**OCCUPATIONAL HYGIENE**

**Unit Standard:**

**259609 – SECTION 1**

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| **SOUTH AFRICAN QUALIFICATIONS AUTHORITY** |

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| **REGISTERED UNIT STANDARD:** |

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| **Demonstrate an understanding of Occupational Hygiene** |

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| **SAQA US ID** | **UNIT STANDARD TITLE** | | | |
| 259609 | Demonstrate an understanding of Occupational Hygiene | | | |
| **ORIGINATOR** | | | | |
| SGB Occupational Health and Safety | | | | |
| **PRIMARY OR DELEGATED QUALITY ASSURANCE FUNCTIONARY** | | | | |
| - | | | | |
| **FIELD** | | | **SUBFIELD** | |
| Field 09 - Health Sciences and Social Services | | | Preventive Health | |
| **ABET BAND** | **UNIT STANDARD TYPE** | **PRE-2009 NQF LEVEL** | **NQF LEVEL** | **CREDITS** |
| Undefined | Regular | Level 2 | NQF Level 02 | 9 |
| **REGISTRATION STATUS** | | **REGISTRATION START DATE** | **REGISTRATION END DATE** | **SAQA DECISION NUMBER** |
| Reregistered | | 2015-07-01 | 2018-06-30 | SAQA 10105/14 |
| **LAST DATE FOR ENROLMENT** | | **LAST DATE FOR ACHIEVEMENT** | | |
| 2019-06-30 | | 2022-06-30 | | |

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| *In all of the tables in this document, both the pre-2009 NQF Level and the NQF Level is shown. In the text (purpose statements, qualification rules, etc), any references to NQF Levels are to the pre-2009 levels unless specifically stated otherwise.* |

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| This unit standard does not replace any other unit standard and is not replaced by any other unit standard. |

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| **PURPOSE OF THE UNIT STANDARD** |

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| This unit standard is for persons who are entering employment and need to know the basics of Occupational Hygiene.   Learners credited with this unit standard are able to:   Explain the concept of Occupational Hygiene in the working place.   Describe recognised environmental factors which influence workplace conditions.   Explain the maintenance of acceptable occupational hygiene conditions in the work place.   Explain how to deal with abnormal occupational hygiene conditions in the work place. |

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| **LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING** |

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|  Communication at NQF Level 1.   Mathematical Literacy at NQF Level 1. |

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| **UNIT STANDARD RANGE** |

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| **Specific Outcomes and Assessment Criteria:** |

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| **SPECIFIC OUTCOME 1** |

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| Explain the concept of Occupational Hygiene. |

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| **ASSESSMENT CRITERIA** |

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| **ASSESSMENT CRITERION 1** |

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| The concept of Occupational Hygiene discipline is described according to accepted current legislative standards. |

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| **ASSESSMENT CRITERION 2** |

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| Environmental factors affecting Occupational Hygiene are described in terms of their characteristics. |

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| **ASSESSMENT CRITERION 3** |

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| Sources of workplace contaminants are described with examples. |

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| **ASSESSMENT CRITERION 4** |

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| The effects of hazardous environmental conditions are explained in terms of the safety and health of workers. |

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| **SPECIFIC OUTCOME 2** |

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| Describe recognised environmental factors which influence the workplace. |

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| **ASSESSMENT CRITERIA** |

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| **ASSESSMENT CRITERION 1** |

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| The four principal environmental factors that can affect well-being in the work place are described with examples. |

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| **ASSESSMENT CRITERION 2** |

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| The effects of non-chemical physical environmental factors on persons in the work place are described. |

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| **ASSESSMENT CRITERION RANGE** |

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| Heat, cold, vibration, noise, ventilation, illumination, ionising and non-ionising radiation. |

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| **ASSESSMENT CRITERION 3** |

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| The impact of chemical environmental factors on persons in the work place is explained and examples of chemical pollutants are given. |

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| **ASSESSMENT CRITERION RANGE** |

