
OHTA505 CONTROL OF HAZARDOUS SUBSTANCES

Course Description



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OHTA505-CONTROL OF HAZARDOUS SUBSTANCES

This course provides students with an introduction to the methodologies and technology available to control workplace exposures and reduce risk to health from exposure to hazardous substances. The essential steps for deciding when a control is required in any situation stem from the core principles of occupational hygiene. These are described succinctly below:

- **Anticipation:** The prospective recognition of hazardous conditions based on chemistry, physics, engineering and toxicology.
- **Recognition:** Both the detection and identification of hazards or their adverse effects through chemistry, physics and epidemiology.
- **Evaluation:** The quantitative measurement of exposure to environmental hazards and the qualitative interpretation of those hazards.
- **Control** is the fourth core principle to occupational hygiene. It is a process of conception, education, design and implementation of beneficial interventions and changes carried out that eliminate, decrease or downgrade hazardous conditions.

Control involves changes to an operation or process to reduce exposure to a hazardous substance. The changes may involve substitution, technological changes, process modification, ventilation, the use of personal protective equipment and procedural or administrative changes with the aim of reducing the formation, release, transmission of, or contact with the substance of concern.

This Course has been delivered by OHTA approved training providers for over 10 years and reviewed by international experts on two occasions to ensure the information is accurate and current. The latest update was 2023.

On successful completion of the course, students should be able to...

- Describe where and how airborne contaminants are generated by industrial processes, how this impacts the control strategy and how control solutions can thereby be optimized.
- Recognize the range of approaches to risk reduction and the importance and the value of using the hierarchy of controls.
- Select appropriate strategies for implementation for all possible exposure routes including those of skin contact and ingestion.
- Describe the meaning of “adequate control”, particularly in relation to personal exposures.
- Discuss the importance of design considerations in terms of the workplace, process, and facility as a means of reducing occupational exposures. Understand the importance of control at source and describe how that can be achieved.
- Describe the principal elements of containment systems and understand their limitations.
- Describe the principal elements of a local exhaust ventilation system, give examples of typical installations and know how to carry out the necessary measurements to assess whether a local exhaust ventilation system is effective and operating to the design specifications.
- Describe the principal uses and limitations of personal protective equipment along with measures necessary to implement programs in an effective manner as part of a control strategy.
- Recognize the impact that control measures may have on other workplace hazards and understand the need to take a holistic approach to the design of control solutions.

Become a Trainer

Training providers for the OHTA505 may include national IH/OH associations, IH/OH organizations and companies such as professional consultancies. Training providers must have an OHTA Training Director with an IH/OH certification recognized by the National Accreditation Recognition (NAR) Committee of the International Occupational Hygiene Association (IOHA) such as CIH, ROH, COH, etc. Individual trainers working under the Training Director do not have to be certified but should be knowledgeable in the course content.

Trainers set their course fees in local currency and keep those fees. The only fees paid to OHTA are for the mandatory on-line exam which is £100 (about 130-135 USD) per student. The trainer application is available at <https://ohtatraining.org/trainers/apply/>

Additional Study Options

The OHTA505 course can be the first step to additional training in the core aspects of OH leading to the ICertOHTA qualification. If you are pursuing a career in OH, see the list of OHTA courses and the qualification framework at <https://ohtatraining.org/students/framework>

Next Steps

To find an in-person course in your area or an on-line course suitable for your time zone and language, see the Course Calendar at <https://ohtatraining.org/students/courses/>

For more information, please contact the OHTA Secretariat team@ohtatraining.org

Testimonials

Look at what OHS professionals are saying about the OHTA505 course:

"What I love about teaching OHTA505 is how easily the course manual moves off the page and into actual practice. The manual gives students a solid technical foundation, but the real breakthrough happens when we get into the practical exercises.

When teaching this course, I make a point to ensure students aren't just reading about engineering controls, they are actively building and testing them. The energy in the room during the diagnostic discussions and hands-on exercises is fantastic as participants work through control calculations, test ventilation setups, and troubleshoot real-world workplace scenarios together.

The focus on practical execution pays off immediately. By grounding every concept in hands-on practice, students leave the course ready to walk onto a job site and confidently run real assessments!"

Cathy Hovde, CIH, CSP (USA)
Principal/Founder
Resilient EHS - www.resilientehs.com

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Look at what OHS professionals are saying about the OHTA505 course:

"OHTA505 has been a very valuable learning experience for me, particularly in developing a deeper understanding of Local Exhaust Ventilation system design and their practical application. I really appreciated the depth of the current curriculum, especially the strong focus on risk management and effective control measures. The course has strengthened both my technical knowledge and my confidence in applying what I've learned to real-world occupational hygiene situations."

Mark Thatineni (South Korea)
Mechanical Engineer, CSP, CMIOSH
Coupang Corporation

"The OHTA505 course provides a great overview of the principles of the hierarchy of controls. The detailed description of the controls and case studies help students conceptualize the application of controls in the real world. Students often find immediate benefit to their own workplaces such as testing the effectiveness of local exhaust ventilation. The case studies encourage students to share their experiences of risk control in their own work, both successes and challenges. The whole group benefits from the sharing of knowledge."

Philippa Gibson
New Zealand Occupational Hygiene Society (nzohs.org.nz)