COURSE OVERVIEW HE0430
Laboratory Chemical Inventory Management Fundamentals

Course Title
Laboratory Chemical Inventory Management Fundamentals

Course Date/Venue
Session 1: May 18-22, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
Session 2: December 08-12, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
HE0430

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

This course is designed to provide participants with a detailed and up-to-date overview of Laboratory Chemical Inventory Management Fundamentals. It covers the purpose of chemical inventory management and the benefits of maintaining an accurate chemical inventory; the types of laboratory chemicals, regulatory compliance and standards; the chemical inventory systems, proper chemical labeling and barcoding; the initial setup of a chemical inventory and the principles of chemical storage; and the designing of storage areas by choosing appropriate cabinets and shelves and marking storage areas with safety signage.

Further, the course will also discuss how to conduct inventory tracking and audits and handle expired and excess chemicals; the emergency preparedness, risk assessment for chemicals, personal protective equipment (PPE) and chemical spill management; the waste management, first aid for chemical exposure and regulatory reporting; the chemical lifecycle management, budgeting and cost control; and the preventative maintenance and inspections, engaging lab staff in inventory management and communicating changes in inventory policies.

During this interactive course, participants will learn the conflict resolution during audits or inspections; analyzing inventory data, generating reports for stakeholders and visualizing data using charts and graphs; the best practices in chemical inventory management and customizing inventory systems; and setting-up a new inventory from scratch, conducting a mock regulatory audit and identifying compliance gaps.

Course Objectives

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

- Apply and gain a basic knowledge on laboratory chemical inventory management
- Discuss the purpose of chemical inventory management and the benefits of maintaining an accurate chemical inventory
- Identify the types of laboratory chemicals, regulatory compliance and standards
- Recognize chemical inventory systems and apply proper chemical labeling and barcoding
- Carryout initial setup of a chemical inventory and discuss the principles of chemical storage
- Design storage areas by choosing appropriate cabinets and shelves and marking storage areas with safety signage
- Conduct inventory tracking and audits, handle expired and excess chemicals and apply emergency preparedness
- Apply risk assessment for chemicals, personal protective equipment (PPE) and chemical spill management
- Employ waste management, first aid for chemical exposure and regulatory reporting
- Carryout chemical lifecycle management, budgeting and cost control
- Implement preventative maintenance and inspections, engage lab staff in inventory management, communicate changes in inventory policies and apply conflict resolution during audits or inspections
- Analyze inventory data, generate reports for stakeholders and visualize data using charts and graphs
- Apply best practices in chemical inventory management and customize inventory systems
- Set-up a new inventory from scratch, conduct a mock regulatory audit and identify compliance gaps

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 a basic overview of all significant aspects and considerations of laboratory chemical inventory management fundamentals for laboratory managers and supervisors, chemists and lab technicians, health and safety officers, research and development staff, environmental, health, and safety (EHS) personnel, regulatory compliance officers, supply chain and procurement personnel and other technical staff.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

- 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.

