

## Unit IG2: Risk assessment

**Declaration:** By submitting this assessment (Parts 1 – 4) for marking I declare that it is entirely my own work. I understand that falsely claiming that the work is my own is malpractice and can lead to NEBOSH imposing severe penalties (see the NEBOSH Malpractice Policy for further information).

**Important note:** You must refer to the document 'Unit IG2: risk assessment – Guidance and information for learners and Learning Partners' while completing all parts of this assessment. Your Learning Partner should provide you with a copy, but it can also be downloaded from the relevant resources section for this qualification on the NEBOSH website.

### Part 1: Background

You should aim to complete this section in 150 - 200 words.

Topic	Comments
Name of organisation*	Afaq Soap Factory
Site location*	Peshawar, KPK, Pakistan
Number of workers	280
General description of the organisation	<p>The Afaq Soap Factory is a medium-sized factory with a decent workforce. The industry's plant site includes a raw material mixing section, a boiling section, a cutting section, a saponification section, a packing section, a warehouse, an admin section, a transport section, a mess area, and a mechanical workshop.</p> <p>In 2001, Afaq Soap Factory began the commercial manufacture of soap and detergents. The company manufactures beauty soap, household cleaners, and textile washing soap. "Swannah" is the brand name of beauty soap, "Stainemy Soap" is the brand name of clothing washing soap, and "Smart washing powder" is the brand name of detergent. The company is well-known for producing high-quality beauty soap and detergent. Routine tasks at the factory site include chemical handling, physical handling, cutting, mixing, and packing of the finished product.</p>

	The plant only runs one 12-hour shift. Shift times are from 8 a.m. to 8 p.m. Workers have a day off on Sunday. Guards work in two shifts, 24 hours a day, seven days a week.
Description of the area to be included in the risk assessment	I assessed the Raw material mixing section, the saponification section, the warehouse, the admin block, the boiling section, and the mechanical workshop during this risk assessment.
Any other relevant information	I have visited the organization on October,9, 2022 to conduct the risk assessment to ensure health and safety within the workplace. The HSE manager was responsible for health and safety.

\* If you're worried about confidentiality, you can invent a false name and location for your organisation but, all other information provided must be factual.

**You should aim to complete this section in 100 - 200 words.**

Note: this section can be completed after you have completed your risk assessment.

<p>Outline how the risk assessment was carried out this should include:</p> <ul style="list-style-type: none"> <li>• sources of information consulted;</li> <li>• who you spoke to; and</li> <li>• how you identified: <ul style="list-style-type: none"> <li>- the hazards;</li> <li>- what is already being done; and</li> <li>- any additional controls/actions that may be required.</li> </ul> </li> </ul>	<p>A brief Risk assessment of Henkel Industrial Adhesives Factory was carried out to identify the hazards and their control measures to ensure the health and safety practices within the organization with the help of ILO codes of practices, British Government website regarding Health and safety:</p> <p><a href="https://www.ilo.org/safework/industries-sectors/WCMS_219013/lang--en/index.htm">https://www.ilo.org/safework/industries-sectors/WCMS_219013/lang--en/index.htm</a></p> <p><a href="https://www.iloencyclopaedia.org/part-xii-57503/rubber-industry">https://www.iloencyclopaedia.org/part-xii-57503/rubber-industry</a></p> <p><a href="https://www.hse.gov.uk/pubns/indg273.pdf">https://www.hse.gov.uk/pubns/indg273.pdf</a></p> <p>and NEBOSH IG2 Textbook provide me enough information to detect the hazards and their control measures.</p> <p>I spoke to HSE advisor, Admin manager, Mechanical engineer, area manager and randomly some workers to know their interests regarding health and safety in Henkel Industrial Adhesives. Majority of the workers were not aware with the health and safety laws and international standards.</p> <p>I have checked the health and safety policy, audit report, lost-time injury record, staff turnover rate, accident/incident investigation report, medical and absentees' records, health and safety representative security checks record etc. to achieve adequate knowledge to identify the hazards resources and their existing control measures and to provide additional control measures to manage the health and safety within the Henkel Industrial Adhesives.</p> <p>I have also suggested additional control measures for Fire, Working at height and Electricity by using these links:</p> <p><a href="https://www.ilo.org/global/topics/labour-administration-inspection/resources-library/publications/guide-for-labour-inspectors/fire-safety/lang--en/index.htm">https://www.ilo.org/global/topics/labour-administration-inspection/resources-library/publications/guide-for-labour-inspectors/fire-safety/lang--en/index.htm</a></p>
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[https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100\\_ILO\\_CODE:C062](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C062)  
<https://www.ilo.org/global/topics/labour-administration-inspection/resources-library/publications/guide-for-labour-inspectors/electrical-safety/lang--en/index.htm>

