**Directions for the Standard Operating Procedure (SOP)**

**for Highly Hazardous Chemicals**

**Give the Procedure a Title**.

If you are submitting the SOP with an IACUC procedure you may give it the same name.

The title you use is up to you but should reflect the objective of the procedure.

**List all of the HHC chemicals that will be used in the procedure**.

You are required to only list the HHC chemicals.

You may also list chemicals to be handled in the procedure that are not hazardous as they may be an important part of the process.

Multiple chemicals may be listed.

Highly Hazardous Chemicals include, but are not limited to:

* + Chemicals listed as Acutely Hazardous Waste,
  + Chemicals regulated by Homeland Security under the CFATs regulations,
  + Explosives
  + Particularly Hazardous Substances
    - Select carcinogens
    - reproductive toxins
    - Mutagens
    - Teratogen a
    - Substances with a high degree of acute toxicity\*\*

\*\*Any chemical displays acute toxicity with an animal LD50 (oral) < 500mg/kg,

LD50 (dermal)< 200mg/kg, or LD50 (inhalation) < 200ppm/hr or <2000mg/m3/hr.,

* + Anti-neoplastic Drug by NIOSH
  + Peroxide-formers
  + Pyrophoric Chemicals
  + Toxic and Corrosive Gases
  + Biotoxins
  + Controlled Substances Or DEA list items
  + Formaldehyde and Related Chemicals used in animals not for preservation
  + Anesthetic Agents (i.e.: carprofen, Isoflurane, MS222)
  + Laboratory synthesized chemicals for which a Safety Data Sheet does not exist and there is not hazard information available.

1. **Hazard Information Confirmation**

To capture required Highly Hazardous Chemical hazard information, the author will attach all Safety Data Sheets (SDS).

Note: the SDS should be the exact chemical you are using and be from the vendor you are using.

You will not be required to copy, paste or duplicate hazard information given in the SDS if the information is attached.

Confirm If your chemical was synthesized in the lab and does not have an SDS available.

Confirm if the chemical has hazards that are not listed on the SDS and specify what those other hazards are.

1. **Authorized Users**

Confirm If you have an IACUC procedure that has already listed your authorized users. You will not need to re-list them here.

Confirm if you are authorizing users for a source other than an IACUC procedure or this form. Specify that source. (i.e. Biosafety Protocol)

If you have not filled in the two previous boxes check the boxes as to what positions present in your lab can use this SOP safety.

1. **Storage Information**

Confirm that you have stored your materials according to their SDS guidance.

Indicate in the fill in boxes the building(s) and room(s) the where the chemicals will be stored when not in use.

Indicate in the fill in boxes the building(s) and room(s) where the Chemicals will be used.

1. **Personal Protective Equipment (PPE**)

Confirm that the procedure will use the minimum personal protective equipment (PPE) of lab coat, nitrile gloves and safety glasses in the use and administration of the chemical(s).

Confirm any additional PPE that may be required for protection from the hazards or use of the Chemical(s).

Confirm If the procedure is not going to require the minimum PPE (lab coat, nitrile gloves and safety glasses.) Specify in the box what that exemption is and then fill in the Section 6. Section 6 Risk Assessment will need to be updated with the process step, Hazards eliminated, and your safety control exemption described.

1. **Engineering Controls.**

Confirm that the procedure, at a minimum, manipulation and administration of chemicals are to be taking place in a fume hood.

If you will be needing more controls in place more than the minimum, indicate what those controls are by checking the box or check ‘Other’ and specify what the additional controls needed are .

If you plan to use less control than a fume hood; check the box to request and exemption. Specify the exemption and fill in the risk assessment in Section 8 You will need to be updated with the process step, Hazards eliminated, and your safety control exemption described.

1. **Risk Assessment to Justify a Safety Controls Exemption.**

Fill out the sections only if you will not be using the minimum PPE or Engineering hazard controls specified in the form. Indicate the process step, the hazards eliminated and safety controls exemption explanation. Be as specific as possible. See the example listed as a guide.

