage that can result from the hazard, the number of people exposed, possible chain effects from exposure to this hazard

(iv) Evaluation of how a hazard may cause harm. This includes examining how work is completed, whether existing control measures are in place and whether they control the harm, looking at infrequent/abnormal situations as well as standard operating situations. A chain of events related to a risk may need to be considered

(v) Determining the likelihood of harm occurring. The level of risk will increase as the likelihood of harm and its severity increases. The likelihood of harm occurring may be affected by how often the task is completed, in what conditions, how many people are exposed to the hazard and for what duration

(vi) Identify the actions necessary to eliminate or control the risk

(vii) Identify records that it is necessary to keep to ensure that the risks are eliminated or controlled.

Other risk factors should also be identified as they may contribute to the risk: including

(viii) The work premises and the working environment, including their layout and condition,

(ix) The capability, skill, experience and age of people ordinarily undertaking work

(x) The systems of work being used

(xi) The range of reasonably foreseeable conditions

The process of assessing the risk is undertaken by reviewing any available information about the hazard, this will include:

1. legislation, Australian Standards, Industry Code of Practice or guidance material about the hazard)

2. Using personal work experience about what sort harm the hazard could create and how likely this would be to happen.

3. Identifying risks through defined templates and formats

When determining how likely it is that a person could be exposed to a hazard, consideration needs to be given to these “exposure factors”:

(i) Whether there are any other risk factors that increase the likelihood of exposure?

(ii) How often is the person exposed (frequency)

(iii) How long is the person exposed (duration)

(iv) How many people are exposed

(v) The likely dose to which the person is exposed

(vi) Legislative or recommended exposure levels required by statutory authorities.

7.1 Risk Estimation & Evaluation Criteria

In order to identify, estimate and reduce the hazards present in the machine a Preliminary Hazard Analysis is required.

A preliminary hazard analysis produces a line item tabular inventory of non-trivial system hazards, and an assessment of their remaining risk after countermeasures have been imposed. This technique offers an analytical approach to the Preliminary Hazard Analysis method.

The Evaluation methodology based on these criteria and experience evaluates the factors, of:

- Degree of Possible Harm (DPH)
- Probability of Occurrence of a Hazardous Event (PO)
- Possibility of Avoidance (PA)

- Frequency and/or duration of Exposure (FE)

A Hazard Rating can then been calculated from the following formula:

PHR = DPH x PO x PA x FE

Where the above parameters can take the following values:

Degree of Possible Harm (DPH) for Engineering and Laboratory Controls

0.25	Scratch / Bruise / Skin Irritation
0.5	Laceration / Mild ill health / Minor burns
3	Fracture minor bone / Eye Injury
5	Fracture major bone – hand, arm, leg
8	Loss of 1 or 2 fingers/ toes / Major burns
11	Leg / hand amputation / Partial loss of hearing / Partial Loss of Sight
15	Amputation of 2 legs/hands, / Carcinogenic/ Total loss of hearing/sight
25	Critical injuries / Permanent illness/ Acute Toxicity
40	Single Fatality / Asphyxiation
65	Catastrophe

Degree of Possible Harm (DPH) for Business Risks

0.25	Very high financial stability / Negligible Impact
0.5	High financial stability / Very Minor Impact
3	Good financial stability / Some Internal Instability
5	Stable, slightly above average financial stability / Major Internal Instability
8	Average financial stability / Minor Business Disruption
11	Medium Risk / Some Business Disruption
15	Increased Risk / Business Disruption
25	High Risk / Major Business Disruption
40	Very High Risk / High Possibility of Business Failure
65	Extremely High Risk / Very High Possibility of Business Failure

Probability of Occurrence of Hazard Event (PO)

0.05	Almost impossible
1.25	Unlikely
2.5	Possible
4	Probable

6	Certain

Possibility of Avoidance (PA)

0.75	Possible
2.5	Possible under certain circumstances
5	Not Possible

Frequency of Exposure (FE)

0.5	Annually
1	Monthly
2	Weekly
3	Daily
4	Hourly
5	Constantly

8 STEP 3: CONTROLLING RISKS

Once a risk rating is determined, each hazard must have its existing risk control measures evaluated using the Evaluation of Control Effectiveness Table. This allows for determination of any additional requirement necessary.

	PHR	RISK	COMMENT
	1 - 10	Negligible	Present practically no risk to health and safety. No further risk reduction measures are required
	11 – 20	Very Low	Presents very little risk to health and safety. no significant risk reduction measures are required, may necessitate the use of personal protective equipment and/or training.
	21 – 45	Low	Low Risk Risk to health and safety is present, but low. Risk reduction measures must be considered.
	46 – 160	Significant	Significant Risk The risk associated with the hazard is substantial enough to require risk reduction measures. These measures should be implemented at the next suitable opportunity.
	161 - 500	High	High Risk Potentially dangerous hazard, which requires risk reduction measures to be implemented urgently.
	501+	Very High	Very High Risk Risk reduction measures should be implemented immediately, corporate management should be notified.

