



<u>COURSE OVERVIEW HE0919</u> Occupational Hygiene Certification Program OHTA504: Asbestos and Other Fibres

(Accredited by the Occupational Hygiene Training Association - OHTA)

Course Title

Occupational Hygiene Certification Program: OHTA504: Asbestos and Other Fibres (Accredited by the Occupational Hygiene Training Association - OHTA)

o CEUS

40 PDHs)

Course Reference

HE0126

Course Duration

Five days/4.0 CEUs/40 PDHs

Course Date/Venue



Session(s)	Date	Venue
1	February 23-27, 2025	Club B Meeting Room, Ramada Plaza by Wyndham Istanbul City Center, Istanbul, Turkey
2	May 25-29, 2025	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
3	August 24-28, 2025	Al Aziziya Hall, The Proud Hotel Al Khobar, Al Khobar, KSA
4	November 24-28, 2025	Ajman Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

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.

The course is an optional module for the International Certicate in Occupational Hygiene (ICertOHTA). It is designed to be delivered as a 5-day taught programme including student assessment.

The aim of the course is to:-

- Extend knowledge of occupational exposure to fibrous dusts used in industry (asbestos, machine made mineral fibres, aramids, carbon, etc.)
- Understand the health risks of asbestos and other fibres as well as the means of evaluation and control
- Apply these principals for asbestos consultants as well as OH professionals

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

- Extend knowledge of occupational exposure to fibrous dusts used in industry(asbestos, machine made mineral fibres, aramids, carbon, etc.)
- Understand the health risks of asbestos and other fibres as well as the means of evaluation and control
- Apply these principals for asbestos consultants as well as OH professionals
- Conduct asbestos surveys: sampling, identifying bulk asbestos types by microscopic techniques and relevant safety requirements
- Adopt and recognize current good practice in the construction and use of enclosures for asbestos remediation and the use of decontamination units
- Understand all the principles of clearance testing, the requirements for measurement and appropriate techniques for post remediation evaluation
- Conduct air sampling to determine airborne concentrations of asbestos and other fibres following recognized procedures including microscopic counting techniques
- Advise on all techniques for safe management of asbestos in buildings following good practice

This course is designed to provide participants with a detailed and up-to-date overview of OHTA504: Asbestos and Other Fibres. It covers the asbestos fibre types, uses of asbestos and man made mineral fibres (MMMF); the health hazards and exposure limits; the health effects of asbestos and control limits for asbestos; reviewing inhalation studies for other fibres including erionite, man-made mineral and other fibres; the exposure limits for man made mineral fibres, typical exposures to man made mineral fibres and approaches to eliminating asbestos related diseases; the personal protective equipment for working with asbestos including respiratory protection and personal protective clothing; the types and uses of asbestos in buildings; and conducting surveys of asbestos containing materials in buildings.

During this interactive course, participants will learn the bulk sampling, risk assessment and management of asbestos containing materials; the asbestos in soils and man-made ground and land investigations, soil sampling and asbestos removal; the enclosures and removal procedures, waste removal and testing, monitoring and maintaining enclosures; the air sampling equipment and procedures, clearance sampling, bulk samples analysis and health and safety precautions; the asbestos in soils and quality control, fibre counting, filter preparation and calculation of results and quality control; and the electron microscopy covering scanning electron microscopy (SEM), transmission electron microscopy (TEM) and energy dispersive x-ray.

Course Objectives

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

- Achieve the OHTA Certificate in OHTA504: Asbestos and Other Fibres
- Identify the asbestos and other fibres covering asbestos fibre types, uses of asbestos and man made mineral fibres (MMMF)
- Recognize the health hazards and exposure limits including the health effects of asbestos and control limits for asbestos
- Review inhalation studies for other fibres including erionite, man-made mineral and other fibres
- Discuss the exposure limits for man made mineral fibres, typical exposures to man made mineral fibres and approaches to eliminating asbestos related diseases



