

COURSE OVERVIEW HE1943
Industrial Hygiene Certification Program
BOHS-M507: Health Effects of Hazardous Substances
(Accredited by the British Occupational Hygiene Society - BOHS)

Course Title

Industrial Hygiene Certification Program: BOHS-M507
 Health Effects of Hazardous Substances *(Accredited
 by the British Occupational Hygiene Society - BOHS)*



Course Date/Venue

July 20-24, 2025/Slaysel 02 Meeting Room,
 Movenpick Hotel & Resort Al Bida'a Kuwait, City of
 Kuwait

Course Reference

HE1943

Course Duration

Five days/3.7 CEUs/37 PDHs

Course Description



This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course aims to provide an introduction to the principles of toxicology, the main types of harmful effects to target organs from exposure to chemical hazards at work, and the hazards associated with common hazardous substances.



On completing this course successfully, participants will be able to:-

- Provide definitions of commonly used toxicological terms
- Describe the main routes by which hazardous substances can enter the body, and the factors which influence their absorption, distribution, storage, and elimination
- Describe the main sources of information on hazardous substances and processes
- Describe the key features of the principal target organs affected by hazardous substances at work, and the factors which influence the degree of harm
- Describe the main routes of exposure and toxic and health effects for hazardous substances commonly encountered in the workplace
- Conduct basic interpretation of the results from epidemiological studies



This course is designed to provide participants with a detailed and up-to-date overview of BOHS-M507: Health Effects of Hazardous Substances. It covers the basic principles of toxicology including pharmacokinetics and dose response relationships; the toxicity testing and types of combined effects, general health effects, carcinogens, sensitisers and reproductive effects; the physiology and target organs including particles, gases and vapours, the lung as a target organ, allergic conditions and skin; and the nervous system, circulatory system, liver, kidney and reproductive system.

During the interactive course, participants will learn the epidemiology and the health effects and industrial processes covering risk and safety phrases, sources of information, gases, vapours and minerals, dusts, and particulate materials; the metals and their compounds, common industrial processes and specific industry profiles; and the principal toxic effects and sources of legionella and humidifier fever, infections of blood borne diseases, zoonoses, bloodborne infections, moulds, pandemics and genetic modification.

This course will require at least 45 hours of study time, of which at least 37 hours will be taught (teaching and practical assessments) and 8 hours will be independent (in the candidates' own time).

Course Objectives

Upon the successful completion of this course, each participant will be able to:

- Achieve the BOHS Certificate in BOHS-M507: Health Effects of Hazardous Substances
- Discuss the basic principles of toxicology including pharmacokinetics and dose response relationships
- Carryout toxicity testing and identify the types of combined effects, general health effects, carcinogens, sensitisers and reproductive effects
- Describe the physiology and target organs including particles, gases and vapours, the lung as a target organ, allergic conditions and skin
- Recognize nervous system, circulatory system, liver, kidney and reproductive system
- Discuss epidemiology and the health effects and industrial processes covering risk and safety phrases, sources of information, gases, vapours and minerals, dusts, and particulate materials
- Identify metals and their compounds, common industrial processes and specific industry profiles
- Describe the principal toxic effects and sources of legionella and humidifier fever, infections of blood borne diseases, zoonoses, bloodborne infections, moulds, pandemics and genetic modification

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Haward Smart Training Kit” (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.



Who Should Attend

This course provides an overview of all significant aspects and considerations of health effects of hazardous substances for technicians and technologists who conduct measurements and testing in workplaces.

Exam Eligibility & Structure

There are no prerequisites required for this qualification, however, candidates for this course are expected to be aware of the contents of the Control of Substances to Health (COSHH) regulations and The Chemicals (Hazard Information and Packaging for Supply) Regulations (CHIPS) especially with regard to labelling and safety data sheets.

Suggested References and Further Reading

- (1) WHO Guidelines on the prevention of toxic exposures
- (2) Patty's Industrial Hygiene and Toxicology
- (3) NIOSH, IARC and WHO criteria documents
- (4) Computer databases (RTECS, MEDLINE, TOXLINE, HSDB, HSELINE)
- (5) Controlling Skin Exposure to Chemicals and Wet-Work
- (6) Introduction to Toxicology
- (7) Industrial Toxicology
- (8) Basic Epidemiology (WHO)

