

IN CASE YOU HAVEN'T 'HERD' ABOUT...

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Why does a lab need an accurate Chemical Inventory?



THERE are at least three reasons why a Chemical Inventory should be maintained. Reasons include: Safety of Workers, Regulatory Compliance, and Cost Reduction. Often the Safety of Workers and Regulatory Compliance are the driving forces, and for good reason; but at the same time maintaining an accurate Chemical Inventory can drive cost reduction.

Chemicals used in laboratories have the potential to be Toxic, Water or Air Reactive, Flammable, Radioactive, Pyrophoric, Caustic and/or Acutely Hazardous. It is paramount that workers be protected from these hazards and often there are regulations that mandate that people and the environment are protected from these hazards.

Tufts University (TUFTS) is regulated by:

- Environmental Protection Agency (EPA) – Emergency Planning and Community Right-to-Know Act (EPCRA) hazardous chemical storage reporting and other regulations
- Massachusetts Department of Environmental Protection (MassDEP) – Air Pollution Control Regulations
- Occupational Health and Safety Administration (OSHA) regulations
- Department of Homeland Security (DHS) – Chemicals of Interest (COI)
- Centers for Disease Control and Prevention (CDC) – Select Agents and Toxins
- Drug Enforcement Agency (DEA) and Bureau of Narcotics and Dangerous Drugs (BNDD) – Controlled Substances and List I & II regulated chemicals
- International Building Code - Flammable material and other storage limits
- International Fire Code – Flammable material storage limits
- Local Fire Department Requirements – Flammable material storage limits

In order to keep workers safe and comply with these regulations, Tufts Environmental Health and Safety (TEHS) works with members of the laboratory staff who physically inventory every chemical and populate and update their Chemical Inventory. The more accurate an inventory is, the better able you are to protect workers, minimize cost, minimize wastes and comply with the applicable regulations.

The chemical inventory allows laboratory staff to identify chemicals and quantities in their lab. This permits TEHS staff to comply with the numerous Federal, State and Local regulations we are subject to.

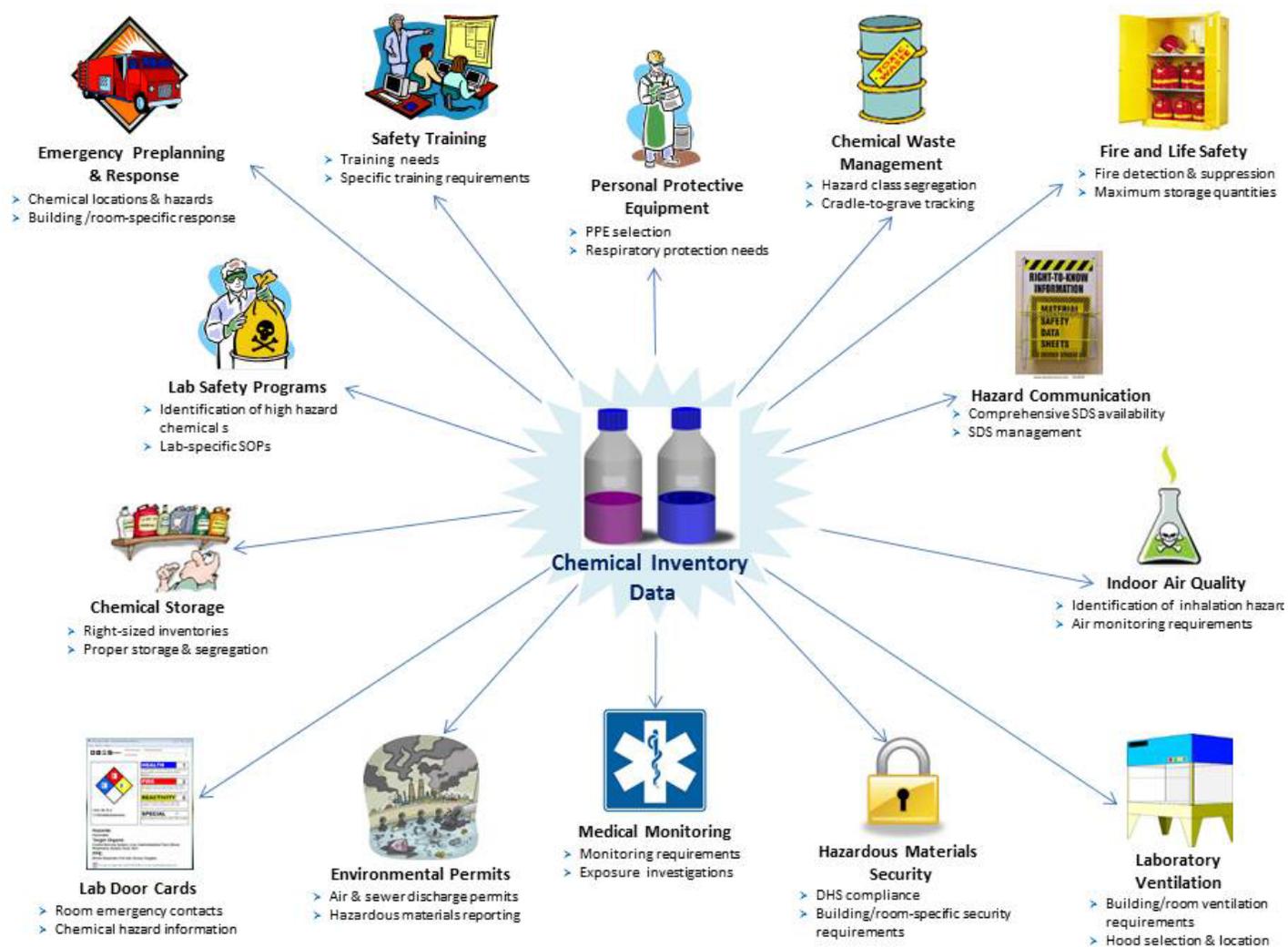
Not having an accurate inventory can result in, at best, ordering too much of a particular chemical and not using the chemical before it expires or worse, change to an explosive or reactive chemical. This results in overspending in chemical procurement and increased waste disposal costs. At worst, an inaccurate inventory can result in workers being exposed to unknown hazardous chemicals, or the laboratory/facility being in violation of any number of regulations, subject to fines, and further increased regulatory scrutiny.



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Like many things people often identify the importance of an accurate chemical inventory only after they learn the results of not having one. Accordingly, chemical inventory management is often only scrutinized following an incident in which it was determined that the lack of an accurate chemical inventory has been identified as root-cause or a significant contributing factor of an incident.

In reality there are hundreds of chemical users at Tufts each day and the odds of an incident occurring are low, but given that the consequences can be as high as a loss of life and/or multi-million dollar fines it is in everyone's best interest to practice good chemical inventory management. As shown in the diagram below good chemical inventory is at the center of many interrelated areas of responsibility.



“CHEMICAL INVENTORY DATA” DIAGRAM PROVIDED BY BEN OWENS, ASSISTANT DIRECTOR, UNIVERSITY OF NEVADA – RENO

The “Gold Standard” that companies, laboratories and universities to strive for, is a computer based system where inventory additions and subtractions are electronically “live” tracked and perpetually current. This affords the highest quality information and provides the best tools for worker protection and regulatory compliance.