1. **Describe the Spill Procedure**

Confirm that your lab has the appropriate Spill kit for all of the HHC in your SOP. Guidance on individual chemicals are found in section 6 of each of their SDS. Note: some researchers will use the same highly hazardous chemical multiple labs or areas in which they are working. Explain your spill procedure that would include all hazards of the chemicals in use in the SOP. NOTE: if you are going into a shared space (such as the ARC) to work with the chemical(s) indicated in this SOP you must provide your spill kit that is specific to hazards/ and chemicals that you are working with.

1. **Chemical Use Procedure**

In the blank provided. Use paragraphs or bullet points to provide a detailed description of your Process / procedure. Note: you will not need fill this section in If you have already written this process in an IACUC or other procedure Just indicate where it is already written in in the blank provided.

1. **Documentation of Training**

Document all individuals that will be using the SOP.

The individuals listed will have read and fully understand this Standard Operating Procedure. The individuals will have received training from their Supervisor, Group Safety Representative (GSR) or Laboratory Manager/Graduate Student and are aware of all potential hazards and countermeasures related to this Standard Operating Procedure.

**IACUC Protocol Information**

This section is only for SOPs that have accompanying IACUC Protocol(s)

**Protocol Titles(s) and Protocol Number(s) that apply (list all)**

Fill out all protocols that will use this chemical procedure this will help with approvals and three-year approval information. You will not be required to submit new SOPs if one already exists and is approved for the three-year window of approval cycles.

1. **Chemical and Carcass Disposal Requirements**

Disposal requirements for Carcasses, waste and chemicals can be different when the chemicals are in use for research with animals. It is the responsibility of the PI/ supervisor to understand if and how the chemicals used are or are not metabolized by the animals in use. To keep the Researchers and ARC staff safe during chemical disposal, Carcass disposal and excretion-contaminated materials must be described.

1. **Chemical Disposal**

Confirm that routine scheduled hazardous waste pick up is to be used and there would be not special requirements.

If there are special chemical disposal requirements check the appropriate box for Neutralization or use of the sanitary sewer can be used for chemical disposal. If there is another chemical disposal method to be used Specify that process in the box provided on the form.

1. **Carcass Disposal**

Confirm that the carcass can be disposed of in the Animal Facility freezer and the disposal service can be used.

If you have exemptions to using the Animal Facility freezer and the disposal service indicate the Carcass required a scheduled hazardous waste pick up or specify the alternative carcass disposal requirement in the box provide on the form.

1. **Excretion -contaminated Materials.**

It is the responsibility of the PI/ supervisor to research and understand how the chemicals are metabolized in the animals being research. If the bedding is not considered hazardous check the box to confirm that finding.

If the Excretion materials are expected to be hazardous check the box that indicates that the excretion materials **are** hazardous to personnel and ARC staff. In addition, you will need to check off the tasks necessary to be performed by your personnel and the ARC staff if the excretion materials (bedding) are hazardous. Confirm if Disinfection is necessary and specify in the box provided on the form. If the Excretion materials must be autoclaved check that box. If the Excretion materials require another form of decontamination methods, please specify in the box provided. You will need to explain the Disposal Methods by specifying in the provided box.

1. **Safety Training for IACUC Protocol Holders.**

PI will acknowledge that all individuals using the SOP have received the appropriate safety training for this procedure including but not limited to Chemical Hygiene Plan and Hazardous Waste Generator training by checking the box provided.

Note that Individuals listed in your IACUC procedure will be confirmed for minimal required safety training. If training is necessary for your staff listed in your protocol the PI will be informed and training will have to be scheduled and / or taken before approval of the form will be approved.

1. **IACUC SOP Review and Approval.**

Once your form is complete and reviewed it will be approved and initialed by three groups: the Animal Care Program, Laboratory Safety and Environmental Protection.

The SOP will then be converted to a PDF and an acceptance letter will be sent to the PI indicating the SOP is approved. The PDF of the SOP will be forwarded to the PI with the approval letter.