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Fee

US\$ 7,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Exam Fee

US\$ 175 per Delegate + **VAT**

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

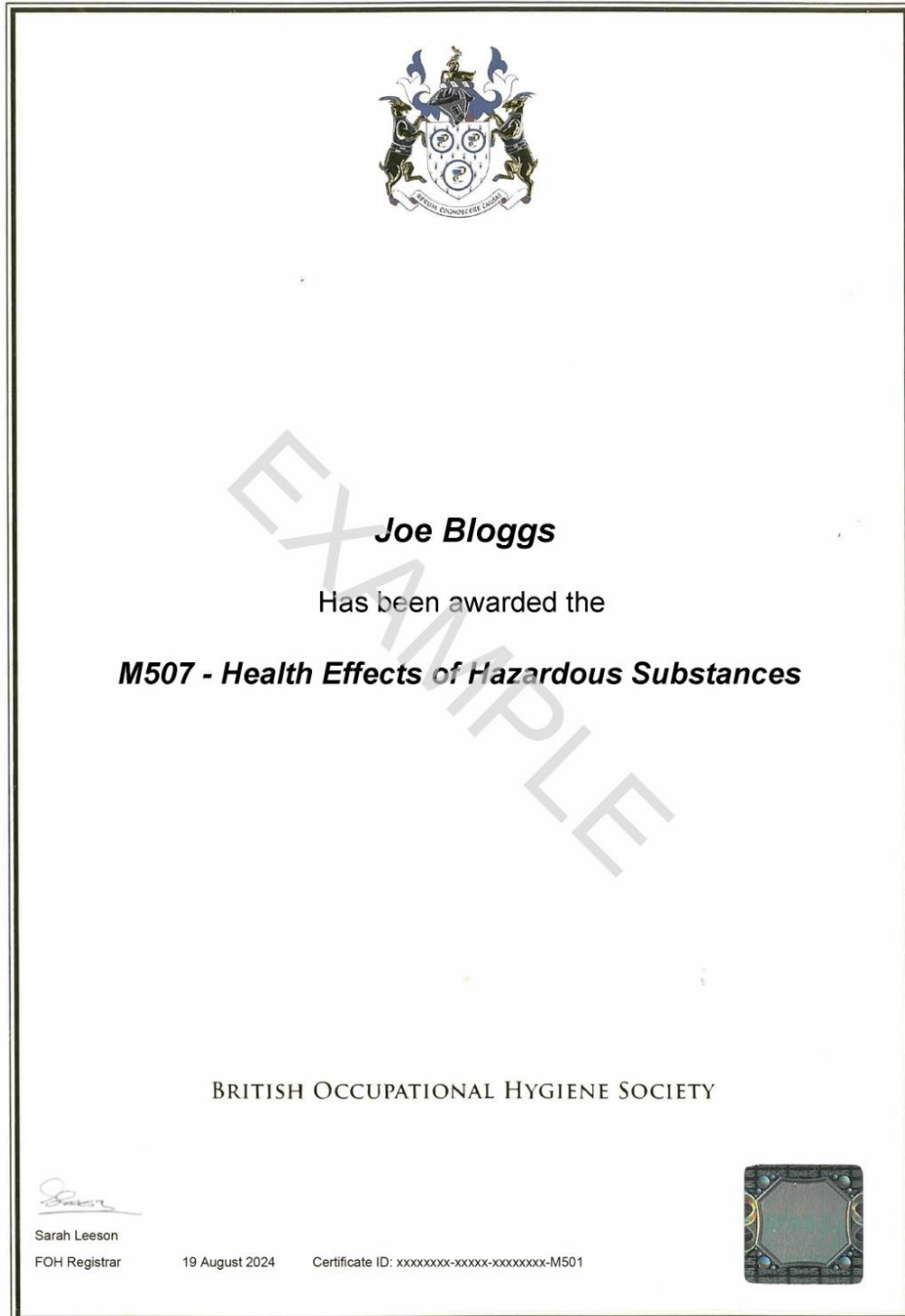


Course Certificate(s)

(1) BOHS-M507 – Health Effects of Hazardous Substances will be awarded to participants who have successfully completed the course and passed all the parts (A and B) within 12 months.

BOHS Certificate(s)

The following certificate is a sample of the BOHS certificates that will be issued to successful candidates:-





- (2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.

Haward Technology Middle East
Continuing Professional Development (HTME-CPD)

CEU Official Transcript of Records

TOR Issuance Date: 15-Nov-23
HTME No. 74851
Participant Name: Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
HE1943	Industrial Hygiene Certification Program BOHS-M507: Health Effects of Hazardous Substances <i>(Accredited by the British Occupational Hygiene Society - BOHS)</i>	November 11-15, 2023	37	3.7

Total No. of CEU's Earned as of TOR Issuance Date **3.7**

TRUE COPY

Jaryl Castillo
 Academic Director

Haward Technology has been approved as an Accredited Provider by the International Association for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this approval, Haward Technology has demonstrated that it complies with the ANSI/IACET 1-2018 Standard which is widely recognized as the standard of good practice internationally. As a result of their Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for programs that qualify under the ANSI/IACET 1-2018 Standard.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking Continuing Education Units (CEUs) in accordance with the rules & regulations of the International Association for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.


Haward Technology is accredited by

P.O. Box 26070, Abu Dhabi, United Arab Emirates | Tel.: +971 2 3091 714 | E-mail: info@haward.org | Website: www.haward.org



Certificate Accreditations


Certificates are accredited by the following international accreditation organizations: -

- 

The British Occupational Hygiene Society (BOHS)


Haward Technology is an Approved Training Partner of the British Occupational Hygiene Society (BOHS) for the M201 and M500 series modules, which are designed to maintain a high standard of occupational hygiene education.

