Spill Prevention and Response Meeting Kit

WHAT'S AT STAKE

When working with hazardous materials and chemicals, safety procedures and precautions are paramount to ensuring employee safety. While (OSHA) has laws to protect employees from being exposed to harmful chemicals, spills are not uncommon. Learn the dangers and how to stay protected.

Know the proper storage, handling use, and spill response for the materials in the workplace.

WHAT'S THE DANGER

MAIN EFFECTS OF CHEMICAL SPILLS – THREE CATEGORIES

Human Effects

- Toxic or poisonous gases can cause severe illness and even fatalities in some cases.
- Corrosive chemicals cause severe burns, damage eyesight, and harm the respiratory tract.
- Some chemical spills have a delayed carcinogenic effect, such as asbestos inhalation causing lung cancer years after the initial exposure.
- Flammable chemicals can also cause obvious damage to humans through fires or explosions.

Structural Effects

- Fires can cause severe structural damage to buildings and collapse its foundation.
- Certain toxic chemicals can leave buildings unusable for extended periods of time.

Environmental Effects

- Aside from the initial environmental impacts and threats to sea life, oil spills can have devastating long-term effects by polluting the animals' food sources and habitats.
- Spilled chemicals can also run-off into soil, causing severe ecological damage.

HOW TO PROTECT YOURSELF

AVOIDANCE: BEST SOLUTION TO PREVENT CHEMICAL SPILLS

The best way to deal with a chemical spill is to avoid having one in the first place. The key is to follow proper procedures for storing, transferring, handling, using, and disposing of chemicals. All workers on a jobsite should be trained to recognize the hazards and proper procedures associated with every chemical they may encounter, including the actions they need to take when a spill occurs. They should also have access to the SDS (safety data sheet) for each chemical.

Place materials in compatible groups and appropriate storage containers. Securely seal materials before storage. Keep materials sheltered and in the proper environment. Post material storage areas with spill response procedures and emergency phone numbers.

Limit the amounts of new and hazardous materials stored on your site to minimize the risk and size of spills. Keep materials out of the way of foot and vehicle traffic to prevent accidental spills. Store materials indoors and away from exterior doors and sewer drains to prevent accidental releases to the environment. Consider double containers for materials stored in large quantities, that may create a difficult cleanup task, or that can be toxic or hazardous even if spilled in small amounts.

Chemicals should be stored and transported properly, as noted in the SDSs. For example, some chemicals should not be exposed to excessive heat. Others must be stored in fireproof containers. Others cannot be jostled while they are being moved.

SPILL RESPONSE PROCEDURES – 4 BASIC STEPS

Regardless of the level of hazard involved, there are four basic steps involved with dealing with spills. While the specific actions related to each step may vary, as may the people responsible for handling each step, they form the basis of a spill response.

In addition, the degree of hazard may also depend on just how much material was spilled, where the spill occurred and what surface received the spill, the amount of ventilation in the area, and the temperature of the surface, immediate area, and the chemical itself. Depending on the specific hazards involved, it may be necessary to evacuate the area or to take steps to prevent against environmental damage.

1. **Sound the alarm:** Response requirements will vary, but some materials could require an evacuation if there is a loss of containment. This may be as simple as verbal notification to vacate the immediate area or request help with the subsequent steps.
2. **Control and stop the spill:** Local ordinances and regulations usually prohibit anything going down drains other than water, so spilled material should be stopped before this can happen if possible. Floor drains can be blocked using a dike or other suitable method to keep material from entering, and depending on the probability of a spill this might've been done before the task even started.
3. **Limit the spread and mitigate the damage:** People and materials should be cleared from the immediate area, and the spread can often be controlled by spreading neutral, absorbent material around the periphery of the spill area and working towards the center. Proper PPE must be worn to prevent exposure (depending on the substance in question).
4. **Cleanup:** The SDS will give appropriate guidelines for how to clean up and dispose of the particular material safely. Where possible, substances can be neutralized so that the resulting product is less hazardous to work with.

PRACTICE MAKES PERFECT – CONDUCT SPILL DRILLS

As with any emergency response plan, practice makes perfect. Conducting mock spill response drills helps put the muscle memory in place so workers aren't scrambling when the real thing happens.

Run these drill or tabletop activities at least once a year and to address any

deficiencies found during the drill. Everyone will know their role and perform it without hesitation.

FINAL WORD

Inherent risk is minimized when chemicals are appropriately handled and stored. But, in the case of chemical spillage, quick and effective action can reduce damage and injury.