

# UH Environmental Health and Safety Office Fact Sheet

## Safe Handling Practices For Moving Chemicals

Moving chemicals from one laboratory or area to another can be a very dangerous activity when safe handling precautions are not practiced. This fact sheet will explain the basic chemical handling and storage precautions to practice when moving chemicals between labs and buildings.

1. First, perform a pre-move visual inspection and inventory of the chemicals that will be moved.
  - ✓ Make a list of the chemicals and note of the type (e.g. Acid, Base, Reactive, Toxic), and amounts of the chemicals to be moved.
  - ✓ Make sure that each container is correctly labeled as to its contents.
  - ✓ Observe the general condition of each chemical container.
  - ✓ Observe each containers cap or closure seal for the formation of crystals. CAUTION DO NOT TIGHTEN, OPEN OR MOVE CONTAINERS THAT HAVE CRYSTALS FORMING ON THE CAPS AND SEALS.
  - ✓ Observe whether crystals, which could be the signs of decomposition, have formed INSIDE the container. Ethers and other classes of organic peroxides can decompose and produce potentially dangerous and explosive crystals.
2. Locate the Materials Safety Data Sheet (MSDS) for each chemical to be moved. Each MSDS has chemical specific handling and safety information that must be properly followed in order to move the chemical safely.
3. Plan the move. Chose the best route to take from point A to point B. Do not to take containers up and down stairs if possible.
4. Prepare the chemicals for the move.
  - ✓ Remember to use the proper goggles, gloves and other personal protective equipment before handling any chemicals.
  - ✓ Group the containers for the move by Hazard Class. Do not move acids with toxics, or oxidizers with organic solvents. Make a separate move for each Hazard Class.
  - ✓ Transfer salvageable chemicals from deteriorating or contaminated containers to new containers with new labels. Properly dispose of unsalvageable and excess chemicals as Hazardous Waste.
  - ✓ Box chemical containers if possible, using the correct packing materials (e.g. Vermiculite, original packaging boxes).

- ✓ If you use a cart to move containers make sure it has rails so the containers don't slip off. Place heavy containers on the bottom rack of the cart. Do not over load the cart, make several trips if necessary.
- ✓ Take a chemical spill kit with you in the event you have a spill along the move. This can be a coffee can filled with Vermiculite or the Acid/Base neutralizer kits found in many labs.

## 5. Compressed cylinder handling.

- ✓ Always remove regulators from the cylinders before moving.
- ✓ Always replace the metal valve cover on the cylinder before moving.
- ✓ Move the cylinder with a cylinder dolly made especially for moving cylinders. Make sure the cylinder is securely chained or strapped to the dolly.
- ✓ DO NOT lay cylinders on their sides. Laying a cylinder on its side can cause condensed liquids in the cylinder to enter the valve. When the valve is opened the liquid can rapidly volatilize and expand. This can produce potentially explosive conditions.

6. Before the move, rethink the storage system where you're moving to. The best way to store reactive chemicals is by family groups, making sure that you don't put certain groups right next to each other. For example, store phenols and amines well away from acid chlorides. Inorganics should be separated from organics. The inert or low-reactive materials can still be stored in alphabetical order. This "mixed" system can work well and will help you comply with chemical storage requirements.

## 7. During the move. Be prepared for unexpected events during the move.

- ✓ Stay with the containers. Do not let them out of your sight while you are moving them between points "A" and "B."
- ✓ Be aware of the surroundings. Watch for doors opening in your way. Warn people of the hazard before they get close to you.
- ✓ If it begins to rain while you are outside of a building you will need to find safe cover for the containers.
- ✓ Have your spill kit available as well as the phone numbers to call in the event you have a spill along the move. Familiarize yourself with UH chemical hygiene plan "Spill Clean-Up Procedures." The emergency contact numbers are;

UH EH&S Office  
Campus Security

X68660  
X66911

By following these basic chemical handling practices during your move, you can ensure your safety, as well as the safety of other people around you.