Together with BOHS, Haward Technology supports hygiene professionals in their mission to create safe working environments globally and is committed to advancing the practice of occupational hygiene to promote healthier workplaces worldwide.

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British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

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The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Mr. Peter Jacobs, is a **Senior HSE Consultant** with almost **25 years** of extensive experience within **Oil & Gas, Refinery** and **Petrochemical** industries. His wide experience covers in the areas of **OHTA Modules** (Measurement of Hazardous Substances, Thermal Environment, Noise Measurement & Its Effects, Asbestos & Other Fibers, Control of Hazardous Substances, Ergonomics Essentials, Health Effects of Hazardous Substances), Advanced **Industrial Hygiene, Incident Command & Report Writing, HAZOP, HAZMAT, HAZID, Health Risk**

Assessment, Modern Safety Risk Management, Process Risk Management, Root Cause Analysis Techniques, **HSE Management System** Development & Implementation, **SAESI Hazardous Materials** for the **First Responder Operations (NFPA 472)**, **Industrial Safety & Housekeeping, Job Safety & Hazard Analysis, Hazardous Substances** Measurement, **Workplace** Control, Physical Agents, **Emergency Response, Chemical & Biological** Operations, Basic **Safety & Loss Prevention**, Safety in **Chemical Laboratory, Confined Space Safety, Industrial Hygiene, Occupational Health & Hygiene, Ergonomics, Biological** Assessment, **Radiation** with Radon/Thoron Assessment, **Radiation** Protection Safety, **Radiation** Monitoring, Natural **Radiation** Sources, **Nuclear** Regulatory Act, **Industrial Ventilation, Air Pollution Dispersion** Modelling, Basic Clandestine **Drug Laboratory** Investigation, **Chemical** Engineering, **Fire Safety & Evacuation, Evacuation** Safety, Safety Orientation, Hand & Power Tools Safety, Isokinetic Stack Sampling, Dust Exposure, Quantifying Workplace Stressors, Noise & Airborne Pollutants, Thermal Stress, Illumination, Mine Health & Safety, Statistical Method Validation, Legal Audit Compliance, Riot & Crowd Control, ISO 14000, OHSAS 18000, ISO 17025 and ISO 9000.

During his career life, Mr. Jacobs has gained his practical and field experiences through his various significant positions and dedication as the **Forensic Science Laboratory Manager, Occupational Hygienist, Radiation Protection Officer, Lead Practitioner, Safety, Health & Environmental (SHE) Specialist, First Responder, OHS Inspector, Ambulance Assistant** and **LPG Distributor Auditor** from various international companies like the Sedulitas, Richards Bay Minerals, Sasol and South African Police Service.

Mr. Jacobs has a **Master's** degree in **Public Health – Occupational Hygiene**, a **National Diploma** in **Purchasing Management** and an **Intermediate Certificate** in **Mine Environmental Control** an **Accredited South African Emergency Services Institute (SAESI)**. Further, he is a **Certified Instructor/Trainer**, an Appointed Commissioned Officer, a SAIOH/ IOHA President, an Assessor/Moderator of Health & Welfare SETA, a **Registered Occupational Hygienist** of the Southern African Institute for Occupational Hygiene, awarded as a SAIOH **Occupational Hygienist** of the Year Award and a well-regarded member of the British Occupational Hygiene Society (**BOHS**), Mine Ventilation Society of South Africa (MVSSA) and South African Radiological Protection Association (SARPA). He has further delivered numerous trainings, courses, seminars, workshops and conferences worldwide.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: Sunday, 20th of July 2025

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Basic Principles of Toxicology: Definitions Acute, Chronic, Local, Systemic, Allergic Reaction, Sensitiser, Carcinogen, Mutagen, Teratogen, Xenobiotic, Stochastic, Non-Stochastic
0930 – 0945	Break
0945 - 1130	Basic Principles of Toxicology: Basic Pharmacokinetics Absorption: Routes of Absorption for Substances, When Ingestion Can Occur, Situations Where Skin Absorption & Penetration Can Occur • Distribution: Main Distribution Pathways, Blood, Lymphatic System • Storage: how Chemical Properties of a Substance Influence the Site of Storage & Common Examples of Where Materials Are Stored (E.G. Solvents in Fatty Tissues, Lead in Bones, Liver as a Storage Organ) • Biotransformation: Meaning of Biotransformation, Where Biotransformation Occurs, how Biotransformation Can Initiate or Enhance Toxic Effects (Examples - Benzene, Dichloromethane, Methanol) • Elimination: Definition of Biological Half-Life, Wide Variation of Half-Lives, Shape of Curve
1130 - 1230	Basic Principles of Toxicology: Dose Response Relationships Meaning of Dose Response Relationships • Typical Shape of Dose Response Curve • Concept of Threshold & No-Observed Adverse Effect Level • Dose Response Curves Without Threshold • Importance of Slope of Curve
1230 - 1330	Lunch
1330 – 1430	Basic Principles of Toxicology: Toxicity Testing Meaning of LD ₅₀ , LD _{LO} , LC ₅₀ , LC _{LO} , TD ₅₀ , TD _{LO} , TC ₅₀ & TD _{LO} • Units Used to Express Results of Animal Testing • Types of Toxicity Testing – Toxicokinetic Studies, Acute Toxicity Studies, Sensitisation Studies, Repeated Dose Toxicity Studies, Genotoxicity Studies, Reproductive & Developmental Toxicity Studies, Carcinogenicity Studies • Uses of Toxicological Data & Estimation of Safe Human Dose • Limitations of Toxicity Testing Data
1430 - 1500	Basic Principles of Toxicology: Types of Combined Effects Addition • Synergism • Potentiation • Antagonism • Independent
1500 – 1515	Break
1515 - 1620	Basic Principles of Toxicology: General Health Effects Asphyxia • Irritation • Narcosis • Toxicity
1620 – 1630	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today & Advise them of the Topics to be Discussed Tomorrow
1630	End of Day One



