

Chemical Safety in the Lab

Make Your Lab a Safer Place to Work and Teach

The overall safety profile of your school will be drastically improved if you adopt and follow carefully written purchasing specifications for laboratory chemicals. Your goals should be to establish uniformity and high standards with respect to the information shown on the chemical label, the type of chemical packaging used, and the amount of chemical purchased.

Chemical Labeling

Begin by specifying that certain information be clearly shown on all chemical bottle labels. The required information should include:

- Chemical Name, Grade, Purity, and Concentration
- Hazard Alert
- A Chemical Safety Guide showing what safety aids should be available when using the chemical.
- Warning Information
- First Aid Procedures
- Lot Number
- Compatible Chemical Storage Family
- Suggested Disposal Method
- Shelf Life
- Solubility
- Date Purchased
- C.A.S. Number
- NFPA Code

A consistent labeling system makes proper storage and maintenance of your chemical inventory much easier. It also helps you to quickly identify hazards and proper safety procedures.

No Need to Repackage

Flinn sodium is packaged ready-to-use and ready-to-store. Five small pieces of sodium (0.3–0.5 g each), perfect for demonstrations, are packaged under mineral oil in a plastic bottle. The bottle is placed in a plastic bag within a metal can for safer storage. Count on Flinn for the safest package.



Flinn Scientific is the only science supply company that provides such comprehensive labeling on its chemicals. The Flinn chemical safety label has been specifically designed to fit the needs of the junior/senior high school science teacher. The above specifications will help you acquire the quality product you expect and the safety information you need.

Chemical Packaging

The second category to incorporate into your chemical purchasing specifications is the safety

packaging of the chemicals. Chemicals must be supplied in packaging designed to give the chemical and the user maximum protection. The packaging should maximize the chemical's freshness and shelf life. Chemical packaging can also reduce your initial shipping and hazard charges. Flinn uses packaging that will reduce or eliminate expensive hazard shipping charges.

Incorporate chemical packaging concerns into your purchasing specifications. Does the supplier package most chemicals in safe plastic containers, versus glass bottles which can be broken? All Flinn chemicals are packaged in unbreakable plastic bottles or PVC-coated glass containers for your safety.

The type of container in which a hazardous chemical is packaged may determine whether or not you purchase the chemical in the first place. For instance, most chemical suppliers package magnesium ribbon in a wax paper bag. Flinn Scientific packages magnesium metal ribbon in an air-tight zipper-lock bag to prevent the magnesium ribbon from oxidizing.

The packaging of 30% hydrogen peroxide is another good example. Flinn Scientific packages 30% hydrogen peroxide in an exclusive "accordion" bottle. This unique container expands as oxygen is released—eliminating the possibility of the teacher opening the bottle under pressure.

Does your supplier offer acids in safer, PVC-coated bottles? Does your supplier package small, pre-cut pieces of sodium or potassium under mineral oil in PVC-coated glass bottles and then in a metal can for safer storage? Flinn Scientific's state-of-the-art chemical packaging containers are the safest in the industry.

Chemical Package Sizes

Does your chemical supplier offer smaller chemical package sizes so you only purchase the quantity of material actually needed? Excess chemicals sitting on your shelves year after year increase your overall storage risks, tie up valuable budget dollars, create hazardous clutter, and will result in costly disposal methods.

The shelf life of your chemicals is an important concern. Some chemicals become more hazardous with age. Purchasing in small quantities will allow you to have new, "fresh" chemicals on the shelf at all times. One labeling specification is that the purchase date appear on the chemical label. Having this information available will help you know how old your chemicals are and if a shelf life problem exists.

Yes, safety has its costs, but these costs are always short term! In the long run, purchasing chemicals in smaller package sizes will save you money because you will be storing less material, which will ultimately lead to lower disposal costs. You might even save money on insurance premiums. Yes, some insurance companies may offer lower premiums to schools that have adopted chemical purchasing practices designed to promote safety.

Flinn Scientific has over 500 chemicals available in small package sizes.

Conclusion

Purchasing chemicals is not like buying finger paints or copier paper. You need to establish uniformity among the chemicals you purchase, use and store. When you buy chemicals from ten different companies you are going to get ten different levels of quality. This all adds up to confusion for your science department staff and lowers your school's overall safety standards.

If you are serious about getting your "chemical act" together, then you must look at more than just the price of the chemicals you purchase. What does one chemical accident cost in terms of lost time, cleanup, injury, and in today's world—litigation? Will a court of law have sympathy for your school when an accident occurs and they find out that you purchased a "lesser quality" chemical package because it was \$1.17 cheaper than the package you should have purchased? You must ask yourself if the money saved is worth the increased risk.

Improve the overall safety profile of your school by adopting stringent purchasing specifications for your laboratory chemicals. Not all chemicals are equal in quality, packaging or labeling. Science teachers can obtain laboratory chemicals that are properly packaged and labeled if the purchasing specifications are

Special 30% Hydrogen Peroxide Bottle

Flinn's special accordion H₂O₂ bottle expands as oxygen is released. This unique "safety bottle" keeps the hydrogen peroxide in the bottle and prevents the possibility of opening the bottle under pressure. Depend on Flinn for "state of the art" chemical packaging.



carefully written with the science teachers' and students' safety in mind. Flinn Scientific's suggestions for chemical packaging specifications will help the safety conscious science teacher achieve the goal of obtaining chemicals provided in "safe to use" chemical containers, properly labeled, yet at a competitive price.

Please ask yourself the question, "In the best interest of my students and teaching staff, where can I purchase laboratory chemicals with specialized chemical safety packaging and labeling?" The answer is Flinn Scientific! Discover why Flinn Scientific is truly your "Safer Source" for laboratory chemicals. Purchase your chemicals from Flinn Scientific and help make your laboratory a safer place to teach and learn.