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| Dusts (particle size), gases include but are not limited to:   Oxygen (O2) and Carbon Monoxide (CO) and Carbon Dioxide (CO2) and Oxides of Nitrogen (NOx) and Methane (CH4), vapours and fluids. |

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| **ASSESSMENT CRITERION 4** |

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| The influence of ergonomic environmental factors on the work place and on persons are explained with examples. |

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| **ASSESSMENT CRITERION RANGE** |

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| Work tolerance, fatigue, work/rest schedules. |

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| **ASSESSMENT CRITERION 5** |

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| Biological environmental factors are explained and their effect on persons and work places are described with examples. |

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| **ASSESSMENT CRITERION RANGE** |

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| Fungi, bacteria, algae and viruses. |

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| **SPECIFIC OUTCOME 3** |

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| Explain the control of factors influencing occupational hygiene conditions in the working place. |

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| **ASSESSMENT CRITERIA** |

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| **ASSESSMENT CRITERION 1** |

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| Three different measuring techniques are described to evaluate and measure environmental factors which may affect the work place. |

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| **ASSESSMENT CRITERION RANGE** |

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| Personal, environmental and special monitoring. |

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| **ASSESSMENT CRITERION 2** |

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| The role of good house keeping in the maintenance of clean occupational hygiene conditions in the work place is explained in terms of the consequences to health and safety. |

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| **ASSESSMENT CRITERION 3** |

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| The importance of controlling and containing factors at source that may adversely influence occupational hygiene conditions is explained with the use of examples. |

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| **ASSESSMENT CRITERION 4** |

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| Predetermined rotation of workers and the provision of personal protective equipment are explained in terms of minimising worker exposure to hazards in the workplace. |

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| **ASSESSMENT CRITERION 5** |

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| The role of improving the work environment is explained in terms of reducing secondary stress. |

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| **ASSESSMENT CRITERION 6** |

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| The need to ventilate a work place is explained in terms of occupational hygiene. |

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| **SPECIFIC OUTCOME 4** |

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| Explain how to deal with abnormal occupational hygiene conditions in the working place. |

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| **ASSESSMENT CRITERIA** |

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| **ASSESSMENT CRITERION 1** |

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| Dangers and hazards in the work place that could lead to an emergency situation are identified. |

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| **ASSESSMENT CRITERION 2** |

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| The action to be taken when environmental conditions do not conform to specified requirements is described in terms of a predetermined plan. |

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| **ASSESSMENT CRITERION 3** |

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| The appropriate escape strategy procedures during an emergency are explained and applicable safety officers are identified. |

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| **UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS** |

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|  Anyone assessing a learner or moderating the assessment of a learner against this unit standard must be registered as an assessor with the relevant Education, Training, Quality, Assurance (ETQA) Body, or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.   Any institution offering learning that will enable the achievement of this unit standard must be accredited as a provider with the relevant Education, Training, Quality, Assurance (ETQA) Body, or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.   Assessment and. moderation of assessment will be overseen by the relevant Education, Training, Quality, Assurance (ETQA) Body, or with an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and. guidelines for assessment and. Moderation.   Anyone wishing to be assessed against this unit standard may apply to be assessed by any assessment agency, assessor or provider institution that is accredited by the relevant ETQA. |

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| **UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE** |

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| The following embedded knowledge will be assessed in an integrated way in the context of the unit standard:   Characteristics and occurrences of environmental factors.   Types of detection and measurement methodologies for environmental factors.   Limitations of various detection and measuring methodologies.   Effects that specified environmental factors have on the health and safety of people.   Importance of evaluating for environmental factors.   Circumstances that necessitate evaluation of environmental factors.   Use of instruments and accessories.   Instruments' and their accessories' principle of operation, range, use and limitations.   Importance of examining and calibrating instruments.   Safe handling and use of specified instruments.   Consequences for health, safety and productivity of dealing with defective and used equipment, continuously assessing health and safety hazards and risks, dangers of accessing sites without meeting access requirements, examining and correctly using personal protective equipment, testing for gas according to specified requirements, compliance with exposure levels, dealing with conditions, environmental factors, and limitations that can influence readings, evaluating test results and taking appropriate action.   Occupational exposure limits and limits for temperatures.   Action to be taken when temperatures are encountered outside legal exposure levels.   Conditions, environmental factors, and limitations that can influence readings. |