Day 2: Monday, 21st of July 2025

0830 – 0930	Basic Principles of Toxicology: Carcinogens Basic Mechanisms of Carcinogenicity (Genotoxicity, Irritant Etc.) • Benign & Malignant Tumours • Difficulties in Identifying Causal Agents, Long Latency Periods • IARC Classifications
0930 – 0945	Break
0945 - 1230	Basic Principles of Toxicology: Sensitisers How Sensitisation Affects Individuals • Sensitisers (Respiratory, Animal Allergy, Skin - Chromium) • Uncertainty About Thresholds • Mechanisms of Sensitisation & Assessment Methods
1230 – 1330	Lunch
1330 – 1430	Basic Principles of Toxicology: Reproductive Effects Teratogens
1430 - 1500	Physiology & Target Organs: The Main Regions of the Respiratory System Head Airways Region: Role of Turbinate Filtration Mechanisms • Tracheobronchial Region: Structure, Dimensions of Air Passages • Mucociliary Escalator • Alveolar Region: Surface Area, Retention Time of Particles, Lack of Cilia
1500 – 1515	Break
1515 – 1600	Physiology & Target Organs: Particles Definition of Aerodynamic Diameter. Relevance of Particle Size • Particle Deposition & Clearance • Main Deposition Mechanisms; Interception, Impaction, Sedimentation, Diffusion • Particle Size Ranges from Each of the Three Regions • Particles: Those Deposited in the Alveoli, Fate of Particles Deposited Elsewhere, Including Absorption Via Digestive Tract • ISO Curves: Inspirable, Thoracic, & Respirable Curves, Shape of Respirable Curve
1600 - 1620	Physiology & Target Organs: Gases & Vapours Absorption Through the Lungs • Gases; Importance of Solubility
1620 – 1630	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today & Advise them of the Topics to be Discussed Tomorrow
1630	End of Day Two

Day 3: Tuesday, 22nd of July 2025

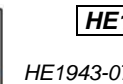
0830 – 0930	Physiology & Target Organs: The Lung as a Target Organ Gaseous Contaminants: Acute Irritancy, Role of Solubility in Determining Region Affected, Chronic Effects • Causes & Consequences of Inflammation. • Benign Pneumoconiosis: Definition, Main Agents (Iron, Tin, Barium) • Fibrosis: Definition. (Crystalline Silica, Asbestos Etc.) • Emphysema (Cadmium Oxide Etc.) • Cancer (Rubber Fume, Arsenic, Hexavalent Chromium Etc.)
0930 – 0945	Break
0945 - 1230	Physiology & Target Organs: Allergic Conditions Rhinitis - Symptoms, Nonspecific Nature, Wide Range of Agents • Asthma - Symptoms, Common Causes (Isocyanates, Solder Fume, Metals, Latex, Vegetable Dusts, Animal Proteins, & Enzymes (Industrial & Food Utilisation) • Allergic Alveolitis - Symptoms, Causative Agents for Farmers Lung & Other Moulds • Byssinosis - Symptoms, Main Stages of Textile Process Associated with Disease • Assessment Methods – Lung Function Testing, Challenge Testing, Skin Prick Testing, Blood Ige Analysis Etc
1230 – 1330	Lunch



1330 – 1500	<p>Physiology & Target Organs: Skin <i>The Structure & Function of Different Layers & Components (Stratum Corneum & Epidermis; Dermis; Hair Follicles; Sweat Glands; Nerves; Fat) • Mechanisms of Cutaneous Protection Against Chemical Penetration & Biological Agents); The Skin as a Target Organ; Definitions, Main Mechanisms & Common Causes of Irritant Contact Dermatitis, Allergic Contact Dermatitis (Nickel, Epoxy Resins), Folliculitis, Pigment Disturbances, Ulceration, Cancer)</i></p>
1500 – 1515	Break
1515 – 1600	<p>Physiology & Target Organs: Nervous System <i>Central & Peripheral Nervous Systems (Definitions, Roles, Structure of Nerve Cells, Transmission of Nerve Impulses; Transmission Along Cells, Transmission Across Synaptic Gap; Nervous System as a Target Organ; Role of Volatile Organic Compounds as Depressants) • Definitions, Main Mechanisms, & Common Causes of (Damage to Nerve Cells (Lead, Mercury, N-Hexane, Manganese.); Deactivation of Cholinesterase (Organophosphates))</i></p>
1600 - 1620	<p>Physiology & Target Organs: Circulatory System <i>Composition of Blood & Role of Constituents • Blood as a Target Organ • Definitions & Common Causes of (Haemolysis (Arsine & Stibine); Carboxyhaemoglobin Formation (Carbon Monoxide - from Direct Exposure & from Metabolization of Dichloromethane); Methaemoglobin Formation (Aromatic Amines); Anaemia (Lead, Benzene); Leukaemia (Benzene))</i></p>
1620 – 1630	<p>Recap <i>Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today & Advise them of the Topics to be Discussed Tomorrow</i></p>
1630	End of Day Two