- 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. John Burnip, EHS, SAC, STS, NEBOSH-ENV, NEBOSH-IGC, NEBOSH-IFC, NEBOSH-PSM, NEBOSH-IOG, TechIOSH, is a **NEBOSH Approved Instructor** and a **Senior HSE Consultant** with over **30 years** of practical **Offshore & Onshore** experience within **Oil**, **Gas**, **Refinery**, **Petrochemical** and **Nuclear** industries. His wide experience covers **NEBOSH** International General Certificate in Occupational Health & **Safety**, **NEBOSH** National Certificate in Construction Health & Safety, **NEBOSH** Certificate in Process Safety Management, **NEBOSH** Environmental Management Certificate, **NEBOSH** Certificate in Fire Safety, **NEBOSH** International Oil & Gas Certificate, **PHA**, **HAZOP**, **HAZCOM**, **HAZMAT**, **HAZID**, **Hazard & Risk Assessment**, **Emergency Response Procedures** Behavioural Based Safety (**BBS**), **Confined Space Entry**, **Fall Protection**, **Emergency Response**, H_2S, Safety Management System (**ISO 45001**), **Accident/Incident Investigation** System and Report PSM, **Risk Assessment**, **SCE FMEA Failure Investigations**, Site Management Safety Training (**SMSTS**), **Occupational Health & Safety and Industrial Hygiene, Crisis Management & Damage Control** in Oil & Gas Industry, **Enhancing HSSE Safety Performance & Effectiveness**, **Overhead & Gantry Crane Safety**, **HSSE Principles & Practices Advanced**, **Lifting & Rigging Equipment** Lifting Tackles Inspection License/Relicense, **API 780 Security Risk Assessment Methodology** for Petroleum & Petrochemical, **Advanced Process Safety Management** with PHA, **Quantitative and Qualitative Risk Assessment**, IADC/API **Mobile Drilling Rig Inspections**, **Maintenance and Audits**, **H2s Training and Rescue with Respiratory Equipment**, Job Safety Analysis (**JSA**), **Work Permit & First Aid**, Project HSE Management System, Health & Hygiene Inspection, PTW Control, Process Modules Fire & Gas Commissioning, MSDS, Ergonomics, Lockout/Tagout, Fire Safety & Protection, Spill Prevention & Control, **Tower & Scaffold Inspection**, **Scaffolding** Operations, **Scaffolding** Equipment, Bracket Scaffolds, **Scaffolding** Labelling, **Pre-fab Scaffolding**; Erecting, Maintaining & Dismantling **Scaffolding** in accordance with the **British Standards Code of Practice 5973**; **Heavy Lifting** operations, Cantilevered Hoists, **Offshore** Operations, **Offshore** Construction, Basic **Offshore Safety** Induction & Emergency Training (BOSIET), **Onshore** Fabrication & **Offshore** Pipelaying & Hook-Up, **Crane** Inspection, **Crane** Operations, Oilfield Startup & Operation, Steel Fabrication, OSHA, **ISO 9001**, **ISO 14001**, **OHSAS 18001** and **IMO** (**SOLAS**) Regulations. Mr. Burnip has greatly contributed in upholding the highest possible levels of safety for numerous International Oil & Gas projects, Generation Systems & Platform Revamp, LPG & Gas Compression, Marine, Offshore and Power Plant Construction. Currently, he is the **HSE Advisor** of Solvay wherein he is responsible in planning and implementation of the corporate safety program (OSHA codes).

During Mr. Burnip's long career life, he had successfully carried out numerous projects in **Europe**, **North America**, **South America**, **Southeast Asia**, **Middle East** and the **North Sea**. He had worked for Delta Offshore Group, Solvay Asia Pacific, Likpin Dubai, SADRA/DOT, **ZADCO**, **McDermott** International (USA, Qatar, Egypt, India, Oman, Dubai and Abu Dhabi), **PDO**, **Shell**, **ARAMCO**, Salman Field, Leman Offshore Gas Field, GEC, Harland & Wolff PLC Belfast in North Ireland, Howard Doris – Kishorn in Scotland, **Westinghouse** Electric in Brazil and South Korea and **Chevron** Oil in Scotland as the **Commissioning Project Engineer**, **Project & Safety Engineer**, **Estimating Engineer**, **Senior Instrument Engineer**, **Instrument Field Engineer**, **Lead Instrument Engineer**, **Instrument Engineer**, **Engineer**, **Emergency Response Training Manager**, **HSE Advisor**, **HSE Instructor**, **HSE Supervisor**, **Instrumentation Supervisor**, **Instrumentation Specialist**, **Project Coordinator**, **Instrumentation Technician** and **Tank Farm Instrumentation Technician**.