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- Apply the personal protective equipment for working with asbestos including respiratory protection and personal protective clothing
- Identify the types and uses of asbestos in buildings and conduct surveys of asbestos containing materials in buildings
- Carryout bulk sampling and risk assessment and management of asbestos containing materials
- Discuss asbestos in soils and man-made ground and apply land investigations, soil sampling and asbestos removal
- Define enclosures and carryout removal procedures, waste removal and testing, monitoring and maintaining enclosures
- Employ air sampling equipment and procedures, clearance sampling, bulk samples analysis and health and safety precautions
- Discuss asbestos in soils and apply quality control, fibre counting, filter preparation and calculation of results and quality control
- Discuss electron microscopy covering scanning electron microscopy (SEM), transmission electron microscopy (TEM) and energy dispersive x-ray.

Who Should Attend

This course provides an overview of all significant aspects and considerations of asbestos and other fibres for health and safety professionals, occupational health specialists including physicians, nurses. Specialists in subjects such as acoustics, ergonomics, human factors, occupational psychology, work organisation, biosafety, engineering, analytical chemistry and those who want a broader appreciation of how their role interfaces with other professions over health issues in the workplace will find this course beneficial.

Accommodation

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

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.



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Course Certificate(s)

(1) OHTA Certificates will be issued to participants who have successfully completed the course and passed the exam of the course.

OHTA Certificate(s)

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





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(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.

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TOR IssuanceD	Date: 14-NOV-23 74851			
Participant Nan	ne: Waleed Al Habeeb			
Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
HE0919	Occupational Hygiene Certification Program OHTA504: Asbestos and Other Fibres (Accredited by the Occupational Hygiene Training Association - OHTA)	November 10-14, 2023	40	4.0
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Total No. of Cl	EU's Earned as of TOR Issuance Date		TRUE COPY Jaryl Castillo cademic Director	4.0
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Haward Technol (IACET), 2201 Cr with the ANSI// Provider member Standard. Haward Technol Education Units IACET is an inte accepted uniform	EU'S Earned as of TOR Issuance Date	A the International Association for Crd the approval, Haward Technology tandard of good practice internationally cET CEUs for programs that qualify cet ceus for programs that qualify the international Association for Continuing t, research-based oriteria and guideling to accredited by the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing the international Association for Continuing t, research-based oriteria and guideling the international Association for Continuing the international Associatio	TRUE COPY Jaryl Castillo cademic Director	4.0 Training comples triboized triboized triboized triboized triboized



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Certificate Accreditations

Haward Technology is accredited by the following international accreditation organizations:-



Occupational Hygiene Training Association (OHTA)

Haward Technology is an Approved OHTA Trainer under the OHTA201 and OHTA500 series modules that promote better standards of occupational hygiene practice throughout the world.

Haward Technology supports hygiene professionals who wanted people around the world to enjoy the benefits of healthy working environments.

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 **4.0 CEUs** (Continuing Education Units) or **40 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.



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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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 Natural **Radiation** Sources, Nuclear Regulatory Act, Industrial Monitoring, 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.



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Training Fee

Istanbul	US\$ 8,000 per Delegate + VAT . This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	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.
Al Khobar	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.
Abu Dhabi	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\$ 280 per Delegate + VAT

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:

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Day		
0730 – 0745	Registration & Coffee	
0745 – 0800	Welcome & Introduction	
0800 - 0815	PRE-TEST	
0815 0830	Asbestos & Other Fibres	
0813 - 0830	Historical Perspective • Groups at Risk from Asbestos Exposure	
	Asbestos & Other Fibres: Asbestos Fibre Types	
0830 - 0930	Six Regulated Forms • Classification of Fibre Types • Structure of Asbestos Fibre	
	<i>Types</i> • <i>Physico-Chemical Properties of Asbestos Fibres</i>	
0930 - 0945	Break	
0945 - 1130	Asbestos & Other Fibres: Uses of Asbestos	
	Asbestos & Other Fibres: Man Made Mineral Fibres (MMMF) & Other	
1120 1220	Fibres	
1150 - 1250	Man-Made Mineral Fibres (MMMF) • Carbon Fibres • Aramid Fibres •	
	Polyolefin Fibres	
1230 - 1330	Lunch	
	Health Hazards & Exposure Limits: Health Effects of Asbestos	
1330 – 1415	Asbestosis • Mesothelioma • Lung Cancer • Quantitative Risks from Asbestos	
	Exposure • Extent of Asbestos Related Diseases	
1/15 - 1530	Health Hazards & Exposure Limits: Control Limits Etc for Asbestos	
1415 - 1550	Control Limits • Typical Exposure Levels for Asbestos	
1530 - 1545	Break	