Day 4: Wednesday, 24th of July 2025

0830 – 0930	<p>Physiology & Target Organs: Liver <i>Position of Liver in the Circulatory System • Role in Biotransformation & Consequent Vulnerability to Toxic Agents • Structure of Liver Lobules • Main Agents which can Cause Liver Damage (e.g. Alcohol, Chlorinated Hydrocarbons, Metal Compounds)</i></p>
0930 – 0945	Break
0945 – 1230	<p>Physiology & Target Organs: Kidney <i>Structure & Function • Role in Homeostasis & Excretion • Link to Circulatory System • Structure & Role of Nephrons • Kidney as a Target Organ: Effects of Cadmium, Lead, Mercury, Organic Compounds</i></p>
1230 – 1330	Lunch
1330 – 1500	<p>Physiology & Target Organs: Reproductive System <i>Effects on Unborn Child: Heredity, Teratogenicity • Interference with the Male & Female Systems</i></p>
1500 - 1515	Break
1515 – 1600	<p>Epidemiology <i>Types of Epidemiological Study • Importance of Study Design • Definitions of Cohort/Case-Referent, Retrospective/Prospective, Crosssectional/ Longitudinal Designs, Mortality/Morbidity Ratios • Use of Epidemiological Data, Limitations, & Restrictions, Confounding Factors. Bradford Hill Criteria • Limitations of Epidemiological Studies, Importance of Study Size, Link to Exposure Standards</i></p>





1600 - 1620	Health Effects & Industrial Processes: Risk & Safety Phrases International System for Risk & Safety Phrases
1620 - 1630	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today & Advise them of the Topics to be Discussed Tomorrow
1630	End of Day Three

Day 5: Thursday, 25th of July 2025

0830 - 0900	Health Effects & Industrial Processes: Sources of Information Safety Data Sheets • Literature • National Data Bases Including REACH
0900 - 0930	Health Effects & Industrial Processes: Gases Use a Selection of the Gases Given Below to Illustrate the Principal Toxic Effects (Simple Asphyxiation, Chemical Asphyxiation, Upper & Lower Respiratory Tract Irritation, Blood Effects, Lung Damage, Cancer) from Exposure to Gaseous Substances. the Occurrence of these Gases & Their Common Applications: • Inert Gases • Carbon Dioxide & Carbon Monoxide • Hydrogen Cyanide • Ammonia • Chlorine • Hydrogen Sulphide • Oxides of Nitrogen & Ozone • Acid Gases (Sulphur Dioxide, Hydrogen Chloride, Hydrogen Fluoride) • Metal Hydrides
0930 - 0945	Break
0945 - 1130	Health Effects & Industrial Processes: Vapours Describe the Generic Hazards of Organic Vapours (i.e. Narcosis, Respiratory Irritation, Skin Irritation & Dermatitis, Skin Absorption, Organ Damage) & Use Some of the Substances Given Below to Illustrate these. the Occurrence of these Vapours & Their Common Applications: • Anaesthetic Gases e.g. Halothane, Nitrous Oxide • Aniline & Phenol • Benzene, Toluene, & Xylene • Formaldehyde • Isocyanates • Styrene • Halogenated Hydrocarbons • Vinyl Chloride • N-Hexane • Glycol Ethers • Acetone/MEK
1130 - 1230	Health Effects & Industrial Processes: Minerals, Dusts & Particulate Materials Minerals - Use the Minerals Given Below to Illustrate the Principal Toxic Effects of such Substances. The Occurrence of these Minerals & Their Common Applications: • Crystalline Silica (Quartz, Cristobalite & Tridymite) • Asbestos (Serpentine & Amphibole) • Machine-Made Mineral Fibres (Glass, Rock, Refractory Ceramic Fibre) • Organic & Other Dusts (Nanoparticles • Flour & Other Food Components (Industrial & Manufacturing) • Diesel Fume • Latex (Manufacturing & Use) • Enzymes (Detergents & Food Industries) • Physiological Active Materials (Pharmaceuticals))
1230 - 1330	Lunch
1330 - 1445	Health Effects & Industrial Processes: Metals & Their Compounds Use Some of the Metals Given Below to Illustrate the Principal Toxic Effects (Nuisance, Respiratory Effects, Organ Damage, Lung Damage, Fibrosis, Skin Irritancy/Sensitisation, Systemic Effects, Cancer) from Exposure to Such Metals & Their Compounds. The Occurrence of these Metals & Their Common Applications (Arsenic • Aluminium • Beryllium • Cadmium • Chromium & Nickel • Cobalt • Iron • Lead Including Differences Between Inorganic & Organic Lead Compounds) • Mercury • Manganese • Vanadium • Zinc & Copper)
1445 - 1500	Break
1500 - 1515	Health Effects & Industrial Processes: Common Industrial Processes Working with Metals (Grinding, Machining, Welding) • Surface Coating & Treatments (Chromium Plating, Galvanising Etc.) • Soldering • Handling & Processes Involving Solvents (Open & Closed Systems. Degreasing, Painting Etc.) • Handling of Solids & Powders