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| **UNIT STANDARD DEVELOPMENTAL OUTCOME** |

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| **UNIT STANDARD LINKAGES** |

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| **Critical Cross-field Outcomes (CCFO):** |

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| **UNIT STANDARD CCFO IDENTIFYING** |

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| Solve problems:   The ability of the candidate to identify anomalous conditions and deviations in environmental conditions in the working place and reporting contributes to his/her problem solving ability. |

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| **UNIT STANDARD CCFO WORKING** |

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| Work effectively with others as a member of team/group/organisation/community:   The ability and willingness of the candidate to accept and interpret work instructions correctly and to delegate work instructions, in an appropriate manner, indicates that he/she can work effectively as a team member in the bigger organisational structure. |

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| **UNIT STANDARD CCFO ORGANISING** |

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| Organise and manage themselves and their activities responsibly and effectively:   As part of the team the individual will take into account the activities around him/her and ensure that his/her actions are complementary. |

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| **UNIT STANDARD CCFO COLLECTING** |

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| Collect, organise and critically evaluate information:   The ability of the learner to reconcile the information received from co-workers with actual facts will indicate proficiency in collecting, organising and critically evaluating information. |

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| **UNIT STANDARD CCFO COMMUNICATING** |

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| Communicate effectively using visual, mathematics and language skills in the modes of oral and written presentations:   The understanding of measuring and monitoring strategies requires the individual to communicate effectively with other groups. |

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| **UNIT STANDARD CCFO SCIENCE** |

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| Use science and technology effectively and critically:   The ability of the candidate to adhere to health, safety and environmental requirements and show responsibility to the environment and health of others illustrates his/her capability to use science and technology effectively. |

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| **UNIT STANDARD CCFO DEMONSTRATING** |

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| Demonstrate an understanding of the world as a set of related systems.   The individual understands the impact of his participation in the overall objective. |

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| **UNIT STANDARD ASSESSOR CRITERIA** |

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| **REREGISTRATION HISTORY** |

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| As per the SAQA Board decision/s at that time, this unit standard was Reregistered in 2012; 2015. |

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| **UNIT STANDARD NOTES** |

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| Specified Requirements:   Specified requirements include legal and site-specific requirements and are contained in one or more of the following documents:   Legal:   Relevant current legislation, regulations and directives pertaining to mining and occupational health and safety.   Site-Specific Requirements:   Hazard Identification and Risk Assessments (HIRA).   Occupational Health and Safety Risk Management Programme.   Managerial Instructions.   Mine Standard Procedures.   List of Recorded OH and S Risks.   Working Guides.   Equipment and Materials Specifications. |

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| **QUALIFICATIONS UTILISING THIS UNIT STANDARD:** |

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|  | **ID** | **QUALIFICATION TITLE** | **PRE-2009 NQF LEVEL** | **NQF LEVEL** | **STATUS** | **END DATE** | **PRIMARY OR DELEGATED QA FUNCTIONARY** |
| Core | [74269](http://regqs.saqa.org.za/showQualification.php?id=74269) | National Certificate: Occupational Health, Safety and Environment | Level 2 | NQF Level 02 | Reregistered | 2018-06-30 | As per Learning Programmes recorded against this Qual |

**SECTION 1**

***Understanding “Occupational Hygiene”***

**After completing this Learning Unit you should be able to:**

* Describe environmental factors that affect occupational hygiene
* Identify sources of workplace factors affecting occupational hygiene
* Explain the effects of occupational hygiene

**Definition:** Science and art devoted to the anticipation, recognition, evaluation and control of those workplace environmental factors which may cause sickness, impaired health and well-being, or significant discomfort and inefficiency among workers or among citizens of the community