## Part 2: Risk Assessment

Organisation name: Al-Khozama Soap Factory Limited  
 Date of assessment: 02 September, 2022  
 Scope of risk assessment: Raw material mixing section, saponification section, admin block, warehouse, mechanical workshop and boiling section

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within ...)	Responsible person's job title
<b>Hazardous Substance</b>  Liquid solution of caustic soda was producing toxic fumes which could cause chemical burns to the workers	Workers, operators, supervisors and visitors might be harmed due to exposure to toxic fumes  In raw material mixing section, solution of caustic soda was being produced for saponification. Making solution of caustic soda is an exothermic process as well as releases toxic fumes. Workers were working in the area without proper safety and care.  Toxic fumes may cause irritation in eyes, chemical burns to skin, may cause blindness, irritation on skin, and damage to lungs	Safety signs are present in the area  Frequent rest breaks are provided to the workers	Local Exhaust Ventilation system should be installed in the area to reduce toxic fumes	1 month	Finance Manager
			Eye wash stations should be installed in the area	2 weeks	Finance Manager
			Emergency showers should be installed in the area	1 month	Finance Manager
			First aid box should be present in the area	1 week	Safety Head
			Proper training and instructions should be given to the workers	3 weeks	Safety Head
			Safety masks, breathing apparatus and other personal protective equipment should be provided to the workers	3 weeks	Safety Head
			Workers should be given proper health surveillance facilities by the company	3 months	HSE manager Admin Staff

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within ...)	Responsible person's job title
<b>Work Equipment</b>  Safety guard of the raw material mixer was broken, which could cause drawing-in hazard and injuries	Workers, operators, supervisors and visitors might be harmed  In raw material mixing section, safety guard of the mixer was broken and remaining part was sharp edged. This could cause entanglement, drawing-in or cutting hazards.  This may cause cuts, bruises, loss of body parts, broken or fractured bones and even death in some cases	Safety signs are placed in the area  First aid box is present in the area	Install new adjustable safety guards on the raw material mixer	3 weeks	Maintenance Foreman
			Proper maintenance of the mixer should be done periodically	1 week	Maintenance Foreman
			Tripping devices should be installed in case of emergency	2 weeks	Electrical Foreman
			Emergency shutdown button should also be present	2 weeks	Maintenance Foreman
			Appropriate clothing should be provided to the workers	2 weeks	Safety Head
			Proper instructions and trainings should be given to the workers	3 weeks	Safety Head
			Proper protective equipment should be given to the workers	2 weeks	Safety Head
<b>Noise</b>  During mixing operation, excessive and unbearable noise was being produced by the mixer due to absence of acoustic barriers which could	Workers, supervisors, operators, visitors and public exposed to the noise might be harmed  In raw material mixing section, during mixing operation, unbearable, excessive and continuous noise was being produced. Workers were not given ear plugs. Regular maintenance	Safety signs are present in the area  Workers are given job rotation facility during job  Local toolbox talk is given to the workers before start of the activity	Proper noise absorbing acoustic barriers should be installed around the mixer	1 month	Finance Manager
			Maintenance and inspections of the mixer should be carried out after regular intervals	2 weeks	Maintenance Foreman
			Noise resistant haven should be built in the area	2 months	Finance Manager
			Frequent breaks should be given to the workers	2 weeks	Admin Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within ...)	Responsible person's job title
cause hearing impairment	of the mixer was also not being done  Noise may cause hearing impairment, temporary hearing loss, ringing in the ears, sleeplessness, discomfort, pounding heartbeat, increased blood pressure, permanent hearing loss and noise induced hearing loss		First aid box should be present in the area	2 weeks	Safety Head
			Proper training sessions should be given to the workers	3 weeks	Safety Head
			Ear plugs, ear muffs and personal protective equipment should be given to the workers	2 weeks	Safety Head
			Health surveillance should be given to the workers	3 months	HSE Manager Medical Staff
<b>Electricity</b>  There was hazard of electrical shock from damaged cables of machines under maintenance	Workers, operators, supervisors and workers might be harmed  In mechanical workshop, most of the electrical cables of the under maintenance machines were damaged. Workers were working on them without insulated personal protective equipment. No supervision was present in the area.  Electricity may cause electric shock, electrocution, discomfort, skin burn, internal organ damage and death in most cases	Safety signs are present in the area  First aid kit is present in the area  Toolbox talk is given to the workers working in the area	Replace damaged electrical cables with new and double insulated cables	3 weeks	Electrical Foreman
			Proper Earthing of the electrical equipment should be done	1 week	Electrical Foreman
			Circuit breakers should also be installed in the machines	2 weeks	Electrical Foreman
			Proper supervision should be provided during maintenance activity	1 week	Activity Supervisor
			Proper training sessions and instructions should be given to the workers	3 weeks	Safety Head
			Proper insulated personal protective equipment should be given to the workers	3 weeks	Safety Head