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1545 - 1630	Health Hazards & Exposure Limits: Inhalation Studies for Other Fibresincluding ErioniteMan-Made Mineral & Other Fibres • Exposure Limits for Man Made MineralFibres • Typical Exposures to Man Made Mineral Fibres
1630 - 1650	Health Hazards & Exposure Limits: Approaches to Eliminating AsbestosRelated DiseasesWorld Health Organisation • Typical Legislative Approach (UK)
1650 – 1700	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
1700	End of Day One

Dav 2

0730 - 0830	Personal Protective Equipment for Working with Asbestos: Respiratory Protection Use of Respiratory Protection • Types of Respiratory Protection • Face Mask
	Fit lesting
0830 - 0930	Personal Protective Equipment for Working with Asbestos: Personal Protective Clothing
0930 - 0945	Break
0945 - 1130	Asbestos in Buildings & Surveys: Types & Uses of Asbestos in Buildings Introduction • Applications of Asbestos
1130 - 1230	Asbestos in Buildings & Surveys: Surveys of Asbestos Containing Materials in Buildings Introduction to Surveys • Types of Asbestos Surveys • Planning Asbestos Surveys • Health & Safety During Asbestos Surveys • Undertaking Asbestos Surveys
1230 - 1330	Lunch
1330 - 1415	Asbestos in Buildings & Surveys: Bulk Sampling Sampling Strategy • Bulk Sampling Procedures • Asbestos in Soils & Made Ground – Bulk Material Sampling Procedures
1415 1520	Asbestos in Buildings & Surveys: Risk Assessment of Asbestos
1415 - 1530	Containing Materials Flow Charts • Risk Assessment Systems • Reviewing Risk Assessments
1415 - 1530 1530 - 1545	Containing Materials Flow Charts • Risk Assessment Systems • Reviewing Risk Assessments Break
1415 - 1530 1530 - 1545 1545 - 1630	Containing Materials Flow Charts • Risk Assessment Systems • Reviewing Risk Assessments Break Asbestos in Buildings & Surveys: Management of Asbestos Containing Materials Introduction to Management Plans • Awareness Training for Workers, Contractors & Others • Development of an Asbestos Management Plan • Content of an Asbestos Management Plan • Reviews of the Asbestos Management Plan
1415 - 1530 1530 - 1545 1545 - 1630 1630 - 1650	Containing Materials Flow Charts • Risk Assessment Systems • Reviewing Risk Assessments Break Asbestos in Buildings & Surveys: Management of Asbestos Containing Materials Introduction to Management Plans • Awareness Training for Workers, Contractors & Others • Development of an Asbestos Management Plan • Content of an Asbestos Management Plan • Reviews of the Asbestos Management Plan Asbestos in Buildings & Surveys: Asbestos in Soils & Man-Made Ground Introduction - (Consider Multidisciplinary Team)
1415 - 1530 1530 - 1545 1545 - 1630 1630 - 1650 1650 - 1700	Containing Materials Flow Charts • Risk Assessment Systems • Reviewing Risk Assessments Break Asbestos in Buildings & Surveys: Management of Asbestos Containing Materials Introduction to Management Plans • Awareness Training for Workers, Contractors & Others • Development of an Asbestos Management Plan • Content of an Asbestos Management Plan • Reviews of the Asbestos Management Plan Asbestos in Buildings & Surveys: Asbestos in Soils & Man-Made Ground Introduction - (Consider Multidisciplinary Team) 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