**What is occupational hygiene?**

**Rarely a day goes past without a reference in the newspapers, on the television or on the internet to illnesses or disabilities caused at work. In some cases, the effects may be reversible. In many others, detrimental effects to health cannot be overcome and can even shorten life expectancy.**

[**Occupational hygiene**](http://www.ohlearning.com/help-and-support/help-and-support/glossary-of-ohlearning-terms.aspx#occupational_hygiene) uses science and engineering to prevent ill health caused by the environment in which people work.  It helps employers and employees to understand the risks and improve working conditions and working practices

**Workplace risks**

Work has always involved [**hazards**](http://www.ohlearning.com/help-and-support/help-and-support/glossary-of-ohlearning-terms.aspx#hazard) to health.

* Plumbers have been poisoned by the lead they used for pipes and joints.
* Boys sweeping chimneys died from cancer caused by components in the soot.
* Cutlery grinders died young from lung diseases caused by the silica in grinding wheels.

With good occupational hygiene practice, some historical risks have been eliminated and others brought under control. Yet standards are still poor in many parts of the world. Moreover, changes in technology and society constantly create new risks for us to understand and tackle, preferably before illness or disability result.

**Today's challenges and health risks**

These days the range of health risks in the workplace is more varied than ever. Not only do we recognise chemical hazards but also the health hazards from noise, heat or cold, ergonomic stresses, ionising radiation, microwaves, infectious diseases and psychological stress. Occupational hygienists have to protect workers from hazards posed by advanced technologies such as semiconductor manufacture and highly potent pharmaceuticals. We have to anticipate the risks from nano, gene and other emerging technologies.  We have to consider the impact of changing demographics and patterns of employment. Occupational hygiene is a constantly challenging field and profession.



***Hygienist at Work***

*An occupational hygienist measures the exposure of a chemical worker.*

**Profiles of** [**occupational hygienists**](http://www.ohlearning.com/help-and-support/help-and-support/glossary-of-ohlearning-terms.aspx#occupational_hygienist)

Occupational hygiene is the science of preventing ill health from work activities.  It's practitioners come from varied backgrounds.  They can be chemists, engineers, biologists, physicists, doctors, nurses and other professionals all of whom have chosen to apply their skills to protecting the health of workers.  Occupational hygiene is multidisciplinary so its practitioners must acquire a broad and solid foundation of knowledge across all these disciplines and more.  Common to all practitioners is a core of knowledge that can only be described as"occupational hygiene" and a strategic approach to managing health hazards at work.

TASK 1 – This task needs to be placed in your Portfolio of Evidence.

Explain your understanding (based on the definition above) of occupational hygiene and the impact it has in the workplace.

Attach the evidence to your POE.

**Some Occupational Hazards:**

* Chemical Agents:
  + Gases, vapours and aerosols
* Physical Agents:
  + Noise, ionizing / non-ionizing radiation, heat and cold stress
* Biological Agents:
  + Infectious agents, allergens
* Psychological Stressors:
  + Ergonomic / safety

TASK 2 – This task needs to be placed in your Portfolio of Evidence.

Based on the agents as listed above, take at least one example of each and identify how it affects the workplace and employees.

Attach the evidence to your POE.

***Environmental Factors Influencing the Workplace***

**After completing this Learning Unit you should be able to:**

* Describe recognised environmental factors that influence the workplace
* Describe the impact of chemical environmental factors on persons in the workplace

There are different types of hazards that might exist in the workplace or occur in the event of an emergency. The types of CHEMICAL HAZARDS are:

* Solids
* Liquids
* Gases
* Vapours
* Dusts
* Fumes
* Fibers
* Mists
* Mixtures

The types of PHYSICAL HAZARDS are:

* Fire and explosion due to ignition, chemical reactions, sudden release of a pressurised gas, etc
* Oxygen deficiency
* Noise
* Temperature extremes, including heat stress and cold exposure
* Radiation, including both ionizing and non-ionizing
* Electrical hazards
* Safety hazards such as slippery surfaces and sharp or heavy objects, etc