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within ...)	Responsible person's job title
<b>Vibration</b> Rotary pumps were generating high amplitude of vibration which could cause nerve damage in workers	Workers, operators, supervisors and visitors exposed to the high level of vibration might be harmed  In saponification section, a number of rotary pumps were working. Most of them were generating high amplitude of vibration due to high load and lack of maintenance and workers working on them might be harmed.  Vibration may cause headache, back pain, shivering, hand arm vibration syndrome, tingling sensation, numbness, white fingers and nerve damage	Job rotation of the workers is being done to reduce exposure of vibration  First aid box is present in the area	Regular maintenance should be carried out on these rotary pumps to reduce vibration	3 weeks	Maintenance Foreman
			Pumps should be placed on vibration absorbing platform	2 months	Finance Manager
			Periodic inspections should also be performed to monitor performance of the pumps	1 month	Maintenance Inspector
			Frequent breaks should be given to the workers to reduce their exposure time	1 week	Admin Manager
			Proper training sessions should be given to the workers working on the pumps	3 weeks	Safety Head
			Proper personal protective equipment should be given to the workers	2 weeks	Safety Head
			Proper health surveillance should also be given to the workers	3 months	Finance Manager
<b>Electricity</b> High voltage electrical wires were at very low height above head in plant which could cause arcing	Workers, drivers, supervisors and visitors might be harmed  In plant area, height of the high voltage electrical wires was very low like 20 feet above ground, workers and vehicles often pass under the line, this could cause serious	Toolbox talk is given to the workers about electricity hazards  First aid box is present in the area	High voltage electrical wires should be placed underground	1 month	Operation Manager
			Safety signs should be placed in the area	2 weeks	Safety Head
			Passage of workers and vehicles should be avoided from the area	1 week	Admin Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within ...)	Responsible person's job title
	<p>danger to the lives of the workers on contact or due to arcing</p> <p>Electricity may cause arcing, electrocution, electric shock, skin burns, internal and external organ damage and death in most cases</p>		Experienced first aider along with first aid box should also be present in the area	1 month	Safety Head
			Proper lighting level should be maintained in the area	2 weeks	Area Head
			Proper training sessions should be provided to the workers about safety from electrical hazards	2 weeks	Safety Head
			Proper insulated personal protective equipment should be provided to the workers	3 weeks	Safety Head
<p><b>Work at Height</b></p> <p>Some workers were renovating admin block building using weak standing platform, which could cause fall of person hazard</p>	<p>Workers working on scaffolding and under the scaffolding might be harmed</p> <p>In admin block, renovation work of the section was being done. Some workers were painting the walls of the section using old ladders and other weak mobile elevated standing platforms with rusty guardrails and toe-boards. This could cause fall of object or fall of person hazards.</p> <p>Collapse of standing platform may cause wounds, cuts, bruises, skull injury, spinal</p>	<p>Permit to work system is being followed</p> <p>Toolbox talk is given to the workers about work at height</p> <p>Standing platform is placed on a levelled ground</p>	Use third party certified and green tagged scaffolding for the work	1 month	Admin Manager
			Replace rusty safety guardrails with new and third party certified guardrails	3 weeks	Scaffolding Supervisor
			Replace fragile and weak toe-boards with new and strong toe-boards	3 weeks	Scaffolding Supervisor
			First aid box should be present near scaffolding	2 weeks	Safety Head
			Scaffolding area should be properly cordoned off	1 week	Activity Supervisor
			Proper instructions and trainings about work at height should be given to the workers	3 weeks	Safety Head



Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within ...)	Responsible person's job title
	injury, dislocated bones and even death of workers		Double safety harness and other necessary personal protective equipment should be given to the workers	3 weeks	Safety Head
<b>Slips and Trips</b>  Aqueous solution of caustic soda was spilled over the floor, which could cause slip and fall hazard	Workers, supervisors and visitors might be harmed	Slip resistant shoes are provided to the workers	Whole caustic solution spillage should be properly removed	1 week	Housekeeping Head
	In raw material mixing section, caustic soda was being mixed with water to form its aqueous solution. During this process, due to leakage of mixing vessel, solution was spilled over the floor of the section. Anyone could slip and fall there.  This may cause twisted ankles, broken or fractured bones, dislocated shoulders, back pain, head injury or spinal injury	First aid box is present in the area	Leakage of the mixing vessel should be found out and properly maintained	1 week	Maintenance Head
			Absorbing mats should be placed in the area	2 weeks	Area Head
			Proper slip control kit should be present in the area	2 weeks	Area Head
			Safety signs should also be present in the area	2 weeks	Safety Head
			Workers should be properly trained to deal with the situation	3 weeks	Safety Head
			Slip resistant shoes and others Personal protective equipment should be given to the workers	2 weeks	Safety Head

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within ...)	Responsible person's job title
<b>Fire</b>  Near warehouse, a worker was welding a water pipeline. Welding sparks might cause fire and explosion when reacted with stored chemicals	Workers, supervisors, operators and visitors might be harmed  A worker was welding a leaked water pipeline near warehouse. Area was not barricaded and fire watcher was not present in the area. Sparks of the welding could cause fire in the warehouse  Fire may cause product loss, building and plant equipment loss, skin burns, internal and external organ damage and death in most cases	Permit to work system is followed by the worker  Toolbox talk is given to the worker about welding operations	Leaked water pipe should be replaced with the new one to avoid welding	2 weeks	Maintenance Foreman
			In case of welding, area should be barricaded	1 week	Activity Supervisor
			Fire watcher should be present during the whole activity	1 week	Safety Head
			Fire extinguishers should be present in the area	1 week	Safety Head
			Full fire fighting kit should be present in the area	1 month	Finance Manager
			Safety signs should be present in the area	1 week	Safety Head
			First aid box should be present in the area	1 week	Safety Head
			Proper training sessions should be given to the workers	2 weeks	Safety Head
Flame resistant clothes and other Personal protective equipment should be given to the workers	2 weeks	Safety Head			

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within ...)	Responsible person's job title
<b>Health, Welfare and Work Environment</b>  Temperature of the boiling section was very high due to working of the boiler, which could cause muscle cramps to the workers  Exposure to high temperatures may cause dehydration, muscle cramps, heat stress, heat exhaustion, heat stroke and skin burns	Workers, supervisors, operators and visitors might be harmed  In boiling section, boiler was working around 1700 degree Celsius temperature. Workers in the area were compelled to work near this high temperature. Workers were not provided with proper safety and health care.  Exposure to high temperatures may cause dehydration, muscle cramps, heat stress, heat exhaustion, heat stroke and skin burns	Safety signs are placed in boiling section  Job rotation is in action to reduce exposure time of workers  Local toolbox talk is given to the workers to avoid heat exposure	Insulate the boiler so that heat loss to the environment may be reduced	1 month	Finance Manager
			Chilled drinking water should be provided to the workers to reduce heat effects	1 week	Admin Manager
			Frequent rest breaks should be given to the workers to reduce exposure to the hot environment	2 weeks	Admin Manager
			Dressing should be provided according to the environment	2 weeks	Admin Manager
			Proper training sessions should be given to the workers about heat exposure	3 weeks	Safety Head
			Workers should be provided with heat resistant clothes and others proper personal protective equipment	2 weeks	Safety Head
			Proper health surveillance should be given to the workers	3 months	Safety Head Medical Staff
<b>Mental ill Health</b>  Some workers were stressed and depressed due to high workload and long duty time	Workers working under pressure might be harmed  Some workers in the factory were unhappy, stressed and depressed due to high workload, high production demands and long duty	Medical doctor is present on plant site  Health surveillance is given to the workers	Workload of the workers should be lessened	1 week	Admin Manager
			Duty timings of the workers should be decreased	2 weeks	Admin Manager
			Feedback of the workers should be given importance	2 weeks	Admin Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within ...)	Responsible person's job title
which could cause nausea and mental fatigues	timing. Management did not listen their concerns  This may cause sleeplessness, loss of concentrate, unhappiness, hyper vigilance, pounding heartbeat, palpitation, nausea, chest pain, loss of appetite and headache		Workers should be involved in policy making	1 month	Safety Head
			Concerns of the workers should be listened carefully and should be solved	1 week	Admin Manager
			Appreciation culture should be introduced in the company	2 months	Admin Manager
			Proper information, instruction and trainings should be given to the workers  Health surveillance should be given to the workers	3 weeks  3 months	Safety Head  Safety Head