9 STEP 4: IMPLEMENT ADDITIONAL RISK CONTROLS

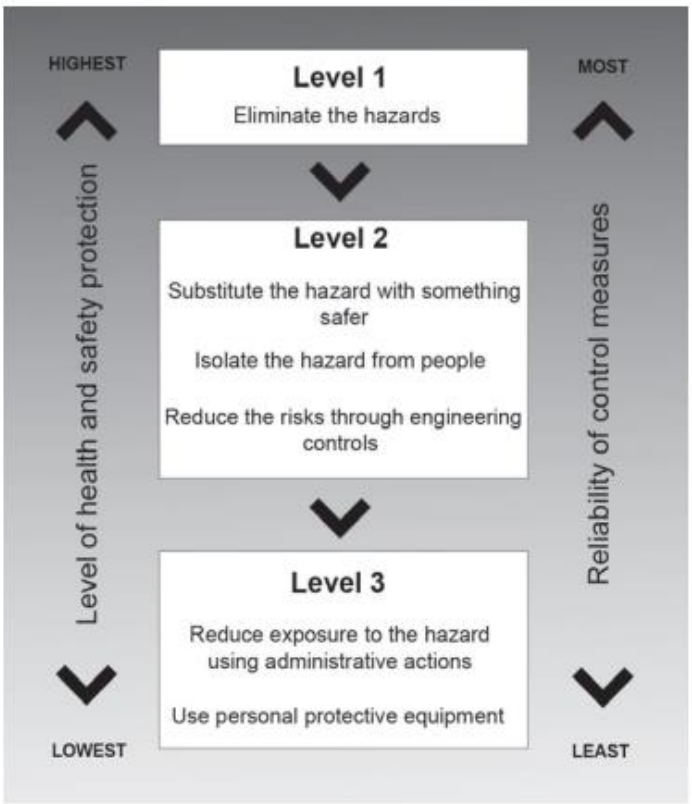
Having identified the hazards in the workplace, assessed their risks and reviewed the existing controls, all hazards shall be managed. Failing to act upon the outputs of the risk assessment is negligent putting the business at unnecessary and avoidable risk.

The management of risks in the workplace requires eliminating risks so far as reasonably practicable in the first instance.

Where elimination is not possible, then risks should be minimised, so far as reasonably practicable.

All hazards that have been assessed should be dealt with in order of priority. The most effective control option(s) should be selected to eliminate or minimise risks.

The Hierarchy of Controls (see diagram below) ranks control options from highest level of protection and reliability to lowest. This should be used to determine the most effective control(s)



9.1 Level 1 Control Measures - Eliminate the Hazard

The most effective control measures eliminate the hazard and associated risks. This can be achieved through removing the hazard or selecting alternate products or equipment to eliminate the risk. If a hazard cannot be eliminated then risks can be minimised by lower control measures

9.2 Level 2 Control Measures

These are used to minimise the risks and involve on or a combination of the following;

(i) Substitute the hazard: substitute a substance, method or material to reduce the risk or the hazard

(ii) Isolate the hazard: separate the hazard from the workplace or people, For example;

a) Chemical store room / lab locked except to an authorised person

b) Lock out procedures on faulty equipment.

c) Appropriate guarding for machinery.

(iii) Use engineering controls: modify existing machinery or plant or purchase different machinery or plant to provide a physical solution. For example;

a. Trolleys, hoists or cranes.
b. Guard rails.

9.3 Level 3 Control Measures

These are control options which should be considered last as they do not control the source of the hazard but rely on human behaviour or supervision and are therefore less effective. They include;

(iv) Administrative Procedures: develop work methods or procedures to reduce the conditions of risk, for example: a. Written Safe Operating Procedures b. Job rotation to restrict hours worked on difficult jobs. c. Staff trained in the correct operating procedures.

(v) Use Personal Protective Equipment (PPE) and training in its use: offer the lowest level of protection and should only be used as a last resort to deal with the hazard, where the hazard cannot be removed or reduced by any other means, for example:

a. Handling of chemicals – gloves, safety glasses, aprons.

b. Protecting eyes from flying particles.

c. Protecting feet – safety boots.

Consultation with workers is required in the selection and implementation of control measure in the workplace.

Controls may need to be trialled to determine effectiveness and workers should be involved in the feedback process.

Each measure must have a designated person and date assigned for the implementation of controls.

This ensures that all required safety measures will be completed and documented.

10 STEP 5: MONITOR AND REVIEW

Hazard identification, risk assessment and control is an on-going process. Therefore, regularly review the effectiveness of your hazard assessment and control measures at least every 3 years. Ensure a hazard and risk assessment is performed there is a change to the workplace including when work systems, tools, machinery or equipment change.

Provide additional supervision when new employees with reduced skill levels or knowledge are introduced to the workplace. The effectiveness of control measures can be checked through regular reviews as well as consultation with workers.

Maintaining records of the risk management process assists when undertaking subsequent reviews or risk assessments as it demonstrates decision making processes and informs how controls were intended to be implemented.