The types of BIOLOGICAL HAZARDS are:

* Bacteria
* Viruses
* Fungi
* Poison ivy and oak

Common occasions of HAZARD EXPOSURE to CHEMICAL SUBSTANCES, include:

* Points of hazardous material measurement or sampling
* Transfer points for hazardous materials
* Packaging and unpacking of hazardous materials
* Process operations involving hazardous materials, like welding, machining, plating, spray-coating, using cleaning solvents, etc
* Maintenance activities at sites of hazardous materials
* Process upsets and releases

TASK 3 – This task needs to be placed in your Portfolio of Evidence.

Based on the above detail, use one example from each category of factors and explain the following:

* How does this affect the workplace
* How does this affect the person in the workplace?

Attach the evidence to your POE.

***Controlling Factors Influencing Occupational Hygiene***

**After completing this Learning Unit you should be able to:**

* Explain different measuring techniques used
* Explain the importance of improving the work environment

Environmental factors are **evaluated** through:

* Measurement of exposure intensity
* Determination of exposure frequency and duration
* Comparison with regulatory, professional and internal standards
* Judgement: weigh all the factors

Methods must be employed to eliminate or reduce exposure resulting in elimination or reduction of the occurrence of occupational disease through:

* Engineering (including process) interventions
* Administrative / programme measures
  + Personal protective equipment

TASK 4 – This task needs to be placed in your Portfolio of Evidence.

Explain the role of “good housekeeping” in maintaining of clean occupational hygiene conditions and the consequences of this on health and safety. Relate your response to your own workplace.

Attach the evidence to your POE.



Key points

* Housekeeping can help prevent injuries and improve productivity.
* Every worker should play a role in housekeeping, even if that means keeping his or her own workspace clean.
* Housekeeping should be an ongoing process, not a one-time practice.

To some people, the word “housekeeping” calls to mind cleaning floors and surfaces, removing dust, and organizing clutter.

But in a work setting, it means much more. Housekeeping is crucial to safe workplaces. It can help prevent injuries and improve productivity and morale, as well as make a good first impression on visitors. It also can help an employer avoid potential fines for non-compliance.

The practice extends from traditional offices to industrial workplaces, including factories, warehouses and manufacturing plants that present special challenges such as hazardous materials, combustible dust and other flammables. Experts agree that all workplace safety programs should incorporate housekeeping, and every worker should play a part. In addition, housekeeping should have management’s commitment so workers realize its importance. Here are tips for effective workplace housekeeping.

1

**Prevent slips, trips and falls**  
Slips, trips and falls were the second leading cause of nonfatal occupational injuries or illnesses involving days away from work in 2013, according to data from the Bureau of Labor Statistics.

OSHA’s Walking-Working Surfaces Standard (1910.22(a)) states that all workplaces should be “kept clean and orderly and in a sanitary condition.” The rule includes passageways, storerooms and service rooms. Floors should be clean and dry. Drainage should be present where “wet processes are used.”

Employers should select adequate flooring (e.g., cement, ceramic tile or another material), as different types of flooring hold up better under certain conditions, said Fred Norton, technical director of ergonomics and manufacturing technology for Risk Control Services, Liberty Mutual Insurance in Walnut Creek, CA. Then, develop and implement housekeeping procedures using appropriate cleaners.

“Things like oils and grease – if you don’t use the right kind of cleaning protocols, you’ll just spread slipperiness around rather than getting it up and off the floor,” Norton said.

To help prevent slip, trip and fall incidents, the Canadian Center for Occupational Health and Safety recommends the following:

* Report and clean up spills and leaks.
* Keep aisles and exits clear of items.
* Consider installing mirrors and warning signs to help with blind spots.
* Replace worn, ripped or damage flooring.
* Consider installing anti-slip flooring in areas that can’t always be cleaned.
* Use drip pans and guards.