1515 - 1530	Health Effects & Industrial Processes: Specific Industry Profiles • Smelting & Refining of Iron & Steel • Foundries • Mining & Quarrying • Oil & Petroleum Industry • Pharmaceutical Industry
1530 - 1545	An Outline to Biological Agents Legionella & Humidifier Fever • Infections of Blood Borne Diseases (Hepatitis & HIV) • Zoonoses; Definition, how Infection Can Occur, Common Examples (Anthrax, Leptospirosis, Salmonellosis) • Bloodborne Infections • Moulds • Pandemics • Genetic Modification
1545 - 1600	Course Conclusion
1600 - 1615	POST-TEST
1615 - 1630	Presentation of Course Certificates
1630	End of Course

MOCK Exam

Upon the completion of the course, participants have to sit for a MOCK Examination similar to the exam of the Certification Body through Haward's Portal. Each participant will be given a username and password to log in Haward's Portal for the MOCK exam during the 30 days following the course completion. Each participant has only one trial for the MOCK exam within this 30-day examination window. Hence, you have to prepare yourself very well before starting your MOCK exam as this exam is a simulation to the one of the Certification Body.

Examinations & Assessment

Candidates are required to pass all of the following parts (A and B below) to be awarded this qualification.

(A) Practical Assessment

The practical assessment is conducted by the Tutor during the relevant part of the course for all candidates. This is to ensure that every candidate can demonstrate their individual ability and correct method.

The studies are designed by the course tutor(s) to assess basic skill and knowledge of each candidate and will include

- An evaluation of available data to advise on a suitable exposure limit to be applied for a material (Safety data sheets etc.)
- A study should be a scenario study to evaluate potential exposure routes and the potential health consequences from a selected process.

Further information about the formative practical assessment is published in the following documents: Practical Evaluation Report which is available from www.bohs.org

(B) Written Examination

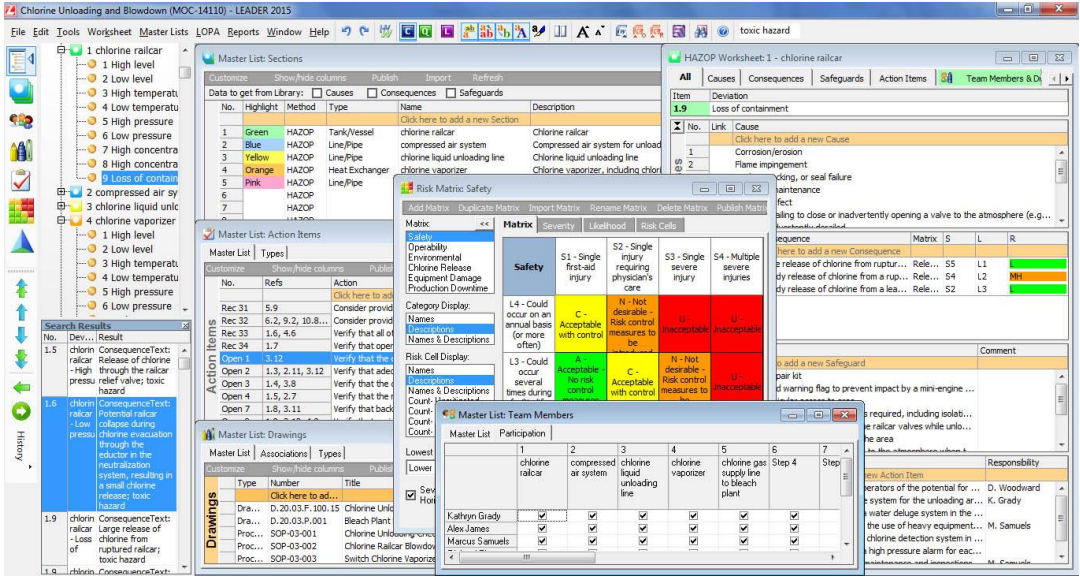
This is an open-book examination comprising of 40 (160 marks) short-answer questions illustrated by photographs and diagrams as appropriate to be answered in 2 hours. Each question is worth 4 marks

The examination covers all sections of the syllabus and is overseen by an invigilator.