### Part 3: Prioritise 3 actions with justification for the selection

#### Suggested word counts

Moral, general legal and financial arguments for all actions: 300 to 350 words

#### For EACH action:

Specific legal arguments: 100 to 150 words

Likelihood AND severity: 75 to 150 words

How effective the action is likely to be in controlling the risk: 100 to 150 words

### Moral, general legal and financial arguments for ALL actions

<p>Moral, general legal and financial arguments</p>	<p><b>Moral Arguments:</b></p> <p>It is moral responsibility and duty of care of every company to provide safe workplace, safe equipment and safe system of work. So, Shamshir Chemical Industries Limited has to follow this moral obligation to provide safe system of work to their workers. Workers come in the company every morning to give their best for the growth of the company and to earn some money for their children. They do not come into company premises to meet an accident or to get injuries.</p> <p>Injuries can have negative results on worker's mental and physical health. As a result, worker's social life can also be destroyed. On the other hand, when workers work in a safe environment, they increase production and reputation of the company and this thing has positive impacts on workers and their families.</p> <p><b>Financial Arguments:</b></p> <p>Accidents all damage financial conditions of the companies and their injured employees. If a worker becomes disabled during an accident, he may lose his job, he may not be insured, so he may not get any civil claims or insurance amount. So, the worker and his family may face financial crises. While companies face financial losses in a broader picture.</p> <p>Financial costs which company has to bear after an accident can be categorise as:</p> <ul style="list-style-type: none"> <li>• Direct costs: include medical costs of the injured workers, lost time injury costs, first aid costs, sick pay costs, overtime costs, and new hiring costs</li> <li>• Indirect costs: include production loss, building and equipment damage, loss of production time, loss of contracts, delay in orders, loss of reputation and loss of face value</li> <li>• Enforcement action costs: include lawyer fees, court fines, civil and criminal claims</li> </ul> <p>So, company should pay a lower price and should invest on health and safety of the workers to avoid accidents.</p>
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	<p><b>Legal Arguments:</b></p> <p>Every company has to follow local and international safety standards in order to maintain its reputation, to get certifications and for their worker's safety. R-164 states that Employer should provide work equipment, workplace, and method of work and machinery safe and without risk to health.</p> <p>Shamshir Chemical Industries Limited follow all international safety standards and all national safety laws. Company obeys international safety standards like ILO conventions, ILO recommendations and HSE codes of practise and also obeys local law, Pakistan Factories Act 1934. If company breaches any of these laws or fails to comply with these safety standards, company may face court orders to stop the work, court improvement notices, prosecutions, imprisonments and court fines. Company can also lose international safety certifications, international memberships and benchmarking status. Company may also lose civil claims to the workers and due to which company has to pay money and may lose its face value and reputation.</p> <p>So, to avoid all these legalities, it is good for company to invest on the health and safety of the workers.</p>
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### Justification for action 1