In addition, provide mats, platforms, false floors or “other dry standing places” where useful, according to OSHA. Every workplace should be free of projecting nails, splinters, holes and loose boards.

Gray added that employers should audit for trip hazards, and encourage workers to focus on the task at hand.

2

**Eliminate fire hazards**  
Employees are responsible for keeping unnecessary combustible materials from accumulating in the work area. Combustible waste should be “stored in covered metal receptacles and disposed of daily,” according to [OSHA’s Hazardous Materials Standard (1910.106)](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9752&p_table=standards).

The National Safety Council “Supervisors’ Safety Manual” includes these precautionary measures for fire safety:

* Keep combustible materials in the work area only in amounts needed for the job. When they are unneeded, move them to an assigned safe storage area.
* Store quick-burning, flammable materials in designated locations away from ignition sources.
* Avoid contaminating clothes with flammable liquids. Change clothes if contamination occurs.
* Keep passageways and fire doors free of obstructions. Stairwell doors should be kept closed. Do not store items in stairwells.
* Keep materials at least 18 inches away from automatic sprinklers, fire extinguishers and sprinkler controls. The 18-inch distance is required, but 24 to 36 inches is recommended. Clearance of 3 feet is required between piled material and the ceiling. If stock is piled more than 15 feet high, clearance should be doubled. Check applicable codes, including Life Safety Code, ANSI/NFPA 101-2009.
* Hazards in electrical areas should be reported, and work orders should be issued to fix them.

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**Control dust**  
Dust accumulation of more than 1/32 of an inch – or 0.8 millimeters – covering at least 5 percent of a room’s surface poses a significant explosion hazard, according to the Quincy, MA-based National Fire Protection Association. This dust accumulation is about as thick as a dime or paper clip.

An industrial hygienist should test the workplace for exposures if air quality and dust are concerns, Gray said.

[NFPA 654 – a standard on preventing fire and dust explosions](http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=654) – addresses identifying hazard areas, controlling dust and housekeeping. The standard states that vacuuming is the “preferred” method of cleaning. Sweeping and water wash-down are other options. “Blow-downs” using compressed air or steam is allowed for inaccessible or unsafe surfaces.

Industrial vacuums can clean walls, ceilings, machinery and other places, CCOHS notes.

“You want to use wet methods or have high-efficiency vacuum systems,” said Steve Ahrenholz, senior industrial hygienist at NIOSH’s Division of Surveillance, Hazard Evaluations and Field Studies. “You don’t want to use just a shop vac or dry-sweep it – definitely not using compressed air to blow it. [Then] you’re just re-suspending the dust and distributing it all over.”

Dust also can affect equipment’s length of life and quality of products, Ahrenholz added.

4

**Avoid tracking materials**  
Work-area mats – which can be cloth or sticky-topped – should be kept clean and maintained. This helps prevent the spread of hazardous materials to other work areas or home, Gray said. Check all mats to ensure they are not tripping hazards.

Additionally, separate cleaning protocols may be needed for different areas to prevent cross-contamination, Norton notes. Avoid using the same mop to clean both an oily spill and in another area, for example.

If the materials are toxic, industrial hygiene testing, uniforms and showering facilities might be needed, Gray said. Employees who work with toxic materials should not wear their work clothes home, .

**Prevent falling objects**  
Gray noted that protections such as a toe board, toe rail or net can help prevent objects from falling and hitting workers or equipment.

Other tips include stacking boxes and materials straight up and down to keep them from falling, said Paul Errico, a Fairfield, CT-based safety consultant. Place heavy objects on lower shelves, and keep equipment away from the edges of desks and tables. Also, refrain from stacking objects in areas where workers walk, including aisles.

Keep layout in mind so workers are not exposed to hazards as they walk through areas, Norton added.

**Clear clutter**  
A cluttered workplace can lead to ergonomics issues and possible injuries because workers have less space to move, Gray said.

“When an area is cluttered, you’re going to likely have a cut or laceration injury,” she said. “You’re not going to have as much room to set up your workstation like you should and move around. You’re going to be twisting your body rather than moving your whole body.”