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	Asbestos in Buildings & Surveys: Main Drivers – (Including Legal Position)
0730 – 0830	Health of Individuals - Workers & Neighbours • Health of End Users
	(Housing) • Control of Pollution & Environmental Protection • Specialist
	Waste & Controlled Disposal
	Asbestos in Buildings & Surveys: Land Investigations
	Brown Field Sites • Historical Poor Disposal Control Incl. Fly Tipping;
	Introduction to Land Investigation (ICRCL 64/85) • BS EN 14899:2005 -
0830 - 0930	Characterisation of Waste; BS EN 10175:2011 +A2:2017 – Investigation of
	Cont. Sites • CIRIA C733 (SP168) • Asbestos in Soil & Made Ground Good
	Practice Site Guide (C/65) • Stages of Asbestos in Land Investigation •
	Planning Aspestos Investigation • Health & Safety During Aspestos Sampling
0030 0045	Break
0330 - 0343	Ashestos in Buildings & Surveys: Soil Sampling
0945 - 1130	Sampling Strategies (Randomised, Judgemental & Stratified) • Bulk Materials
	Sampling Procedures
	Asbestos in Buildings & Surveys: Risk Assessment of Asbestos
1130 - 1230	Containing Materials
1230 1330	Kisk Assessment Systems • Reviewing Kisk Assessments
1250 - 1550	Ashestos in Buildings & Surveys: CAR:SOIL (2016)
1330 – 1415	EIC – CL:AIRE JIWG
	Asbestos in Buildings & Surveys: HSG 248 - Asbestos: The Analyst
1415 - 1530	Guide (Published 2021)
1530 1545	HSG 248: Chupter 7 – Sous & Mude Ground • HSG 248: Appendix 7
1550 - 1545	Ashestos Remozial: Prenaration
1545 - 1630	Responsibilities of the Client / Building Owner • Risk Assessment: Plan of
	Work)
	Asbestos Removal: Enclosures
1630 - 1650	Definition & Use Enclosure Design & Main Features • Construction of
	Enclosures • Air Extraction Equipment • Decontamination Procedures
	Using this Course Overview the Instructor(s) will Brief Participants about the
1650 – 1700	Topics that were Discussed Today & Advise Them of the Topics to be Discussed
	Tomorrow
1700	End of Day Three

Day 4

	0730 - 0830	Asbestos Removal: Removal Procedures Wet & Dry Methods for Removing Asbestos Containing Materials • Controlled Wetting by Injection Method • Controlled Wetting by Spray Method • Dry Removal Method; Wrap & Cut Removal Method • Glove-Bag Removal Method • Hot Stripping of Asbestos • Mechanical Removal
	0830 - 0930	Asbestos Removal: Waste Removal Waste Removal Procedures • Waste Bags & Containers • Disposal of Asbestos Waste • Covered Lorries • Waste Characterisation & Waste Acceptance Criteria
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0930 - 0945	Break
0945 - 1130	Asbestos Removal: Testing, Monitoring & Maintenance of Enclosures
	Testing & Monitoring • Testing & Maintenance of Air Extraction Equipment
1130 - 1230	Air Sampling: Principles & Types of Air Sampling
1230 - 1330	Lunch
1330 - 1415	Air Sampling: Air Sampling Equipment & ProceduresIntroduction • Air Sampling Equipment • Sampling Strategies • SitePerimeter Monitoring for Soils • Personal Monitoring Whilst Disturbing Dust• Recording Calibration & Sampling Information
1415 - 1530	Air Sampling: Clearance Sampling & Certification Introduction • Visual Inspection • Air Sampling • Clearance Certification
1530 - 1545	Break
1530 - 1545 1545 - 1630	Break Air Sampling: Analysis of Bulk Samples
1530 - 1545 1545 - 1630	Break Air Sampling: Analysis of Bulk Samples Introduction • Health & Safety Precautions
1530 - 1545 1545 - 1630 1630 - 1650	Break Air Sampling: Analysis of Bulk Samples Introduction • Health & Safety Precautions Air Sampling: Fibre Identification Initial Examination • Sample Preparation • Stereo Microscopy • Polarised Light Microscopy
1530 - 1545 1545 - 1630 1630 - 1650	Break Air Sampling: Analysis of Bulk Samples Introduction • Health & Safety Precautions Air Sampling: Fibre Identification Initial Examination • Sample Preparation • Stereo Microscopy • Polarised Light Microscopy Recap
1530 - 1545 1545 - 1630 1630 - 1650	Break Air Sampling: Analysis of Bulk Samples Introduction • Health & Safety Precautions Air Sampling: Fibre Identification Initial Examination • Sample Preparation • Stereo Microscopy • Polarised Light Microscopy Recap Using this Course Overview, the Instructor(s) will Brief Participants about the
1530 - 1545 1545 - 1630 1630 - 1650 1650 - 1700	Break Air Sampling: Analysis of Bulk Samples Introduction • Health & Safety Precautions Air Sampling: Fibre Identification Initial Examination • Sample Preparation • Stereo Microscopy • Polarised Light Microscopy 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
1530 - 1545 1545 - 1630 1630 - 1650 1650 - 1700	Break Air Sampling: Analysis of Bulk Samples Introduction • Health & Safety Precautions Air Sampling: Fibre Identification Initial Examination • Sample Preparation • Stereo Microscopy • Polarised Light Microscopy 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