The pass mark for this examination is 50 %

Simulator (Hands-on Practical Sessions)

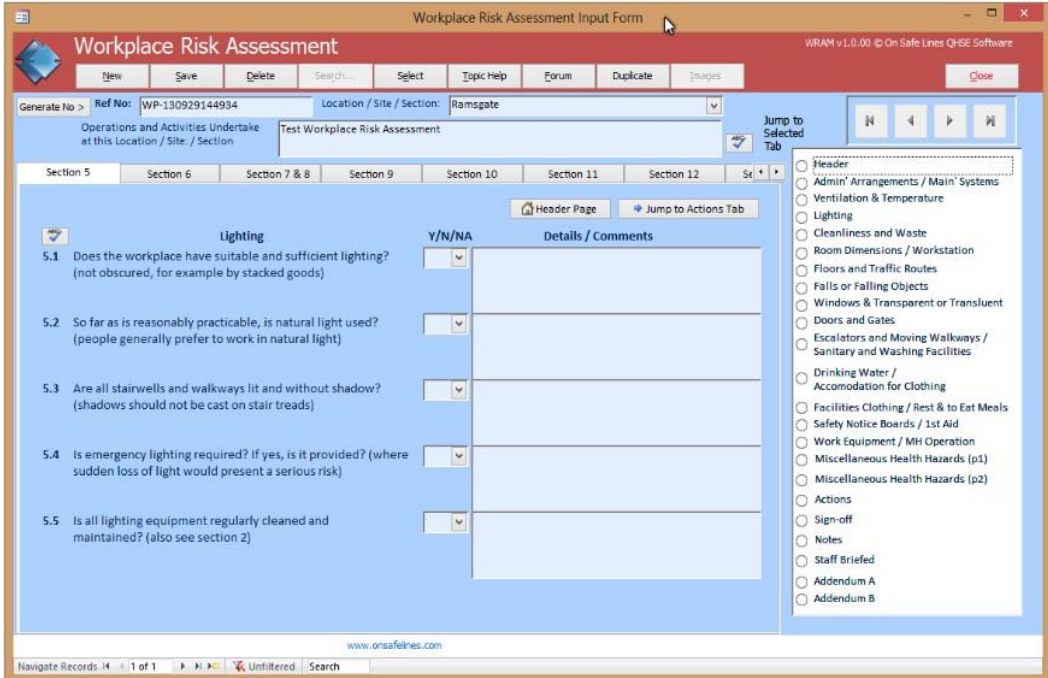
Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carry out various exercises using our state-of-the-art “PHA/HAZOP”, “Workplace Risk Assessment” “Industrial Hygiene Virtual Laboratory” and “CIHprep V9.0 ” simulators.



The screenshot displays the PHA/HAZOP Simulator software interface. It features several overlapping windows:

- Master List: Sections:** A table listing sections with columns for No., Highlight, Method, Type, Name, and Description.
- Master List: Action Items:** A table with columns for No., Refs, Action, and a 'Click here to add' link.
- Risk Matrix Safety:** A color-coded matrix with columns for Severity (S1-S4) and Risk Cells (L1-L4).
- HAZOP Worksheet:** A table with columns for Item, Deviation, Cause, and Consequences.
- Master List: Team Members:** A table showing participation of team members across different sections.

