

AMERICAN ENGINEER EDWARD A. MURPHY JR. (1918-1990)

If anything can go wrong it will.

UNLESS YOU CAN PREVENT IT!

BEFORE THE LAB DAY

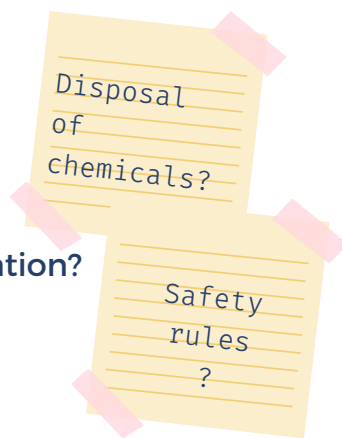
THEORY

- Concept & goal of the experiment
 - Which (possible dangerous) products are formed?
- Theoretical background
- Read instructions, check for conclusiveness
- Stoichiometric calculations
 - Note down questions for fellow students or tutors



PERFORMING THE EXPERIMENT

- How much time is needed for the experiment?
- Which lab instruments are needed? Are the instruments available or is there a limited amount?
- How are the chemicals disposed of?
 - Disposal container?
 - Concentration limit?
 - Deactivation?
- Which safety aspects have to be taken into consideration?
 - H und P phrases?
 - Protective clothing?
 - Fume hood?
- Preparation of experimental analysis (possibly create tables)



ORDER OF THE EXPERIMENTS

- Are the same chemicals are needed in multiple experiments?
- Are the same instruments needed for multiple experiments?
- Which experiments have to be done under the fume hood?



Coordinate with other students!



Ready to go!

BEFORE THE
EXPERIMENT

RECAPITULATION

- Revised the goal of the experiment?
Solved any questions that might have arisen during preparation?


IMMEDIATE PREPARATION

- Prepare instruments and necessary chemicals
 - Transport chemical containers in buckets
 - Measure off concentrated acids just before performing the experiment and cover with a watch glass
- Examine safety instructions
 - Fume hood?
 - Safety clothing?
 - Neutralizing solution (if necessary)?



AFTER THE
EXPERIMENT

CLEANING UP THE WORKPLACE

- Pass on no longer required educts to other students
 - Appropriate disposal of chemicals
 - Clean used lab instruments
-  In many cases with water-insoluble solutions, ethanol can be used for cleaning instead of acetone. Make sure to rinse once more with water at the end!
- Clean the workplace

BEFORE LEAVING
THE LAB

CLEANING UP THE WORKPLACE

- Are all lab instruments cleaned and cleared away?
- Were all borrowed instruments returned?
- Is the laboratory cabinet tidy?
- Is the workplace clean?
- Is the fume hood clean?

LABORATORY SERVICES?

