INTRODUCTION TO CHEMICAL MANAGEMENT FRAMEWORK

November 2017
LEARNING OUTCOMES & RESOURCES

Learning Outcomes

• Introduction to the Chemical Management Framework.

Resources

• REMC Company Handbook.

Workbook

Refer to complimentary exercises in your workbook.
Introduction To Chemical Management Framework
CHEMICAL MANAGEMENT SYSTEM

Taking full control of all operations and activities where chemicals are involved in the facility.

1. Procurement
2. Inspection
3. Inventory
4. Chemical Store (Main Store & Sub Store)
5. Delivery (Transportation)
6. Production (Use)
7. Discharge
8. Collection & Disposal

Process:
1. Purchase order to chemical supplier
2. Inspection
3. Inventory
4. Chemical Store (Main Store & Sub Store)
5. Delivery (Transportation)
6. Production (Use)
7. Discharge
8. Collection & Disposal

Give requisition as per requirement to the purchase department:
- Specify the required specification
- Sampling and testing of the chemical as per required specification
- Screen the chemicals as per the criteria mentioned below
- Random cross verification of hazardous component present in chemicals from external lab (e.g., 11 priority chemicals)
OBJECTIVES FOR A CHEMICAL MANAGEMENT SYSTEM

Know

Regulatory Awareness & Compliance

Process & Product Chemicals Knowledge

Assess

Chemical Hazard Assessment (low, med, high)

Insufficient data?

Regular re-evaluation

Chemical Safety & Risk Management

Safer Alternatives Assessment & Preferred Substances

Restricted Substances / Substances of Concern

Decide

Manage

Keep

Substitute

Innovate

Outputs

Substances of Concern List

Preferred Substances List

Restricted Substances List

Source: OIA
What are the benefits of a Chemical Management System?
BENEFITS OF A CHEMICAL MANAGEMENT SYSTEM AND RESOURCE EFFICIENCY

- Maintain a license to operate
- Access to global market
- Maintain a competitive advantage
- Minimise excessive or replicative chemical purchases/consolidate chemical purchasing
- Reduction in costs by reducing waste/overages
- Enforce chemical managing knowledge by expert or certified trainer

- Reduce down time by creating a safer work environment
- Stop potential hazards before they become an issue
- Helps facilities ensure that RSL compliant materials are being produced; becomes invaluable in tracking down issues if they do arise
- Traceability of chemicals in the supply chain
- Reduction of chemicals can result in loading reduction in ETP
EFFECTIVE IMPLEMENTATION OF MANAGEMENT ACTION PLAN (MAP)

Steps for the effective implementation of a Management Action Plan:

1. Document the improvement area
   - Identification of improvement areas for your facility at the point of assessment in order to control input of chemicals and substitute hazardous chemicals in production processes.

2. Analyse the improvement area
   - Analyse the root cause of an improvement area to develop the most appropriate Management Actions.

3. Define the Management Actions (MA)
   - Formulate the most appropriate MA to an improvement area.

4. Create ownership to MA
   - Assign the responsible persons and deadlines to each MA.

5. Implement the MAP
   - Implement the MAP with the help of your Chemical Management System Team.

6. Monitor and review MAP
   - Systematically monitor the progress on implementing the MAs, monitor effectiveness of implemented actions and review the MAP in case any modification is required.
UTILISING YOUR MAP DURING OUR TRAINING

Steps addressed during the training and visits:

1. Document the improvement area
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PLAN, DO, CHECK, ACT

1. Commitment to CMS
2. Assessment, Planning and Prioritisation
3. Chemicals Management
4. Monitoring
5. Management Review
AREAS OF ATTENTION

ACT
• Communication and reporting.

CHECK
• Performance assessment.

PLAN
• Legal register.
• Brand requirement.
• Material flow accounting.
• Chemical inventory.
• Chemical risk analysis.
• Specification of input chemicals.
• Production planning.
• Hazard risk and mapping.

DO
• Emergency preparedness and response planning.
• Chemical risk management action.
• Providing training and creating training awareness.
KEEP IT SIMPLE AND PRACTICAL

Chemical Management

Where are chemicals wasted?

What are the risks to the environment?

What are the inefficient ways of handling chemicals?

What are the health risks to workers?
QUIZ

In which processes get chemicals potentially wasted in facilities?
STARTING POINTS (1/2)

Chemicals in effluent

Chemicals lost during processing
STARTING POINTS (2/2)

Chemicals wasted during preparation and handling

Chemicals spoilt and damaged
ACTIVITY

REFLECTION

Conduct the assessment. Workbook, exercise (1-1).

Team-up with colleagues of Your facility.

Assess the maturity of the Chemical Management System in Your facility.
### CMS MATURITY MATRIX

**Chemical management system maturity matrix and score sheet.**

<table>
<thead>
<tr>
<th>Company</th>
<th>Person(s) involved</th>
<th>On (date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Which box best describes the current situation in the company with regard to chemical management:

<table>
<thead>
<tr>
<th>Score</th>
<th>Getting started</th>
<th>Transitional</th>
<th>Progressing</th>
<th>Maturing</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No chemical inventory available</td>
<td>Basic list of chemicals used and available compiled</td>
<td>An up-to-date inventory of all chemicals used or present in your company is available.</td>
<td>Chemical hazard/risk information included into the up-to-date inventory of all chemicals; responsible person(s) trained</td>
<td>Procedure for maintained and use of companywide advanced chemical inventory established and maintained; responsible person(s) trained</td>
</tr>
<tr>
<td>1</td>
<td>No chemical inventory available</td>
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<td>An up-to-date inventory of all chemicals used or present in your company is available.</td>
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<tr>
<td>3</td>
<td>No chemical inventory available</td>
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<td>An up-to-date inventory of all chemicals used or present in your company is available.</td>
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Open To Questions
Every participant to feedback one key learning from this session.

Take notes in your workbook, exercise (1-2).