Mr. Burnip has a **Bachelor's** degree in **Business Studies** from the **Somerset University** (**UK**). He is a **Certified/Registered Tutor** in **NEBOSH Certificate in Environmental Management**, **NEBOSH International General Certificate**, **NEBOSH International Certificate in Fire Safety & Risk Management**, **NEBOSH Process Safety Management Certificate** and **NEBOSH International Oil & Gas Certificate**; a **Certified Safety Auditor** (SAC); a **Certified ISO 45001** Auditor; an **Environmental Health and Safety Management Specialist** on Fall Protection, Elevated Structures, Material Handling, Trenching & Excavations; a Welding Brazing Safety Technician; a **Certified Safety Administrator** (**CSA**) - General Industry; a **Safety Manager/Trainer** – General Industry; a **Petroleum Safety Manager** (**PSM**) - Drilling & Servicing; a **Petroleum Safety Specialist** (**PSS**) - Drilling & Servicing; a **Safety Planning Specialist**; a **Safety Training Specialist**; a **Certified Instructor/Trainer**; a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**) and further holds a Certificate in **Mechanical Engineering Craft Practice** from the **City & Guilds of London Institute**; a **NEBOSH Level 3** Construction Certificate (UK); and holds a **Cambridge Teaching Certificate**. He is a well-regarded member of the **National Association of Safety Professionals**, the **Association of Cost Engineers** (**UK**), **Institution of Occupational Safety & Health** (**TechIOSH**) and an **Associate Member** of **World Safety Organization**. Further, he has conducted innumerable trainings, workshops and conferences worldwide.

Course Fee

US$ 5,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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.

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

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Fundamentals of Chemical Inventory Management*** *Definition & Purpose of Chemical Inventory Management • Benefits of Maintaining an Accurate Chemical Inventory • Overview of Laboratory-Specific Challenges • Stakeholders in Chemical Inventory Management*
0930 – 0945	*Break*
0945 – 1040	***Types of Laboratory Chemicals*** *Categories of Chemicals (Organic, Inorganic, Specialty) • Hazardous versus Non-Hazardous Chemicals •Understanding Material Safety Data Sheets (MSDS) • Identifying Chemical Incompatibilities*
1040 – 1135	***Regulatory Compliance & Standards*** *Overview of Regulatory Agencies (e.g., OSHA, EPA, DOT) • GHS (Globally Harmonized System) Labeling & Classification • Chemical Hygiene Plans (CHPS) • Local, National, & International Compliance Differences*
1135 - 1230	***Chemical Inventory Systems*** *Manual versus Digital Inventory Management • Features of Inventory Management Software • Cloud-Based Solutions & Mobile Applications • Common Pitfalls in Inventory Systems*
1230 - 1245	*Break*

