Chemical Storage Is A Matter Of Safety And Common Sense Meeting Kit



There are many work situations where chemicals are routinely relied upon to get the work done. But just as important as the safe handling of these chemicals, is their safe storage.

SEGREGATION

There are a variety of strategies used to effectively segregate incompatible chemicals. One of the most common and effective strategy for storing chemicals utilizes **a simple three-step approach.**

1. Materials are sorted by physical state (solids, liquids, and gases).
2. Next materials are sorted from other incompatible materials.
3. The compatible materials within a Chemical Storage Group should be organized so that it will be easy to find and return containers.

POTENTIAL HAZARDS/DANGERS FOR SAFE STORAGE OF CHEMICALS

- The greater the variety and quantity of chemicals stored, the greater the warehouse risk.
- Warehouse operations will be more difficult because more hygienic conditions and special personal protective equipment (PPE) will be necessary.
- Intensive training must be provided to the entire team of warehouse workers on chemicals and safety.
- Storing chemicals for long periods will pose an added risk to the installation.
- If the established safety measures are not observed, the risk of explosion is high.

KEY CHEMICAL STORAGE PRINCIPLES

- Label all chemical containers fully including the owner’s or user’s name along with the date received.
- Provide a specific storage space for each chemical, and ensure return after

each use.
- Store volatile toxics and odoriferous chemicals in ventilated cabinets.
- Store flammable liquids in approved flammable liquid storage cabinets. Small amounts of flammable liquids may be stored in the open room.
- Separate all chemicals according to compatible groups.
- Use appropriate resistant secondary containers for corrosive materials.
- Seal containers tightly to prevent the escape of vapors.
- Use designated refrigerators for storing chemicals. Label these refrigerators CHEMICAL STORAGE ONLY—NO FOOD. Never store flammable liquids in a refrigerator unless it is specifically designed and approved for such storage. Use only explosion-proof (spark-free) refrigerators for storing flammables.
- On an annual basis at least, trained personnel in your workplace should perform a complete inventory of every corner, cabinet, closet and container on premises.
- Expiry dates must be adhered to, since many peroxidizable compounds (among others) become dangerously volatile after just a few months. Buy and store only the minimum amount necessary.

BEST CHEMICAL STORAGE PRACTICES

- Do not store chemicals on bench tops.
- Keep SDSs on file and available.
- Keep chemicals in storage except when in use.
- Label all chemical containers—even those with only water.
- Develop procedures to prevent and/or contain spills.
- Encourage orderly and tidy work practices.
- Provide adequate security to prevent access of hazardous materials by unauthorized personnel.
- Avoid storing materials on top of cabinets. Clearance from the ceiling must be 18 inches for sprinklered labs and 24 inches for not sprinklered.
- Ensure container weight does not exceed the load rating of the shelves.
- Wall mounted shelving is not recommended for chemical storage.
- Corrosive liquids shall be stored below eye level.
- Do not store chemicals in fume hoods
- Keep chemicals away from heat or direct sunlight
- Chemical storage cabinets in hallways should be labeled with the Group name and be kept locked at all times.

FINAL WORD

The three-step approach is the most effective strategy for safe chemical storage: Materials should be sorted by physical state, then with other compatible materials, and finally sorted into easily accessible and returnable containers.