PHA/HAZOP Simulator

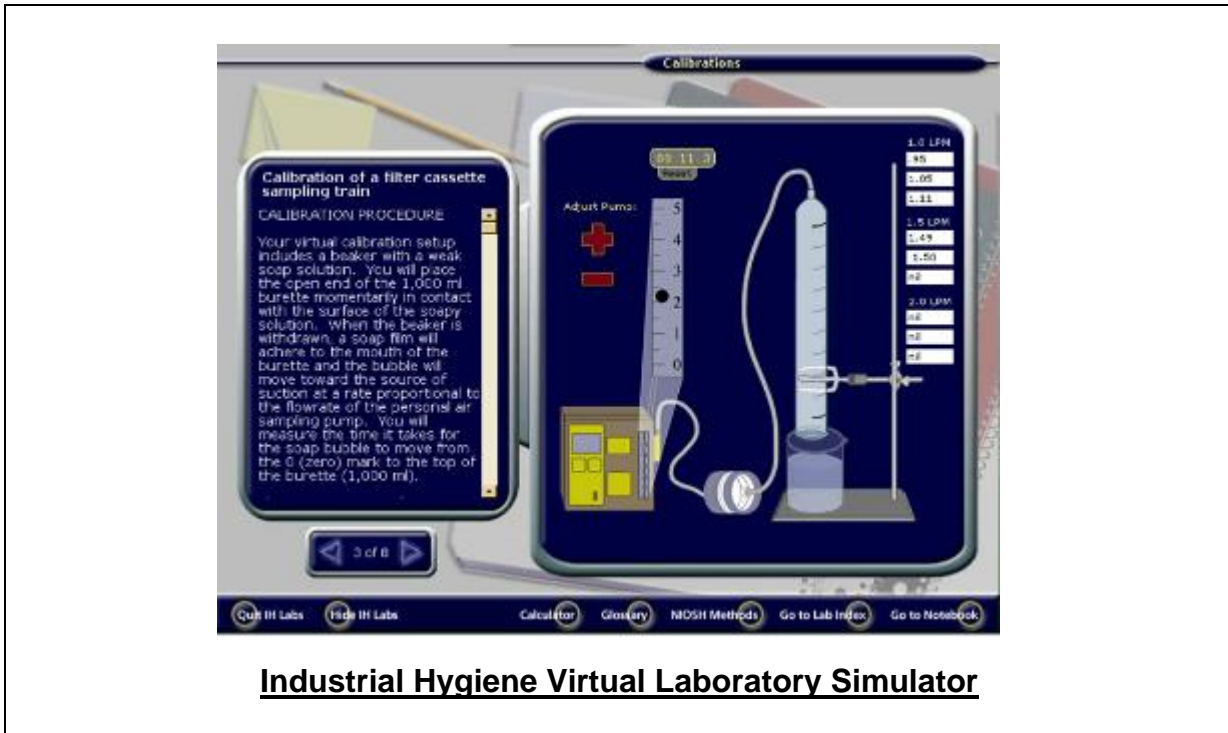


The screenshot shows the Workplace Risk Assessment (WRAM) software interface. The main window displays a checklist for 'Lighting' assessment under 'Section 5'. The checklist items are:

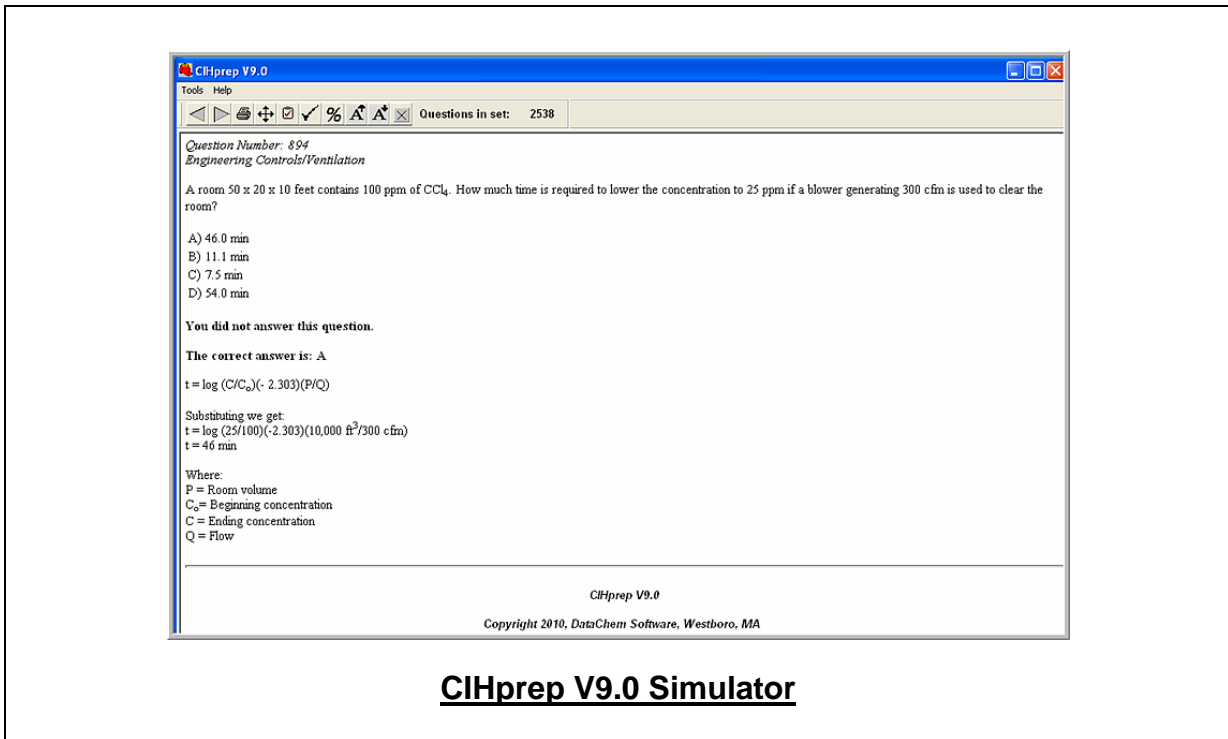
- 5.1 Does the workplace have suitable and sufficient lighting? (not obscured, for example by stacked goods)
- 5.2 So far as is reasonably practicable, is natural light used? (people generally prefer to work in natural light)
- 5.3 Are all stairwells and walkways lit and without shadow? (shadows should not be cast on stair treads)
- 5.4 Is emergency lighting required? If yes, is it provided? (where sudden loss of light would present a serious risk)
- 5.5 Is all lighting equipment regularly cleaned and maintained? (also see section 2)

 The interface includes a navigation pane on the right with various assessment categories like 'Admin' Arrangements / Main' Systems', 'Lighting', 'Cleanliness and Waste', etc.

Workplace Risk Assessment



Industrial Hygiene Virtual Laboratory Simulator



CIHprep V9.0 Simulator

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