Day 5

0730 0830	Air Sampling: Asbestos in Soils - Standing Committee of Analysts (National Laboratory Service)-Environment Agency)
0750 - 0850	<i>Three Stages</i> • <i>Sample Treatment</i> • <i>Sample Interferences & Limitations</i> • <i>Sample Handling</i>
0000 0000	Air Sampling: Quality Control
0830 - 0930	<i>Quality Control Procedures</i> • <i>Detection Limits</i>
0930 - 0945	Break
0945 - 1130	Air Sampling: Interfering Fibres & Products
	Fibre Counting: Phase Contrast Microscopy
1130 - 1230	Setting Up the Microscope • Centring the Illuminating Field Diaphragm •
1100 1200	Centring the Phase Ring • HSE/NPL Mk II Test Slide • Determination of the
	Diameter of Walton-Beckett Eyepiece Graticule
1230 - 1330	Lunch
1330 - 1415	Fibre Counting: Filter Preparation
1330 – 1415	Fibre Counting: Filter Preparation Fibre Counting
1330 - 1415 1415 - 1530	Fibre Counting: Filter PreparationFibre CountingFibre Counting Rules• Evaluation of Air Samples• Limitations of Fibre
1330 - 1415 1415 - 1530	Fibre Counting: Filter PreparationFibre CountingFibre Counting Rules• Evaluation of Air Samples• Limitations of FibreCounting Method
1330 - 1415 1415 - 1530 1530 - 1545	Fibre Counting: Filter PreparationFibre CountingFibre Counting Rules • Evaluation of Air Samples • Limitations of FibreCounting MethodBreak
1330 - 1415 1415 - 1530 1530 - 1545	Fibre Counting: Filter Preparation Fibre Counting Fibre Counting Rules • Evaluation of Air Samples • Limitations of Fibre Counting Method Break Fibre Counting: Calculation of Results & Quality Control
1330 - 1415 1415 - 1530 1530 - 1545 1545 - 1600	Fibre Counting: Filter Preparation Fibre Counting Fibre Counting Rules • Evaluation of Air Samples • Limitations of Fibre Counting Method Break Fibre Counting: Calculation of Results & Quality Control Calculation of Results • Fibre Counting Quality Control Schemes
1330 - 1415 1415 - 1530 1530 - 1545 1545 - 1600	Fibre Counting: Filter Preparation Fibre Counting Fibre Counting Rules • Evaluation of Air Samples • Limitations of Fibre Counting Method Break Fibre Counting: Calculation of Results & Quality Control Calculation of Results • Fibre Counting Schemes Fibre Counting: Electron Microscopy Fibre Counting: Electron Microscopy
1330 - 1415 1415 - 1530 1530 - 1545 1545 - 1600 1600 - 1615	Fibre Counting: Filter Preparation Fibre Counting Fibre Counting Rules • Evaluation of Air Samples • Limitations of Fibre Counting Method Break Fibre Counting: Calculation of Results & Quality Control Calculation of Results • Fibre Counting: Calculation of Results & Fibre Counting Quality Control Schemes Fibre Counting: Electron Microscopy Introduction • Scanning Electron Microscopy (SEM) • Transmission Electron
1330 - 1415 1415 - 1530 1530 - 1545 1545 - 1600 1600 - 1615	Fibre Counting: Filter PreparationFibre CountingFibre Counting Rules • Evaluation of Air Samples • Limitations of FibreCounting MethodBreakFibre Counting: Calculation of Results & Quality ControlCalculation of Results • Fibre Counting Quality Control SchemesFibre Counting: Electron MicroscopyIntroduction • Scanning Electron Microscopy (SEM) • Transmission ElectronMicroscopy (TEM) • Energy Dispersive X-Ray)
1330 - 1415 1415 - 1530 1530 - 1545 1545 - 1600 1600 - 1615 1615 - 1630	Fibre Counting: Filter Preparation Fibre Counting Fibre Counting Rules • Evaluation of Air Samples • Limitations of Fibre Counting Method Break Fibre Counting: Calculation of Results & Quality Control Calculation of Results • Fibre Counting Quality Control Schemes Fibre Counting: Electron Microscopy Introduction • Scanning Electron Microscopy (SEM) • Transmission Electron Microscopy (TEM) • Energy Dispersive X-Ray) Course Conclusion
1330 - 1415 1415 - 1530 1530 - 1545 1545 - 1600 1600 - 1615 1615 - 1630 1630 - 1645	Fibre Counting: Filter PreparationFibre CountingFibre Counting RulesEvaluation of Air SamplesLimitations of FibreCounting MethodBreakFibre Counting: Calculation of Results & Quality ControlCalculation of ResultsFibre Counting: Electron MicroscopyIntroductionScanning Electron Microscopy (SEM)Microscopy (TEM)Energy Dispersive X-Ray)Course ConclusionPOST-TEST
1330 - 1415 $1415 - 1530$ $1530 - 1545$ $1545 - 1600$ $1600 - 1615$ $1615 - 1630$ $1630 - 1645$ $1645 - 1700$	Fibre Counting: Filter Preparation Fibre Counting Fibre Counting Rules • Evaluation of Air Samples • Limitations of Fibre Counting Method Break Fibre Counting: Calculation of Results & Quality Control Calculation of Results • Fibre Counting Quality Control Schemes Fibre Counting: Electron Microscopy Introduction • Scanning Electron Microscopy (SEM) • Transmission Electron Microscopy (TEM) • Energy Dispersive X-Ray) Course Conclusion POST-TEST Presentation of Course Certificates



