



GLASSWARE STORAGE & EQUIPMENT CARE

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Lab Safety & Operating System (PHAR 315)

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Outline

- ✓ Glassware Storage
- ✓ Equipment Care



Objectives

- ❑ Implement Proper Storage Techniques for Lab Glassware's.

Glassware Storage

➤ **Lab Cabinets** serve as optimal storage solutions for glassware by keeping the items conveniently out of the way of regular daily activities while remaining in close proximity to workstations. Given the consistent use of glass items in laboratories, the ability to access them quickly, without the need for time-consuming walks and searches, is crucial.



Importance of Storage

- All the items stored in the laboratory need proper protection and need to be stored in an orderly fashion. This prevents loss due to damaging of items but also improves work and cost efficiency.



Rules of Glassware Storage



- **Clear Labeling:** Each cupboard or section should have a prominent sign indicating the type and size of glassware stored inside. This will streamline the search process and save valuable time.
- **Warning Labels:** Affix warning labels on glassware indicating specific chemical usage, cleaning requirements, and any restrictions on storage with other items. Take note of the following:
 - **Chemical Compatibility:** Some glassware may not be compatible with certain chemicals. Ensure that glassware used for different purposes is stored separately to prevent unwanted reactions.
 - **Residue Check:** Even after cleaning, residue may linger. Before storage, confirm that glassware is free from any remnants of previous work to avoid contamination.

- **Storage Rules:**

- **Isolation of Glassware:** Store glassware based on its usage and compatibility. Separate items that should not be stored together due to chemical residues or potential reactions.
- **Remove Contaminated Items:** As a rule, remove any glassware that may be contaminated or has not been thoroughly cleaned before storage. Using contaminated glassware can lead to unforeseen issues in future experiments.

➤ Adhering to these guidelines ensures a more organized and safe working environment. Regular checks and proper labeling contribute significantly to the overall efficiency of the laboratory.

Equipment Care

- Lab equipment care refers to the systematic and consistent maintenance and cleanliness practices applied to laboratory tools and facilities.
- The purpose of lab equipment care is integral to the accurate and reliable outcomes of scientific experiments. It plays a vital role in upholding the credibility of results and the overall success of a scientific study.



Rules of Lab Equipment Care

Cleanliness

Maintaining cleanliness is the foundational rule for preserving the functionality and longevity of lab equipment.

- **Daily Wiping:** Regularly wipe down the exterior of all lab equipment each day. This simple practice helps prevent the accumulation of dust, contaminants, and substances that might compromise the equipment's performance.
- **Weekly Thorough Cleaning:** Schedule a comprehensive cleaning session at least once a week. This involves a detailed examination and cleaning of each piece of equipment. Pay attention to intricate components that may be overlooked in daily wipe-downs.
- **Equipment-Specific Cleaning:** Recognize that different types of lab equipment may require specific cleaning processes. Refer to the manual for each piece of equipment to ensure adherence to manufacturer-recommended cleaning methods. This step is crucial for maintaining optimal functionality and preventing damage.



Calibration

A fundamental aspect of equipment maintenance is the consistent adherence to calibration protocols. Regular calibration is imperative to prevent data corruption and inaccuracies in experimental results.

Repairing

In the event of malfunction or inaccurate results from any equipment during experiments, it is crucial to initiate timely repairs or replacements. Various types of lab equipment can be restored through the replacement of simple parts or the repair of essential components. Timely intervention in addressing equipment issues reduces the likelihood of necessitating complete replacement.

Refurbishing

In numerous laboratories, equipment refurbishment emerges as an optimal choice for units experiencing diminished performance. The refurbishment process entails disassembling each piece, thoroughly cleaning the components, and subsequently relubricating and reassembling them. Throughout this procedure, identifying worn parts for potential replacement is integral. Upon completion, certain equipment may exhibit restored functionality, akin to its original state.





References

Sveinbjornsson, B. R., & Gizurarson, S. (2022). Handbook for Laboratory Safety. 1st. Elsevier.