

## Session 11

### Risk Assessment, Hazard Control and Emergency Management

This learning session discuss on Hazards, Risks, Exposures and Effects of hazardous chemicals. How manage the risk from different process chemicals and machinery operated processes. Hazard banding and risk assessment methods and control measures for health, environment and safe product to reduce risk. Emergency preparedness in context of chemical management will cover.

The implementation of this session will require about 3 hours and 45 minutes.

#### **Learning outcomes**

Gaining knowledge on hazards, risks, exposure and effects of chemicals and how to assess risks. Learning about control measures. Knowledge on how to prevent, prepare and respond to emergencies.

At the end of this session, the participants will be able to

1. understand about hazards, risks, exposure and effects of chemicals
2. prepare hazard banding and risk assessment
3. develop control measures
4. prevent, prepare and respond to emergencies

#### **Training materials required**

<b>Presentations</b>	<b>Handouts/Worksheets</b>	<b>Reading</b>
PPT 11_chemical risk assessment and emergency management	Workbook Day 2 session 11	REMC Company Handbook – sections 3.2 and 4.1

#### **Session plan**

<b>Time in min</b>	<b>Content/Activity</b>	<b>Reference/Material</b>
5	Introduction <ul style="list-style-type: none"><li>• Present learning outcomes and overview of the session</li></ul>	<i>PPT 11_chemical risk assessment and emergency management slides 1 – 3</i>
10	Discuss about <ul style="list-style-type: none"><li>• Hazards, Risks, Exposures and Effects</li><li>• Exposure pathways</li><li>• Effects of hazardous chemicals</li><li>• Relation among Hazards, Risks, Exposures and Effects</li></ul>	<i>PPT 11_chemical risk assessment and emergency management Slides 4-12</i>
15	Exercises <ul style="list-style-type: none"><li>• Prepare group of 5-6 participants. Ask groups to exercise on the following topics, using workbook:<ul style="list-style-type: none"><li>▪ What could occur if you are not aware of the risks from chemicals used in production?</li><li>▪ What chemicals with potential hazards can be found in wet-processing units?</li></ul></li></ul> <p>Ask to present the findings of each group (or one group) to the peers</p>	<i>Work book session 11</i>

<b>Time in min</b>	<b>Content/Activity</b>	<b>Reference/Material</b>
5	Presentation - Risk management <ul style="list-style-type: none"> <li>Influencing factors for risk management</li> </ul>	PPT 11_chemical risk assessment and emergency management Slides 14-19
10	Presentation - Risks from Chemicals and Machinery Operated Processes <ul style="list-style-type: none"> <li>Risk on sourcing factors of chemicals</li> <li>Risk from chemical residue</li> <li>Risk from processes</li> <li>Chemicals and processes of concern</li> </ul>	PPT 11_chemical risk assessment and emergency management Slides 20-30
20	Presentation - Risk Assessment Methods <ul style="list-style-type: none"> <li>The 4-step risk assessment process</li> <li>Different tools of hazard banding and risk assessment</li> </ul>	PPT 11_chemical risk assessment and emergency management Slides 31-54
15	Exercise: Hazard banding and risk assessment Use risks of Sodium Dithionite from work book, use ILO control banding or risk matrix method.  In group, complete hazard banding and risk assessment.  Ask to present to the peers	PPT 11_chemical risk assessment and emergency management Slides 55-57
20	Presentation - Hazard banding and risk control <ul style="list-style-type: none"> <li>Control hierarchy</li> <li>Different risk reduction methods</li> <li>PPE</li> </ul>	PPT 11_chemical risk assessment and emergency management Slides 58-81
10	Presentation - Maintenance Processes <ul style="list-style-type: none"> <li>Elements of a credible maintenance process</li> <li>Benefits of maintenance process</li> <li>Template</li> </ul>	PPT 11_chemical risk assessment and emergency management Slides 82-87
45	Exercise: assess hazards and risks and identify any control gaps  Use denim sprayer case study from work book. Ask to complete the task in group.  Ask group/s to present to the peers	PPT 11_chemical risk assessment and emergency management Slides 88-90 Work book case study on 'Denim Sprayers'
30	Presentation - Emergency Management <ul style="list-style-type: none"> <li>Causes of chemical emergencies</li> <li>Emergency planning</li> <li>Information sources</li> <li>Elements of emergency planning</li> <li>Equipment's in emergency</li> </ul>	PPT 11_chemical risk assessment and emergency management Slides 91-110
45	Exercise - emergency management Use beautiful color case study from work book.  Ask to complete the task in group. Ask group/s to present to the peers	PPT 11_chemical risk assessment and emergency management Slides 111-113
5	Closing <ul style="list-style-type: none"> <li>Q &amp; A</li> <li>Summarise key points of the session</li> </ul>	PPT 11_chemical risk assessment and emergency management Slides 113-116