1245 – 1335	***Chemical Labeling & Barcoding*** *Importance of Labeling in Inventory Tracking • Elements of a Proper Chemical Label • Using Barcoding Systems for Inventory Management • Hands-On Exercise: Labeling & Barcoding Practice*
1335 - 1420	***Initial Setup of a Chemical Inventory*** *Planning & Preparation for an Inventory System • Setting Up Inventory Categories & Locations • Assigning Inventory Management Roles & Responsibilities • Case Study: Successful Implementation of a New Inventory System*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Principles of Chemical Storage*** *Segregation of Incompatible Chemicals • Proper Storage of Flammables, Corrosives, & Oxidizers • Temperature, Humidity, & Light Considerations • Secondary Containment & Spill Trays*
0830 - 0930	***Designing Storage Areas*** *Choosing Appropriate Cabinets & Shelves • Designing for Safety & Efficiency • Marking Storage Areas with Safety Signage • Case Study: Optimizing Storage Space in a Small Lab*
0930 – 0945	*Break*
0945 – 1040	***Inventory Tracking & Audits*** *Conducting Regular Inventory Checks • Tracking Chemical Usage & Restocking • Reconciling Discrepancies in Inventory • Practical Exercise: Conducting a Mock Inventory Audit*
1040 – 1135	***Handling Expired & Excess Chemicals*** *Identifying Expiration Dates & Chemical Stability • Disposal of Expired Chemicals • Redistribution & Donation of Excess Chemicals • Reducing Waste Through Inventory Optimization*
1135 - 1230	***Emergency Preparedness*** *Spill Response Plans • Fire Safety & Emergency Shutdown Procedures • Equipment for Chemical Emergencies (e.g., Eyewash Stations) • Simulation Exercise: Spill Response Drill*
1230 - 1245	*Break*
1245 - 1420	***Training & Documentation*** *Developing Standard Operating Procedures (SOPs) • Training Staff on Chemical Handling & Storage • Documentation Best Practices • Compliance with Training Documentation Requirements*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***Risk Assessment for Chemicals*** *Identifying & Categorizing Chemical Hazards • Assessing Risk Based on Exposure & Usage • Using Risk Assessment Tools (e.g., NFPA Diamond) • Case Study: Risk Assessment for a Laboratory Experiment*
0830 – 0930	***Personal Protective Equipment (PPE)*** *Types of PPE for Chemical Handling • Selecting Appropriate PPE Based on Risk • Maintenance & Disposal of PPE • Hands-On Exercise: Proper PPE Selection & Use*
0930 – 0945	*Break*
0945 – 1040	***Chemical Spill Management*** *Types of Chemical Spills & Response Strategies • Neutralization & Containment Methods • Using Spill Kits Effectively • Role-Playing Exercise: Responding to a Simulated Spill*
1040 – 1135	***Waste Management*** *Categories of Chemical Waste • Segregation & Labeling of Waste Containers • Disposal Methods (On-Site versus Off-Site) • Reducing Waste Generation in the Lab*
1135 - 1230	***Health Hazards of Laboratory Chemicals*** *Routes of Exposure (Inhalation, Skin Contact, Ingestion) • Symptoms of Acute & Chronic Exposure • First Aid for Chemical Exposure • Long-Term Health Monitoring Programs*
1230 - 1245	*Break*
1245 - 1420	***Regulatory Reporting*** *Reporting Chemical Incidents • Compliance with Local Environmental & Safety Agencies • Filing Annual Chemical Inventory Reports • Case Study: Navigating Regulatory Reporting Challenges*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	***Chemical Lifecycle Management*** *From Procurement to Disposal • Tracking Chemical Quantities Over Time • Reducing Excess Inventory • Strategies for Sustainable Procurement*
0830 - 0930	***Leveraging Technology*** *Advanced Features of Inventory Software • Integration with Procurement & Safety Systems • Utilizing QR Codes & RFID Tags • Demonstration: Advanced Inventory Software Features*
0930 – 0945	*Break*
0945 – 1040	***Budgeting & Cost Control*** *Calculating Total Cost of Ownership for Chemicals • Reducing Costs through Inventory Optimization • Negotiating with Suppliers • Practical Exercise: Budgeting for a Lab's Annual Chemical Needs*
1040 – 1135	***Preventative Maintenance & Inspections*** *Regular Inspections of Storage & Equipment • Maintaining Storage Facilities for Safety & Compliance •Creating an Inspection Checklist • Hands-On Activity: Conducting a Storage Area Inspection*

1135 - 1230	***Collaboration & Communication*** *Engaging Lab Staff in Inventory Management • Communicating Changes in Inventory Policies • Conflict Resolution During Audits or Inspections • Case Study: Improving Team Collaboration in Inventory Processes*
1230 - 1245	*Break*
1245 - 1420	***Data Analysis & Reporting*** *Analyzing Inventory Data for Trends • Generating Reports for Stakeholders • Visualizing Data Using Charts & Graphs • Exercise: Creating a Chemical Usage Report*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	***Best Practices in Chemical Inventory Management*** *Industry Standards & Benchmarks • Common Mistakes & How to Avoid Them • Tips for Long-Term Inventory Management Success • Group Discussion: Sharing Experiences & Insights*
0830 - 0930	***Customizing Inventory Systems*** *Tailoring Systems for Specific Lab Types • Incorporating Specialized Features • Case Study: Customizing an Inventory System for a Research Lab • Practical Exercise: Modifying a Software Setup*
0930 – 0945	*Break*
0945 – 1230	***Mock Inventory Setup & Management*** *Setting Up a New Inventory from Scratch • Simulating Daily Inventory Management Tasks • Solving Real-Life Challenges in Inventory Management • Hands-On Activity: Completing a Mock Setup*
1230 - 1245	*Break*
1230 – 1345	***Audit Simulation*** *Conducting a Mock Regulatory Audit • Identifying Compliance Gaps • Responding to Auditor Questions • Post-Audit Review & Corrective Actions*
1345 - 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-

Course Coordinator

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