
Chemical Spill Readiness: Hazard Mapping, Containment and Incident Command Training Course

10 – 14 May 2027
Cape town





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Programme Summary

Chemical spill readiness is the subject of this one-week training course for operations, HSE and emergency response leaders, ending in a site spill response plan with drill scenarios. Many sites hold a spill procedure that crews have never rehearsed, so the first hour of a release depends on improvisation. The programme moves from the structure of a sound plan to diagnosis of site hazards and gaps, then to design of containment and command arrangements, and then to application on one site. Mars Training Centre UK delivers this programme on chemical spill readiness for leaders from mixed process organisations.

The Business Case

A chemical release can harm people, contaminate soil and water, halt production and draw regulator and public attention within hours. Outcomes depend on how quickly the release is recognised, isolated and contained, and on how clearly roles are set before it happens. Leaders who map hazards, equip and rehearse crews and review each event turn spill response from an improvised reaction into a managed capability.

- Response Time to Containment: Falls as equipment, roles and notification steps are agreed and rehearsed.
- Environmental Exposure: Reduces as drains, bunds and clean-up methods are matched to the materials held.
- Learning from Events: Improves as post-incident reviews lead to tracked actions.

Principles and Evidence Base

- Emergency response plan structure described in public industry guidelines: It supplies the plan contents tested in Sessions 1 and 3, from hazard identification to notification and reporting.
- Safety data sheet hazard information: It underpins the hazard mapping and material-specific containment choices in Sessions 2 and 3.
- Incident command system principles: They organise the roles, span of control and communication rehearsed in Session 4.

Intended Participants

- Operations managers who answer for the first response to a release on their site.
- HSE leaders who own spill plans, equipment and training records.
- Emergency response leaders who coordinate crews, contractors and outside agencies.
- Terminal and storage leaders who handle bulk liquids and transfers.



Typical participants come from refining, petrochemicals, chemical storage, port terminals and manufacturing.

Learning Outcomes

1. Participants will be able to construct a hazard map of the chemicals, quantities and release routes on a site.
2. Participants will be able to diagnose gaps in an existing spill plan, equipment set and training record.
3. Participants will be able to evaluate containment and clean-up options against the properties of each material.
4. Participants will be able to design notification, escalation and incident command arrangements for a release.
5. Participants will be able to justify drill scenarios and review routes that test the plan.
6. Participants will be able to prioritise improvement actions for one site.

Programme Structure

Day 1: Chemical Spill Readiness Principles and Plan Structure

What must a spill plan contain, and who owns each part of it?

- Spill Plan Contents Map
- Prevention and Preparedness Roles Chart
- Release Scenario Library Outline
- Notification and Reporting Pathway
- Plan Ownership and Review Register

Day 2: Diagnosing Site Hazards, Release Routes and Plan Gaps

Where can a release start, where will it travel, and where is the plan weak?

- Safety Data Sheet Hazard Extraction Table
- Release Route and Receptor Map
- Storage and Transfer Point Review
- Equipment and Training Gap Check
- Past Incident Lessons Log

Day 3: Designing Containment, Clean-Up and Safety Precautions

How is each release contained and cleared without adding harm?

- Containment Method Selection Matrix
- Absorbent and Neutralising Agent Compatibility Chart
- Drain, Bund and Barrier Protection Plan
- Responder Protection and Exclusion Zone Rules
- Waste Handling and Recovery Steps



Day 4: Leading Incident Command, Drills and Review

How does a leader run the first hours and learn from every event?

- Incident Command Role Cards
- Escalation Trigger Table
- Communication Log Template
- Drill Scenario Design Sheet
- After-Action Review Format

Day 5: Applying Chemical Spill Readiness to One Site

Is the site spill response plan ready to put to the site leadership team?

- Applying the Session 1 Plan Map to the Site
- Mapping Session 2 Hazards on Site Data
- Selecting Session 3 Containment for Two Scenarios
- Rehearsing the Session 4 Command Roles
- Completing the Site Spill Response Plan

Methodology

The programme uses a structured exercise method built on anonymised site layouts, material lists and release scenarios from refining, storage and terminal operations. Participants map hazards, choose containment and assign command roles in small groups, then defend their choices to peers who act as site manager and responder. Facilitator feedback is given on every work product before it enters the final plan.

- Suggested activity: Tracing the route of a tank transfer leak across a site drawing to the nearest drain.
- Suggested activity: Choosing containment and protection steps for two materials with different hazards.
- Suggested activity: Running a timed tabletop exercise and writing the first review actions.

Capstone Output

Each participant completes a site spill response plan with drill scenarios. It holds a hazard and release route map, a containment and clean-up selection table, notification and escalation steps, incident command role cards and a drill and review schedule. The plan is used at work to brief site teams, equip response stores and set rehearsals.



Frequently Asked Questions

Is chemical spill readiness suitable for leaders who have not written a spill plan before?

Yes. Chemical spill readiness is taught from first principles and assumes responsibility for a site, terminal or response team, not earlier plan-writing experience.

Which sources does chemical spill readiness rest on in this programme?

Chemical spill readiness here rests on public industry emergency response plan guidelines, safety data sheet hazard information and incident command system principles.

How is the site plan from chemical spill readiness used at work?

You use the site spill response plan to brief teams, check that equipment matches the materials held and schedule drills that test each role.

How does chemical spill readiness differ from a programme on oil spill response at sea?

Chemical spill readiness centres on site hazards, containment of mixed chemicals and responder safety, while oil spill response at sea centres on shoreline and offshore clean-up.