

Hazardous Material Control



سبتمبر 2011
جزيرة تاروت، السعودية

يتم تدرس هذا الموضوع في دورات أوسا التالية:

- OSHA 510: Occupational Safety and Health Standards for the Construction Industry.**
- OSHA 511: Occupational Health and Safety Standards for General Industry.**
- OSHA 2015: Hazardous Materials**

دورات الاوشا

إذا أردت دورات الاوشا بصيغة بوربوينت، عليك ترجمة
موضوعين للغة العربية من دورات المقدمة في موقع "هندسة
الاطفاء والسلامة".

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Hazardous Material Control

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Major Regulations:

- **Flammable and Combustible Liquid Storage - 1910.106**
- **Spray Finishing – 1910.107**
- **Dip Tanks – 1910.108**
- **Process Safety Management – 1910.119**

Class B: Flammable and combustible liquids

- 1. **flammable** - fp below 100 deg. F and a vp not exceeding 40 psia at 100 deg. F
- 2. **combustible** - fp at or above 100 deg. F

Classes of flammable & combustible liquids (cont'd):

- **Class I: (fp below 100 deg. F)**
 - IA: fp below 73 deg. F and bp below 100 deg. F
 - IB: fp below 73 deg. F and bp at or above 100 deg. f
 - IC: fp at or above 73 deg. F and below 100 deg. F

Classes of flammable & combustible liquids (cont'd):

- **Class II: (fp at or above 100 deg. F and below 140 deg. F)**
- **Class III: (fp at or above 140 deg. F)**
 - IIIA: fp at or above 140 deg. F and below 200 deg. F
 - IIIB: fp at or above 200 deg.

Chemical Storage: (1910.106 & 107)

- **Portable tank (not > 60 gallons) or Container (not > 660 gallons):**
 - Not more than 60 gallons of a class I or II liquid nor more than 120 gallons of a class III may be stored in a storage cabinet (specific design requirements)
 - Inside storage rooms must have many design requirements for ventilation, containment, pile locations & stacking, and also require three foot aisles
 - Storage rooms need to meet the class requirements of the materials stored in them (ie Class 1, Division 1- intrinsically safe, not sparking area or equipment)
 - Water reactive materials cannot be stored in the same room as flammable or combustible materials

Chemical Storage: (1910.106 & 107)

- **Quantity of liquid that may be outside an inside storage room or approved cabinet shall not exceed:**
 - 25 gallons of class IA
 - 120 gallons of class IB, IC, II, III in containers
 - 660 gallons of IB, IC, II, III in a single portable tank
- **Areas of transfer should have drainage, natural or mechanical ventilation and appropriate separation**

Chemical Storage: (1910.106 & 107)

- Transfer of flammable liquids should be accomplished in minimize the chance of sparking and fire
 - Bonding and Grounding: bond the containers together (wire) and ground or place on the ground the receiving container to allow for dissipation of electrons (excess electrons cause static discharge which leads to ‘sparks’)
 - Use approved safety cans with spark arrestor and self closing lid

Process Safety Management (PSM 1910.119)

- **Key triggers for PSM:**
 - 10,000 lbs of a flammable liquid or gas (not used for heating systems)
 - Threshold quantities of 130 listed chemicals in Appendix A of the standard

Process Safety Management (PSM)

- **Key requirements for PSM:**
 - Training
 - Contractors
 - Mechanical Integrity
 - Management of Change

Process Safety Management (PSM)

- **Key requirements for PSM:**
 - Employee participation
 - Process Safety info
 - Process Hazard Analysis(PHA)
 - Operating Procedures