Workplace Risk Assessment Standard

Purpose

To identify potential hazards, analyze the likelihood of risks of possible harm or mishap that could happen if a hazard occurs in a workplace and control them to an acceptable tolerance or limit by a risk reduction method. This method shall be adopted in all works locations of HSCL.
Risk assessment is a methodical in-depth observation of your workplace to identify those activities, methods, systems, situations, processes that may cause harm, particularly to people. After identification is made, analyze and evaluate how likely and severe the risk is and take measures to eliminate or reduce the potential to harm people. Only trained and competent people will undertake the task of Risk Assessment.

Scope

Risk Assessment to be done for all tasks and activities in all manufacturing units, plants, offices, R&D Centres, Warehouses, Laboratories, where employees, contractors/ sub-contractors, visitors, volunteers, stake holders are engaged/ involved.

Method:

Step 1: Identify the Hazards Present in tasks and activities –
Observe activities to be risk- assessed in standard and Non-standard jobs. Standard jobs are those that are performed regularly and periodically and Non-Standard jobs are those that are done frequently or exceptional. People engaged in such jobs must be involved to strengthen the Risk Assessment process. Look out for the lurking Hazards prevailing in the activity- like:

- Physical Hazards: (slips, trips, falls body stressing, confined spaces, electricity, noise, vibration radiation, heat, cold, fire).
- Chemical Hazards: (asphyxiates, corrosives, irritants, sensitizers, carcinogens, mutagens, reactive, flammable
- Ergonomic Hazards: (improperly adjusted workstations and chairs, frequent lifting, frequent bending, compression or contact stress, forceful exertions, poor or awkward posture, awkward movements, especially if repetitive, using too much force frequently, noise & vibration, poor illumination & insufficient rest breaks.
- Biological Hazards: (blood and other body fluids, fungi/mold, bacteria and viruses, plants, insect bites, animal and bird droppings.

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- Environmental hazards: (air contaminants, Toxic waste, Radiation, Heavy metals, chemicals in consumer products, chemical spills, dust, smoke, offensive odors, unwanted noise and vibration, extreme temperatures and weather events.
- Psychological Hazards: (work-related stress, bullying and harassment, lone or remote working, violence in workplace, fatigue, fear of unemployment, alcohol and drug use.

Further, local legislation will be considered and complied to control and reduce the hazards adequately if required.

Step 2: Identify who (or what) May be Harmed and How

Identify who or what could be harmed to the identified hazards. This will cover all employees, contractors/ sub-contractors, visitors, volunteers, stake holders including pedestrians and member of public who could be injured or suffer ill-health due to exposure of hazards inside or outside factory premises during working or hours or beyond working hours.

Step 3: Assess the current control measures of hazards:

Document the current control measures available and in place. These could include normal & special PPE, machine guarding, inter-locks, light barriers, physical barricading with caution signage, dust extraction, exhaust systems, illumination, both hand operating switches. Risk Priority Number (RPN) needs to be established to determine the significance level of risk, whether the level of risk is significant requires assessment of the Severity of harm, which could occur, and the Likelihood (probability) that the harm will occur and assign scores to these factors by multiplying "L" x "S" = RPN. The higher the number, greater is the level of risk. Refer Appendix- B

Step 4: Risk Reduction Method

After having arrived at the RPN of 'current control measures' it is to be determine whether they are adequate for the significant hazards or not? If the 'current control measures' are adequate and the risks are low, then no further action is required. However, if the 'current control measures' are inadequate, then we must evaluate what possible improvements can be made using Hierarchy of Control Measures, so that the risks are within acceptable limit. Refer Appendix-C

Step 5: Record the Findings and Develop Safety Improvement Action Plan

The findings of the Risk Assessment shall be reviewed by the management team immediately. Where the risks are low, they should meet the requirement of local legislation. However, if the 'current controls measures' do not fulfil the requirements of local legislation and where the limitation of such measures pose a serious threat of harm or damage, these must be identified as 'improvement priorities' that require solutions.

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'Improvement priorities' shall be practical, achievable, must be discussed and agreed with management team with a commitment and assigned responsibility to close them within a reasonable time frame. The mitigation status shall be reviewed in every meeting and update the progress to management team. Wherever, a CAPEX is required, it need to be escalated separately to the higher management.

Once 'improvements priorities' against the identified hazards are completed and implemented successfully, then the rating of RPN shall be revisited and the effectiveness of mitigations need to checked from time to time and reviewed.

Accountability

Managers are responsible and accountable for ensuring this standard is fully implemented in all manufacturing units, plants, offices, R&D Centres, Warehouses, and Laboratories. No concession will be allowed unless approved by Executive Committee.

APPENDIX A: TERMINOLOGY – DEFINITIONS

Hazard – Anything that has the potential to cause harm. For example, a chemical, a machine or working at height.

Risk – The probability or likelihood that harm results from the given hazard. For example, being burnt by acid, cutting your hand on a machine part or falling from height.

APPENDIX B:

Risk Rating:

Severity -

Insignificant (First Aid Case) -1

Minor (injury that causes man days loss or is a hospital case but doesn't lead up to more than 3 days) – 2

Moderate (injury that causes man days loss or is a hospital case and takes more than 3 days to heal but does not lead to permanent physical unfitness to work) – 3

Major (injury that leads to permanent disability of the concerned person i.e. the person will no longer be able to work) – 4

Critical (Fatality) - 5

Likelihood -

Rare (once a month or less) – 1

Unlikely (once a week or more) – 2

Possible (once a day or more) – 3

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Likely (several times a day) – 4
Almost certain (continuous) - 5

Risk Classification -

Total Risk Score = 1-4 (Low)
Total Risk Score = 5-8 (Medium),
Total Risk Score = 8-14 (High), OCP Required
Total Risk Score = 15-25 (Extreme), OCP Required

High and Extreme Hazards are considered as Significant Hazards.

How to Calculate Risk??

RISK PRIORITY NUMBER = SEVERITY (S) X LIKELIHOOD (L)

LIKELIHOOD (L)						
Almost Certain	5	Moderate	High	Extreme	Extreme	Extreme
Likely	4	Moderate	Moderate	High	Extreme	Extreme
Possible	3	Low	Moderate	Moderate	High	Extreme
Unlikely	2	Low	Low	Moderate	High	High
Rare	1	Low	Low	Low	Moderate	Moderate
		1	2	3	4	5
		Insignificant	Minor	Moderate	Major	Critical
				SEVERITY (S)		

APPENDIX C:

The Hierarchy of Controls is as follows

1 Eliminate the Hazard: (means stop performing a task or activity – a most preferred solution)

2 Reduce (or Substitute) the Hazard: (means substitute with a less hazardous material)

3 Isolate the Hazard: means total containment or isolation of the hazard or activity

4 Control extent of Exposure/ Contact: (means exposing for a limited time in the hazard activity).

5 PPE/ Job Instruction/ Discipline / Training: (means after implementing all 4 controls or a combination of controls, the residual risks are to be controlled with PPE and others.

Remember: PPE is the last line of defence.

APPENDIX D:

Risk Assessment Template to use.

Review and Revision of Risk Assessments

Risk assessments need to be reviewed annually. However, they will be reviewed immediately in the following events:

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- Following an Accident.
- Change in raw material
- Significant changes in process.
- Changes in design
- Relocation of workplace or the environment.

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