**ILO Toolkit Control Sheet 308** **Control approach 3**

**Containment**

# IBC Filling and Emptying - Liquids

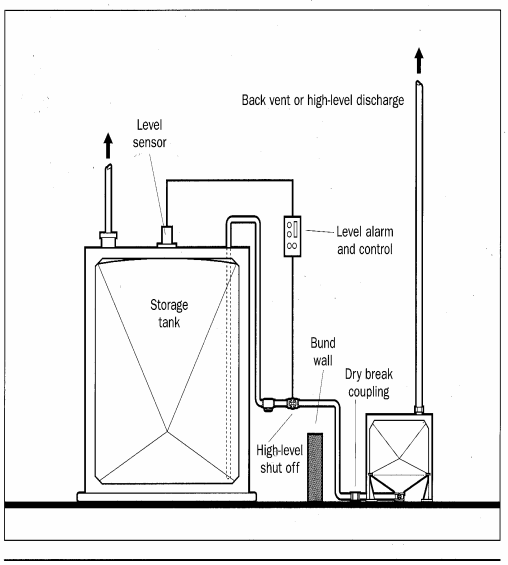
## SCOPE

**This control sheet is part of the ILO Chemical Control Toolkit and should be used when the toolkit identifies that a control approach 3 solution is needed. The sheet gives good practice advice on filling and emptying IBCs with liquids and describes the key points you have to follow to reduce exposure to an adequate level. It is important that all the points are followed. Some chemicals are flammable or corrosive and your controls must be suitable for those hazards too. Look at the safety data sheet for more information. This sheet identifies the minimum standards you need to apply to protect your health. It should not be used to justify a lower standard of control than that which may be required for process control or control of other risks**.

## ACCESS

- Keep unnecessary people away from the work area. Ensure that no one is working close by downwind.

## DESIGN AND EQUIPMENT




- Ensure the IBC, pumps, hoses, etc are designed and constructed for the material.
- Storage tanks should be protected with a bund wall to contain spillage. The contained volume should be 25% greater than that of the storage container.
- The connection points on the vessel being filled should comprise a fill pipe, level sensor and vapour outlet. Connections should be within the spillage containment area.
- Provide venting to the container being filled. Either vent back to the delivery vessel or discharge to a safe place away from doors, windows, air inlets and walkways.
- Take precautions to prevent overfilling, e.g. connect level sensor or load cell to a cut off valve.
- Bottom filling with dry break couplings is preferred; otherwise the length of the fill pipe should reach the bottom of the IBC.
- Provide good access for fork lift trucks.
- Provide barriers to prevent accidental damage to containers from vehicles etc.
- For flammable liquids, ensure the equipment is appropriately bonded and earthed and any electrical equipment is suitably flameproof.
- The filling rate should be no more than 1 m/sec to minimise static electricity generation.