

## General

Before commencing a new experiment or chemical reaction please maintain the following guidelines:

1. Arrive mentally prepared: make sure you are well rested and not distracted by other students / conversations / other experiments in the laboratory. Never multitask.
2. Perform a risk assessment prior to commencing your experimental protocol:
  - 2.1 Pinpoint hazards associated with chemicals to be used.
  - 2.2 Make sure you are knowledgeable with the lab's spillage kit, the location of the lab's fire extinguisher, emergency shower and the eyewasher station.
3. Make sure you custom an appropriate experimental set-up, for example:
  - 3.1 Note whether the glassware is undamaged and/or properly clamped.
  - 3.2 Check whether the equipment/glassware is suitable for working with low- or high-temperature or pressure.
  - 3.3 In case your reaction might produce excess pressure, assure the existence of an outlet (oil/mercury bubbler).
  - 3.4 All reactions necessitating working in a closed vessel (e.g. pressure tube or Schlenk tube) oblige calculating the maximum pressure, thereby making sure the glassware is indeed resistant to handle such pressures.
  - 3.5 Reactions under pressure, reduced pressures as well, should always be performed behind a blast shield. Glassware can always fail unannounced under high- or low-pressures.
  - 3.6 Position and clamp the reaction apparatus thoughtfully.
  - 3.7 Minimize shuttling of the set-up apparatus.
  - 3.8 Each reaction should be labeled, specifically reactions which are ongoing. Always think of your fellow students' safety.
4. Follow to the letter the experimental protocol. Read SDS carefully and make sure you are knowledgeable regarding products that are to be formed during the reaction (including gasses) and their associated hazards. Take extra care to follow the special safety precautions guidelines of each protocol section.
  - 4.1 Combine reagents in the appropriate order.
  - 4.2 Never add solids to hot liquids.
  - 4.3 Never add water to acids, only vice versa: acids should always be added to water.
5. Take your time to perform the chemical reaction and do not take short-cuts. Severe accidents have taken place when students took grave initiatives to "save time".