Action (Taken from column 4 of risk assessment)	Local Exhaust Ventilation system should be installed in the area to reduce toxic fumes (Hazardous Substance)
Specific legal arguments	<p><b>R156 - Working Environment (Air Pollution, Noise and Vibration) Recommendation, 1977 (No. 156) says that;</b></p> <p><i>"11. The employer should ensure the regular inspection and maintenance of machines and installations, with respect to the emission of harmful substances, dust, noise and vibration.</i></p> <p><i>12. The competent authority should, when necessary for the protection of the workers' health, establish a procedure for the approval of personal protective equipment".</i></p> <p><a href="https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312494">https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312494</a></p> <p><b>ILO convention 155 (occupational safety and health convention) says that;</b></p> <p><i>"Employers shall be required to ensure that, so far as is reasonably practicable, the workplaces, machinery, equipment and processes under their control are safe and without risk to health"</i></p>

	<p><i>Employers shall be required to provide, where necessary, adequate protective clothing and protective equipment to prevent, so far as is reasonably practicable, risk of accidents or of adverse effects on health”.</i></p> <p><a href="https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C155">https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C155</a></p> <p>This ILO recommendation asks companies to install protective machines and engineering controls to reduce hazardous substances in workplace. But Al-Khozama Soap Factory Limited does not comply with this recommendation.</p>
<p>Consideration of likelihood AND severity</p> <ul style="list-style-type: none"> <li>• types of injury or ill health</li> <li>• number of workers at risk</li> <li>• how often the activity is carried out</li> <li>• how widespread the risk is</li> </ul>	<p><b>Likelihood</b> of the injuries by inhalation of excessive amount of toxic fumes is quite <b>high</b>. Because workers are directly exposed to the toxic fumes almost 12 hours a day (during their shift time). Workers are not wearing safety masks or breathing apparatus. Proper safety measures are not taken by the company. So, chances of injury are high.</p> <p>Severity of an accident has different levels, we can count them as;</p> <ul style="list-style-type: none"> <li>• Minimal : which causes no injury</li> <li>• Minor : which causes first aid injury</li> <li>• Major : which causes severe injuries and damage to plant and equipment</li> <li>• Catastrophic : which causes death to the workers and huge damage to plant and equipment</li> </ul> <p>In present case, <b>severity</b> level seems to be <b>major</b>.</p> <ul style="list-style-type: none"> <li>• Toxic fumes may cause irritation on skin, irritation in eyes, irritation in breathing tract, discomfort, cough, bronchitis and lung diseases. Most of these fatigues need proper hospital treatment. So, severity level is major.</li> <li>•</li> <li>• Almost 40 workers were at risk due to toxic fumes</li> <li>• As mixing of raw materials continues all the time. So, risk is present almost 12 hours for each worker</li> <li>• Risk of being affected by the toxic fumes is present in whole Raw Material Mixing Section</li> </ul>
<p>How effective the action is likely to be in controlling the risk. This should include:</p>	<p>Toxic fumes will be adequately dealt with if a Local Exhaust Ventilation system is implemented in the vicinity. When there are fewer hazardous fumes in the region, the odds of weariness due to toxic fumes reduce.</p>

<ul style="list-style-type: none"> <li>the intended impact of the action;</li> <li>justification for the timescale that you indicated in your risk assessment; and</li> <li>whether you think the action will fully control the risk</li> </ul>	<p>My suggested time frame for installing a local exhaust ventilation system is <b>one month</b>. At this point, the Finance Manager will seek clearance from the Managing Director to acquire the system. The company's management will then contact the appropriate market person for acquisition. Following purchase, the system will be brought to the plant site and installed in the meanwhile. So, I suppose one month is plenty.</p> <p>Installing a Local Exhaust Ventilation system, in my opinion, will virtually entirely control the danger. Because installation will remove practically all hazardous gases from the region. As a result, the chance of injury will be lowered.</p>
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## Justification for action 2

Action (Taken from column 4 of risk assessment)	Install new adjustable safety guards on the raw material mixer ( <b>Work Equipment and machinery</b> )
Specific legal arguments	<p><b>Article 6 of ILO convention 119</b> says that;</p> <p><i>“1. The use of machinery any dangerous part of which, including the point of operation, is without appropriate guards shall be prohibited by national laws or regulations or prevented by other equally effective measures: Provided that where this prohibition cannot fully apply without preventing the use of the machinery it shall apply to the extent that the use of the machinery permits.</i></p> <p><i>2. Machinery shall be so guarded as to ensure that national regulations and standards of occupational safety and hygiene are not infringed”.</i></p> <p><a href="https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312264">https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312264</a></p> <p><b>Occupational Safety and Health Recommendation (R-164)</b> says that;</p> <p><i>“To provide and maintain workplaces, machinery and equipment, and use work methods, which are as safe and without risk to health as is reasonably practicable”.</i></p> <p><a href="https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312502:NO">https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312502:NO</a></p> <p>This convention demands from employer to install safety guards on dangerous parts of the machinery. Al-Khozama Soap Factory Limited is not complying with this ILO convention.</p>



