developing a chemical purchasing plan

Developing a purchasing plan and rigorously following the plan when ordering the school's chemical supply will **help safety, prevent waste and save money.** The following may help your school make chemical purchases efficient and cost effective.

- **Perform a complete inventory** (or update an existing inventory) of all stored chemicals in all science classrooms/laboratories and in all chemical store rooms.
- **Establish an inventory control program** to trace chemical usage from delivery to disposal. A computer tracking/inventory system, such as the Ward's Chemical Inventory Database (CID), is ideal since it allows easier sharing of in-house chemicals between classrooms.
- **Consider a centralized purchasing program**, and **standardize chemical purchases from one supplier.** If one person does all the purchasing, you may be able to take advantage of bulk pricing. This will also facilitate supply sharing, minimize freight charges and reduce redundant ordering.
- **Establish an "approved" list of usable chemicals** in the school. This starts with establishing a recommended list of chemistry lab activities and demonstrations for all teachers. This will help standardize chemical purchases.
- **Try to use non-hazardous (or less hazardous) chemicals,** or those that are suitable for reuse.
- **Order chemicals in quantities consistent with their rate of use.** Order and store only 1-2 years worth of usage.
- **Purchase, store and dispense chemicals from the smallest bottle possible** or as a solution. For example, do not order or dispense from a 500-mL bottle if each student in a class needs only 1 mL. Also, if using a 0.1 M solution, save time and reduce chemical storage needs by purchasing a 1 M or 0.1 M solution.
- **Purchase, store, and dispense chemicals in unbreakable plastic or PVC-coated glass bottles;** especially concentrated acids and elemental mercury, which should never be stored in uncoated glass bottles.
- **Purchase and store all highly toxic or reactive materials in a secondary device.** A secondary device may be as simple as a plastic bag to contain the chemical if it is dropped.
- **Store chemicals in one common store room** and eliminate small "personal" chemical storage areas. Using one common chemical store room will reduce chemical purchases, keep chemicals fresher, and reduce excess chemical storage.
- **Use a "first in, first out" policy.** Old stock should be depleted first. Once a chemical container is opened, use a "date opened" sticker on the container to track the date the bottle was originally used. This will help prevent waste due to shelf life expiration.
- **Consider the disposal cost of a chemical at its time of purchase.** Since many chemicals deteriorate with time, the disposal and waste costs may add significantly to the original purchase price. The actual cost of a chemical should be regarded as a combination of the initial purchase price plus the disposal costs, which can often offset the savings from buying in bulk. Ward's Science provides chemicals in small amounts and in easy to use solutions to support all of your chemical needs, including your waste minimization efforts.

Before Purchasing Any Chemical, Ask the Following Questions:

- What is the educational value of using this chemical?
- Do I have the proper experience and training to safely use this material?
- Do I understanding the possible hazards associated with this chemical?
- Do we have the appropriate safety equipment to safely use this material?
- Can proper storage be provided for this material?
- How will I dispose of this material or its end products after it has been used?