The Ohio Bureau of Workers’ Compensation recommends that workers return tools and other materials to storage after using them, and dispose of materials that are no longer needed.

Keep aisles, stairways, emergency exits, electrical panels and doors clear of clutter, and purge untidy areas. Empty trash receptacles before they overflow

**Store materials properly**  
According to [OSHA’s Materials Handling, Storage, Use and Disposal Standard (1926.250)](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10685), storage areas should not have an accumulation of materials that present hazards for tripping, fire, explosion or pests.

Some workers make the mistake of storing ladders or other items inside electrical closets where they can block an electrical panel, creating a fire hazard and violating OSHA regulations, Errico said.

“I found that in a couple places. That would surprise employers if they’re not looking for it,” Errico said. “It’s important that they stay on top of it; realize it’s not just the manufacturing floor, maintenance area, warehouse or main storage areas, but these little areas in buildings that create a problem with storage.”

Unused materials and equipment should be stored out of the way of workers. Avoid using workspaces for storage, according to CCOHS. And remember to put everything back in its proper place, Ohio BWC adds.

Ahrenholz recommends keeping a storage space nearby so workers are encouraged to use it.

“There’s a responsibility to keep your work area in order and return tools to where they belong,” he said. “The storage space, if readily useable, is designed in such a way where it can be used without stretching too far or lifting heavy loads. They’re more likely to use it than if they have to go quite a ways to place something. Or they’re going to keep something rather than go back because they have to take the extra time to get it.”

8

**Use and inspect personal protective equipment and tools**  
Errico has seen workers’ compensation cases stemming from employees who did not wear PPE when cleaning up spills or other material, such as broken glass or plywood, and then suffered cuts or splinters.

Wear basic PPE – such as closed-toe shoes and safety glasses – while performing housekeeping, Gray said. Determine what type of PPE to don based on the potential risks.

Regularly inspect, clean and fix tools, according to CCOHS. Remove any damaged tools from the work area.

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**Determine frequency**  
All workers should participate in housekeeping, especially in terms of keeping their own work areas tidy, reporting safety hazards and cleaning up spills, if possible.

“Every worker does have a role in housekeeping,” Ahrenholz said. “If they see something is becoming a problem, they need to report it.”

Before the end of a shift, workers should inspect and clean their workspaces and remove unused materials. This dedication can reduce time spent cleaning later, experts say.

How much debris or contaminants the workplace releases can help determine the frequency of housekeeping. A company should have a mixture of deep cleaning and more frequent, lighter cleaning that involves sweeping and responding to spills

TASK 5 – This task needs to be placed in your Portfolio of Evidence.

Explain the concept of protective clothing – do you have this at your workplace? Find a workplace that uses protective clothing and explain why it is used and how it protects the employees?

Attach the evidence to your POE.

# Personal protective equipment

[](https://en.wikipedia.org/wiki/File:Hazmat_DEA.jpg)

[Drug Enforcement Administration](https://en.wikipedia.org/wiki/Drug_Enforcement_Administration) (DEA) agents wearing Level B hazmat suits

[](https://en.wikipedia.org/wiki/File:Safety_instructions_at_a_construction_site_in_China.JPG)

Safety equipment and supervisor instructions at a construction site

**Personal protective equipment** (**PPE**) refers to protective [clothing](https://en.wikipedia.org/wiki/Clothing), [helmets](https://en.wikipedia.org/wiki/Helmets), [goggles](https://en.wikipedia.org/wiki/Goggles), or other garments or equipment designed to protect the wearer's body from [injury](https://en.wikipedia.org/wiki/Injury) or [infection](https://en.wikipedia.org/wiki/Infection). The hazards addressed by protective equipment include physical, electrical, heat, chemicals, [biohazards](https://en.wikipedia.org/wiki/Biological_hazard), and [airborne particulate matter](https://en.wikipedia.org/wiki/Atmospheric_particulate_matter). Protective equipment may be worn for job-related [occupational safety and health](https://en.wikipedia.org/wiki/Occupational_safety_and_health) purposes, as well as for [sports](https://en.wikipedia.org/wiki/Sports) and other [recreational activities](https://en.wikipedia.org/wiki/Recreation). "Protective clothing" is applied to traditional categories of clothing, and "protective gear" applies to items such as pads, guards, shields, or masks, and others.

