
Industrial Hygiene Monitoring and Hazard Control Training Course for HSE Managers

20 – 24 September 2027
New York





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Programme Summary

Industrial hygiene monitoring and hazard control is the subject of this five-day training course for HSE managers, occupational health leads and plant managers at managerial level, ending in an industrial hygiene monitoring and control plan for one work area. Workers in many sectors breathe dust and vapours, work in noise and heat, and handle agents whose effects appear years later, yet exposure is often judged by habit rather than measurement. The approach moves from the agents and their effects, through exposure assessment and sampling, to controls and programmes, and then to a worked plan. Mars Training Centre UK delivers this programme in industrial hygiene monitoring and hazard control.

The Business Case

When exposure is not measured, harm builds quietly: illness appears after years, controls are chosen by cost rather than effect, and claims or absence follow. Organisations that characterise exposure, sample where risk is highest and choose controls by the hierarchy can show that workers are protected, spend control budgets where they matter and keep evidence that stands up to review by management and external parties.

- Occupational Illness and Absence: Fall as the highest exposures are found and reduced first.
- Control Spending: Becomes better targeted as controls follow measured exposure rather than assumption.
- Audit and Review Readiness: Improves as monitoring results, decisions and actions are recorded for each work area.

Principles and Evidence Base

- AIHA Exposure Assessment Approach: Its steps of basic characterisation, exposure assessment and similar exposure groups structure the work in Sessions 1 and 2.
- NIOSH Exposure Assessment Strategy: Its published strategy for judging and re-assessing exposure shapes the sampling decisions in Session 3.
- Hierarchy of Controls: Its order of elimination, substitution, engineering controls, administrative controls and personal protective equipment guides the choices in Session 4.
- ISO 45001: Its requirements for hazard identification, risk assessment and controls in an occupational health and safety management system frame the programme design in Sessions 4 and 5.



Intended Participants

- HSE managers who are accountable for controlling workplace exposure across sites.
- Occupational health leads who link exposure data to health surveillance.
- Plant and facilities managers who own ventilation, enclosures and process change.
- Risk and compliance leads who must show evidence that exposure is controlled.

The programme serves chemicals, manufacturing, construction, energy and healthcare organisations.

Learning Outcomes

1. Participants will be able to classify chemical, dust, biological and physical agents by their routes of exposure and health effects.
2. Participants will be able to construct similar exposure groups and rank them by risk.
3. Participants will be able to design a sampling plan that matches the agent and the work pattern.
4. Participants will be able to evaluate monitoring results against occupational exposure limits.
5. Participants will be able to prioritise controls using the hierarchy of controls.
6. Participants will be able to justify an industrial hygiene monitoring and control plan to site leadership.

Programme Structure

Day 1: Industrial Hygiene Foundations

Which workplace agents can harm health, and how do they reach workers?

- Industrial Hygiene Cycle of Anticipation, Recognition, Evaluation and Control
- Chemical, Dust and Biological Agent Profiles
- Noise, Heat and Vibration Profiles
- Routes of Exposure and Health Effect Map
- Case Review of Two Exposure Failures

Day 2: Exposure Assessment Strategy

How are exposures characterised and ranked across a workforce?

- Basic Characterisation Worksheet
- Similar Exposure Group Register
- NIOSH Exposure Assessment Strategy Outline
- Exposure Profile and Risk Ranking Matrix
- Occupational Exposure Limit Comparison Table



Day 3: Monitoring and Sampling

How are measurements planned, taken and interpreted?

- Personal and Area Sampling Plan
- Sampling Method Selection Checklist
- Noise Dosimetry and Heat Stress Readings
- Statistical Treatment of Exposure Data
- Monitoring Report Template

Day 4: Hazard Control and Exposure Programmes

Which controls bring exposure to an acceptable level, and how are they kept in place?

- Hierarchy of Controls Selection Table
- Local Exhaust and General Ventilation Review
- Respiratory Protection Programme Elements
- Medical Surveillance Link Protocol
- ISO 45001 Hazard Control Requirements

Day 5: Applying Industrial Hygiene Monitoring and Hazard Control

Is the monitoring and control plan ready for site leadership to approve?

- Applying the Session 2 Exposure Groups to the Chosen Work Area
- Testing the Session 3 Sampling Plan Against Process Conditions
- Checking Session 4 Control Choices Against the Exposure Ranking
- Applying the Session 1 Agent Profiles to Open Questions
- Completing the Industrial Hygiene Monitoring and Control Plan

Methodology

The programme is built around data workshops and case analysis. Participants work with anonymised monitoring results, process descriptions and ventilation layouts, form exposure groups, interpret measurements and select controls in small teams, then defend their plan before a simulated site leadership panel. No laboratory or chemistry background is required.

- Suggested activity: Grouping workers of a sample plant into similar exposure groups.
- Suggested activity: Interpreting a set of dust and noise readings against exposure limits.
- Suggested activity: Ranking control options for a solvent cleaning station.



Capstone Output

Each participant completes an industrial hygiene monitoring and control plan for one work area. It contains an agent profile, an exposure group register, a sampling schedule, a control selection table, a surveillance link and a re-assessment trigger list. It is used to brief site leadership and to direct monitoring and control spending in the following year.

Frequently Asked Questions

Is industrial hygiene training suitable for managers without a science background?

Yes. Industrial hygiene training is set at managerial level and assumes responsibility for workplace health and safety, not laboratory skills or a degree in chemistry or engineering.

Which frameworks does industrial hygiene monitoring rest on in this programme?

Industrial hygiene monitoring here rests on the AIHA exposure assessment approach, the NIOSH exposure assessment strategy, the hierarchy of controls and ISO 45001.

How is the industrial hygiene monitoring and control plan used at work?

You use the industrial hygiene monitoring and control plan to brief site leadership, schedule sampling and direct control spending to the work areas with the highest exposure.

How does industrial hygiene differ from general occupational health strategy?

Industrial hygiene measures and controls workplace agents at source, while general occupational health strategy addresses wider health programmes, policy and services for the workforce.