

Completing the Reaction Risk Assessment Form

The Risk Assessment Form contains space in which all hazardous substances being used may be listed, and the associated hazards noted by selecting the appropriate column. Safety data and hazard information may be obtained from several sources, including the following useful web sites:

<http://pubchem.ncbi.nlm.nih.gov/>

<http://echa.europa.eu/it/information-on-chemicals>

The form also contains space for any special containment, work-up or emergency procedures to be recorded.

Reaction Categories

Risk assessments require reactions to be placed into categories **A-D** as follows, requiring decreasing levels of supervision:

- A** This activity **must** be directly supervised.
- B** The advice and approval of your supervisor must be sought before the task is started.
- C** The work involves risks requiring careful attention to the safety related aspects.
The worker has been trained in the task and has demonstrated competence.
- D** Tasks in this category carry no undue risks.

Reactions involving substances which are carcinogens, mutagens or teratogens; pose risk of serious eye damage; are pyrophoric, highly toxic, or pose an explosion risk **are by default placed in category A**. A list of specific substances likely to be in this category is given on the back of the Reaction Safety Training Record.

Once a researcher has demonstrated competence in the use of these substances, the Principal Investigator has the discretion to amend their category (e.g., **A** to **B** or **C**) by signing the appropriate place on the back of the Reaction Safety Training Record.

Which category should be used?

For the reagents and procedures listed on the back of the Reaction Safety Training Record, the category is clear - they are category **A** unless the supervisor has downgraded them by signing the back of the Reaction Safety Training Record. For other reactions, the choice of category may be subjective and will depend on the worker's experience. In the early stages of a PhD, and for undergraduate project students, most reactions (apart from those involving category **A** procedures) will be in category **B**. As the researcher's experience increases, some reactions can be placed in lower categories. In all cases, the supervisor should check that the appropriate category is chosen.

Clearly, postdoctoral workers may already have significant experience in performing category **A** procedures prior to joining the University, and the Principal Investigator may downgrade these immediately to **B** or **C** by signing the appropriate places on their Reaction Safety Training Record.

Who should sign Risk Assessments?

One sensible policy is that postdoctoral workers are allowed to sign their own risk assessments and those of other workers provided that (a) their supervisor has signed their Reaction Safety Training Record to indicate their competence (i.e., has downgraded the relevant procedures to category **C**); and (b) provided that they are willing to do so. Graduate students, however, should not be allowed to sign risk assessments.

By definition, risk assessments for category **A** and **B** reactions must be checked and signed **before** experimental work is performed. For category **C** and **D** reactions, risk assessments should still be completed before the experimental work is performed, but the assessments need not be signed beforehand. However, they must be checked and signed regularly by a competent person and supervisors are responsible for ensuring this is done.