CONCEPT

Chemical Handling and Storage Safety: GHS, Segregation and Spill Response

1 – 5 February 2027
London - Central London four-star



Chemical Handling and Storage Safety: GHS, Segregation and Spill Response

Ref: 715_19110 **Date:** 1 – 5 February 2027 **Location:** London - Central London four-star **Fees:** 25300 SAR

Introduction:

Chemical handling and storage safety breaks down on plant floors and in warehouses when drums sit on bare concrete without bunds, acids share a bay with alkalis, IBCs are decanted by hand and nobody knows where the spill kit is. The result is burns, inhalation injuries, fires and releases to drains. This Core Concept course trains operators, stores and HSE staff to read GHS labels and safety data sheets, segregate and contain bulk chemicals, transfer them safely and respond to spills. Participants produce a Chemical Storage Audit and Spill Response Plan for a case site.

Course Objectives:

- Identify chemical hazards and routes of exposure for the drums, IBCs and bulk liquids handled at their own plant or warehouse
- Interpret GHS labels and the 16-section safety data sheet to set handling, storage and emergency instructions for each product
- Build a site chemical inventory and carry out a task-based chemical risk assessment using the hierarchy of controls
- Lay out chemical storage bays with correct segregation, bunding and secondary containment for drums, IBCs and tanks
- Carry out transfer, decanting and dispensing tasks with the right equipment, ventilation and personal protective equipment
- Plan and lead the first response to a chemical spill, including containment, decontamination and handover of spill residues

Target Audience:

- Plant and process operators who charge, dispense and transfer chemicals from drums, IBCs and bulk tanks
- Warehouse and stores staff who receive, rack, segregate and issue packaged chemicals
- HSE advisors and coordinators who inspect chemical stores and maintain chemical risk assessments
- Shift supervisors who authorise chemical tasks and lead first response to leaks and spills
- Maintenance and utilities technicians who work on chemical dosing skids, pumps and transfer lines

Course Outline:

Day 1: Industrial Chemical Hazards and Exposure Routes

- Physical, Health and Environmental Hazard Groups in Plant and Warehouse Chemicals
- Exposure Routes: Inhalation, Skin Absorption, Ingestion and Injection
- Corrosives, Flammable Liquids, Oxidisers and Toxic Products on the Shop Floor
- Acute and Chronic Effects Case Review from Tanker Bay and Dosing Skid Incidents
- Chemical Store Baseline Walk-Round Checklist

Day 2: GHS Classification, Labels and Safety Data Sheets

- GHS Hazard Classes and Categories for Industrial Products
- GHS Label Elements: Pictograms, Signal Words, Hazard and Precautionary Statements
- Safety Data Sheet Sections 6, 7, 8 and 10 for Handling, Storage and Release Planning
- Secondary Container and Decant Vessel Labelling Rules
- Site Chemical Inventory Register and Task-Based Chemical Risk Assessment Form

Day 3: Storage Design, Segregation and Secondary Containment

- Incompatibility Matrix for Acids, Alkalis, Oxidisers and Flammables in Bulk Stores
- Warehouse Bay Layout, Pallet Racking Limits and Separation Distances
- Bund Sizing, Sump Pallets and Drip Trays for Drums and IBCs
- Flammable Liquid Store Ventilation, Ignition Source Control and Earthing
- Bulk Tank Farm Containment, Overfill Alarms and Tanker Unloading Checks

Day 4: Transfer, Decanting, Exposure Control and Spill Response

- Drum Pumps, IBC Couplings, Drum Trolleys and Forklift Handling Procedures
- Bonding and Grounding During Flammable Liquid Transfer
- Local Exhaust Ventilation and PPE Selection: Chemical Gloves, Face Shields, Aprons and Respirators
- Emergency Eyewash and Safety Shower Placement and Weekly Flush Test
- Spill Size Classification, Spill Kit Contents, Absorbents and Drain Covers

Day 5: Storage Audit Walkthrough and Spill Response Plan

- Case Site Chemical Store Inspection Walkthrough with Scored Audit Sheet
- Spill Scenario Drill: Ruptured IBC in a Warehouse Loading Bay
- Decontamination Zones and Handover of Spill Residues to the Waste Team
- Corrective Action Register for Storage and Handling Deficiencies
- Chemical Storage Audit and Spill Response Plan Build and Peer Review

Skills You Will Gain:

- Chemical Hazard Recognition
- GHS Label and SDS Interpretation
- Chemical Inventory Control
- Chemical Segregation Planning
- Secondary Containment Design
- Safe Drum and IBC Transfer
- Chemical PPE Selection
- Spill First Response

Why Attend This Course:

- Leave with a Chemical Storage Audit and Spill Response Plan drawn from a scored walkthrough of a case site
- Correct mixed storage bays, undersized bunds and unlabelled decant containers that daily rounds tend to miss
- Rehearse a ruptured IBC spill so the first ten minutes of response follow a clear sequence
- Compare chemical store practice with peers from manufacturing, utilities, oil and gas and logistics

Conclusion:

Safe chemical handling depends on knowing what each product can do, storing it apart from what it reacts with, containing it when a drum or IBC fails and responding in a practised order. The week moves from hazards and exposure routes, through GHS labels, safety data sheets and inventories, to store layout, segregation and bunding, then to transfer, ventilation, PPE and spill control. The final day applies a scored walkthrough and a spill drill to a case site and turns the results into a Chemical Storage Audit and Spill Response Plan.