<p>Consideration of likelihood AND severity</p> <ul style="list-style-type: none"> <li>• types of injury or ill health</li> <li>• number of workers at risk</li> <li>• how often the activity is carried out</li> <li>• how widespread the risk is</li> </ul>	<p><b>Likelihood</b> of getting an injury from open mixer vessel without safety guard is very <b>high</b>. Workers and operators are working near it with loose clothing. Workers do not have proper personal protective equipment. So, chances of entanglement and injury are high.</p> <p>Severity of an accident has different levels, we can count them as;</p> <ul style="list-style-type: none"> <li>• Minimal : which causes no injury</li> <li>• Minor : which causes first aid injury</li> <li>• Major : which causes severe injuries and damage to plant and equipment</li> <li>• Catastrophic : which causes death to the workers and huge damage to plant and equipment</li> </ul> <p><b>Severity</b> in this case is <b>Catastrophic</b>.</p> <ul style="list-style-type: none"> <li>• Unguarded mixer may cause bruises, and loss of body parts, broken or fractured bones and even death in some cases. So, all these injuries need long term hospital visit.</li> <li>• Almost 40 workers were at risk due to broken guard of the raw material mixer</li> <li>• As mixing of raw materials continues all the time. So, risk is present almost 12 hours for each worker</li> <li>• Risk of being affected by the broken guard and unprotected edges of raw material mixer is present in whole Raw Material Mixing Section</li> </ul>
<p>How effective the action is likely to be in controlling the risk. This should include:</p> <ul style="list-style-type: none"> <li>• the intended impact of the action;</li> <li>• justification for the timescale that you indicated in your risk assessment; and</li> <li>• whether you think the action will fully control the risk</li> </ul>	<p>The placement of movable safety guards on the mixer reduces the possibility of clothing entanglement and drawing in or pulling in dangers. As a result, potential injuries caused by an unprotected mixer will be reduced.</p> <p>I proposed a time frame of <b>three weeks</b> to complete the assignment. During this time, the Finance Manager will make available funds to purchase adjustable safety guards from the local market. A corporate representative will purchase the guard, which will be mounted on the raw material mixer by a mechanical professional. This entire treatment will take no more than two weeks to finish.</p> <p>Yes, installing adjustable safety guards will undoubtedly reduce the chance of harm from entanglement or drawing in hazards.</p>

### Justification for action 3

Action (Taken from column 4 of risk assessment)	High voltage electrical wires should be placed underground ( <b>Electricity</b> )
Specific legal arguments	<p><b>C167 - Safety and Health in Construction Convention, 1988 (No. 167) says that:</b></p> <p><i>“1. All electrical equipment and installations shall be constructed, installed and maintained by a competent person, and so used as to guard against danger.</i></p> <p><i>2. Before construction is commenced and during the progress thereof adequate steps shall be taken to ascertain the presence of and to guard against danger to workers from any live electrical cable or apparatus which is under, over or on the site.</i></p> <p><i>3. The laying and maintenance of electrical cables and apparatus on construction sites shall be governed by the technical rules and standards applied at the national level.”</i></p> <p><a href="https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312312">https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312312</a></p> <p><b>Occupational Safety and Health Recommendation (R-164) says that;</b></p> <p><i>“To provide and maintain workplaces, machinery and equipment, and use work methods, which are as safe and without risk to health as is reasonably practicable”.</i></p> <p><a href="https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312502:NO">https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312502:NO</a></p> <p>This convention explains instructions to minimise electrical hazards by construction and installation of engineering controls. But Al-Khozama Soap Factory Limited does not comply with these safety standards at the moment.</p>
Consideration of likelihood AND severity <ul style="list-style-type: none"> <li>• types of injury or ill health</li> <li>• number of workers at risk</li> <li>• how often the activity is carried out</li> <li>• how widespread the risk is</li> </ul>	<p><b>Likelihood</b> of the accident and injury due to exposure to high voltage electrical wire is <b>high</b>. A number of vehicles pass daily under this hazard. No precautionary measures are taken to reduce the hazard. No proper insulated personal protective equipment are given to the workers. Due to all these reasons, probability of the accident is high.</p> <p>Severity of an accident has different levels, we can count them as;</p>