The purpose of personal protective equipment is to reduce employee exposure to hazards when engineering and administrative controls are not feasible or effective to reduce these risks to acceptable levels. PPE is needed when there are hazards present. PPE has the serious limitation that it does not eliminate the hazard at source and may result in employees being exposed to the hazard if the equipment fails.[[1]](https://en.wikipedia.org/wiki/Personal_protective_equipment#cite_note-1)

Any item of PPE imposes a barrier between the wearer/user and the working environment. This can create additional strains on the wearer; impair their ability to carry out their work and create significant levels of discomfort. Any of these can discourage wearers from using PPE correctly, therefore placing them at risk of injury, ill-health or, under extreme circumstances, death. Good ergonomic design can help to minimise these barriers and can therefore help to ensure safe and healthy working conditions through the correct use of PPE.

Practices of occupational safety and health can use hazard controls and interventions to mitigate workplace hazards, which pose a threat to the safety and quality of life of workers. The hierarchy of hazard control hierarchy of control provides a policy framework which ranks the types of hazard controls in terms of absolute risk reduction. At the top of the hierarchy are elimination and substitution, which remove the hazard entirely or replace the hazard with a safer alternative. If elimination or substitution measures cannot apply, engineering controls and administrative controls, which seek to design safer mechanisms and coach safer human behavior, are implemented. Personal protective equipment ranks last on the hierarchy of controls, as the workers are regularly exposed to the hazard, with a barrier of protection. The hierarchy of controls is important in acknowledging that, while personal protective equipment has tremendous utility, it is not the desired mechanism of control in terms of worker safety.

TASK 6 – This task needs to be placed in your Portfolio of Evidence.

Walk around your own workplace and identify all the dangers and hazards that could lead or result in an emergency situation.

Attach the evidence to your POE.

***Dealing with Occupational Hygiene Conditions***

**After completing this Learning Unit you should be able to:**

* Explain how to deal with abnormal occupational hygiene conditions
* Identify dangers and hazards in the workplace

**What is a Hazard?**

The meaning of the word hazard can be confusing. Often dictionaries do not give specific definitions or combine it with the term “risk”. One dictionary defines hazard as a “danger of risk”. When talking about workplace health and safety the most common definition or understanding is:

A **hazard** is any source of potential damage, harm or adverse health effects on something or someone under certain conditions at work.

Basically, a hazard can cause harm or adverse effects (to individuals as health effects or to organizations as property or equipment losses).

Sometimes a hazard is referred to as being the actual harm or the health effect it caused rather than the hazard. For example, the disease tuberculosis (TB) might be called a hazard by some but in general the TB-causing bacteria would be considered the "hazard" or "hazardous biological agent".

Emergency procedures are plans for dealing with emergencies such as fires, explosions, major releases of hazardous materials, violent occurrences, or natural hazards. When such events occur, the urgent need for rapid decisions, shortage of time, lack of resources, and trained personnel can lead to chaos.

The objective of the plan is to prevent or minimize fatalities, injuries, and damage. The organization and procedures for handling these sudden and unexpected situations must be clearly defined.

The development of the plan follows a logical sequence.

* Compile a list of the hazards (for example: fires, explosions, floods).
* Identify the possible major consequences of each (for example: casualties, damage).
* Determine the required countermeasures (for example: evacuation, rescue, firefighting).
* Inventory the resources needed to carry out the planned actions (for example: medical supplies, rescue equipment, training personnel).
* Based on these considerations, establish the necessary emergency organization and procedures.

Communication, training, and periodic drills are required to ensure adequate performance when the plan must be implemented.