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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.

Day 6:	OHTA Online Exam (to be scheduled within 30 days of course completion)
0900 - 0945	OHTA Exam Registration/Briefing
0945 - 1145	OHTA Exam
1145 - 1200	Closing Ceremony
1200	End of Exam

Simulators (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 carryout various exercises using the Environmental simulators "CAMEO Chemicals Suite Software", "US EPA SCREEN3 Model", "AERSCREEN Model", "Industrial Hygiene Virtual Laboratory Simulator" and "CIHprep V9.0 Simulator".





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US EPA SCREEN3 Model





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UKAS

FOA



CHiprep V9.0	
See Hep Image: A set of the period of the perio	
Question Number: 894 Bngineering Controls/Ventilation	
A room 50 x 20 x 10 feet contains 100 ppm of CCl4. How much time is required to lower the concentration to 25 ppm if a blower generating 300 cfm is used to cle room?	ir the
A) 46.0 min B) 11.1 min C) 7.5 min D) 54.0 min	
You did not answer this question.	
The correct answer is: A	
$t = \log (C/C_o)(-2.303)(P/Q)$	
Substituting we get: = log (25/100)(-2.303)(10,000 ft ³ /300 cfm) := 46 min	
Where: P = Room volume C ₂ = Boginning concentration C ₂ = Ending concentration Q = Flow	
CilHprep V9.0	
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