	<ul style="list-style-type: none"> <li>• Minimal : which causes no injury</li> <li>• Minor : which causes first aid injury</li> <li>• Major : which causes severe injuries and damage to plant and equipment</li> <li>• Catastrophic : which causes death to the workers and huge damage to plant and equipment</li> </ul> <p><b>Severity</b> of the accident and injury can be in <b>Catastrophic</b> category.</p> <ul style="list-style-type: none"> <li>• Electricity may cause arcing, electrocution, electric shock, skin burns, internal and external organ damage and death in most cases. So, death takes severity level to the <b>Catastrophic</b> level.</li> <li>• Almost all workers are at risk because of presence of hazard at the main entrance of the plant (370 workers at risk)</li> <li>• Risk is present 24/7 in the area because low height high voltage lines are present in the plant</li> <li>• Risk is present for everyone entering the plant. So, risk is spread to everyone using the main entrance</li> </ul>
<p>How effective the action is likely to be in controlling the risk. This should include:</p> <ul style="list-style-type: none"> <li>• the intended impact of the action;</li> <li>• justification for the timescale that you indicated in your risk assessment; and</li> <li>• whether you think the action will fully control the risk</li> </ul>	<p>When high voltage electrical lines are correctly undergrounded, the risk of arcing and electrocution by electricity, as well as worker shock, is nearly minimized. As a result, the danger of electrical injuries will be reduced.</p> <p>I believe that <b>one month</b> is sufficient time to complete the undergrounding of high voltage electrical cables. Because the Administration Manager will direct the labor to excavate the road at this period, and the Electrician and his crew will safely bury the high voltage electrical cables. So one month is plenty for this work.</p> <p>This approach, in my opinion, will fully eliminate the chance of injuries and accidents. Because when high voltage cables are undergrounded, direct exposure to the threat is avoided.</p>

#### Part 4: Review, communicate and check

##### Suggested word counts for each section:

- Planned review date or period and reasoning for this: **50 - 100 words**

- How the risk assessment findings will be communicated and who needs to know the information: **100 - 150 words**
- Follow up on the risk assessment: **100 - 150 words.**

<p>Planned review date/period with reasoning</p>	<p>Afaq Soap Factory is supposed to evaluate all policy documents on an annual basis, hence the risk assessment should be reviewed on October 9, 2023. Regardless of any extraordinary events such as an accident, incident, or near miss. Risk assessment should be evaluated in order to fulfill the requirements of international standards and legislation being updated.</p>
<p>How the risk assessment findings will be communicated <b>AND</b> who you need to tell</p>	<p>I'll give a presentation about my risk assessment. Then I'll set up a meeting with the company's Safety Director. My risk assessment will be presented to him in the form of a hard copy report and presentation. I will do my utmost to persuade him to adopt further recommended activities so that dangers can be effectively controlled. Following that, I will schedule a meeting with the Finance Manager and other higher-ups to persuade them of the need for additional action.</p> <p>I will communicate my risk assessment results to them using memos, emails, letters, printed copies, and presentations. The results of my risk assessment will be disseminated to employees through local toolbox talks, training sessions, announcements, notice boards, and the business intranet. Workers will be instructed to implement the preventative steps suggested by my risk assessment.</p>
<p>How you will follow up on the risk assessment to check that the actions have been carried out</p>	<p>I'll set up a reminder around <b>10 days</b> before the due dates for the recommended actions. I will go to the site and meet with the people in charge of each action. I'll keep track of how the actions are progressing. If actions are about to be completed on time, I will be grateful. If I see that certain actions are going to be delayed, I will investigate the cause of the delay and attempt to resolve any issues that are impeding the execution of the actions.</p> <p>If more resources are required to accomplish the work, I will meet with the Finance Manager and request that additional funds and efforts be allocated to fulfill the tasks on time. If the Finance Manager appeared impotent, I will attempt to schedule a meeting with the Managing Director in order to persuade him to complete activities on time.</p>



Learner number:

Learner name:

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