

Chemistry Department

Standard Operating Procedure

Title: Hazard Assessment Form

Hazard assessment is an individual Principle Investigator, researcher responsibility.

This assessment is nothing more than looking at the proposed experiment, assessing what could go wrong with the experiment, what would be the outcome if the wrong thing happens, how damaging the wrong thing would be, and how to minimize the chance of the wrong thing happening.

You can assess an experiment using three levels of hazard:

For danger

Level 1 No danger

Level 2 Intermediate danger

Level 3 Likely to be dangerous

For damage

Level 1 Not likely to cause harm

Level 2 May cause harm

Level 2 Will cause severe harm

If in both areas the danger and damage are both level 1 the experiment may be carried out without any additional steps.

If either or both areas have a level 2 assessment, what can be done to reduce the assessment to level 1?

If either or both areas have a level 3 assessment, does the experiment really need to take place? If it does what steps can be taken to reduce the likelihood of harm and or danger?

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A danger and harm level 1 might be something like adding sodium chloride to water to make a saline solution.

A danger level 2 might be diluting an acid where the wrong addition could cause an explosive boiling of the water. The procedure for reducing this to level 1 would be to remember the old adage “do what you oter add acid to water”.

A danger level 3 might be something like preparing a highly reactive reagent. The procedure for reducing the danger level may be something as simple as doing the work in a glove bag or inert atmosphere glove box, or doing the reaction in a hood with the shield down.

You may use the assessment form on the following page:

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Hazard assessment	Level 1 danger	Level 2 danger	Level 3 danger
Damage Level 1	Smallest hazard No additional steps needed	Can danger be reduced to level 1?	Does this experiment need to be done?
Damage Level 2	Can the damage possibility be reduced to level 1	If this experiment needs to be done, be thoroughly familiar with all possible emergency procedures and reduce risks as much as possible.	Does this experiment need to be done?
Damage Level 3	Does this experiment need to be done?	Does this experiment need to be done?	Does this experiment need to be done?
Actions to reduce hazard levels			

Place an x in each of the danger level and damage level label boxes. Where these two boxes intersect is the assessment of the possibility of an unwanted hazard happening and thought questions that should be answered.