

Use of Isoflurane

Purpose:

To provide guidance for the use of Isoflurane and other halogenated anesthetics in the laboratory and animal facility environment. Isoflurane and other halogenated anesthetics are used at UW-Madison in animal research for a variety of research applications.

Precautions:

The following information can be used to complete the Safety section of your animal protocol.

1. Chemical hazard agents – (Identify the category of the chemical): (*Select the following*)
 - Reproductive Hazard/Teratogen
 - Irritant (respiratory/skin/eye)
2. Containment preparation – (Containment equipment required for the preparation of the chemical): The type of containment required will vary depend on the method of use.
 - a. When using an anesthesia vaporizer with nose cone, select both options and include additional information for Other.
 - Fume Hood
 - Other: The anesthesia vaporizer will be filled in a well-ventilated area or under a chemical fume hood if possible. Required PPE to include gloves, lab coat, and safety glasses.
 - b. When using all other methods, select both options and include additional information for Other.
 - Fume Hood
 - Other: The container must be filled and opened within a fume hood. Required PPE to include gloves, lab coat, and safety glasses.
3. Containment animals – (Containment equipment required for chemical administration and handling animals after exposure to the chemical): (*Select the following*)
 - No special containment needed
4. PPE needed - (for handling live animals, carcasses, or animal waste/dirty bedding): (*Select the following*)
 - Exam gloves – nitrile
 - Safety glasses/goggles
 - Lab coat or disposable gown
5. Waste Disposal: (disposal of animal waste/dirty bedding from animals after exposure to the chemical) (*Select the following*)

- No special precautions needed for waste/dirty bedding
6. Carcass disposal: (*Select the following*)
- Pick up by EH&S for incineration.
 - NOTE: For Agricultural animals, select Other and add in “Use facility standard method”.
7. Chemical human risk: (*Add the following*)
- Causes skin and eye irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. Although there is no specific data regarding the health risks of isoflurane in humans, halogenated anesthetics in general have been associated with reproductive problems.

When using isoflurane, staff will be notified of the potential hazards. Safety signage will be posted near anesthetic machines for staff to reference proper isoflurane handling and use.

References:

“Isoflurane SDS”

<https://www.zoetis.ca/sds/technical-documents/isoflo-canadian-english-sds.pdf>

<https://www.piramalcriticalcare.com/us/wp-content/uploads/sites/2/2020/03/GHS-Compliant-Isoflurane-SDS-6-06-2017.pdf>