

Principal Investigator: _____

Date Approved: _____

Anesthetics (Inhalant)

Inhaled anesthetics are used in the laboratory setting to induce general anesthesia in animal subjects for the purposes of surgery or euthanasia. Common anesthetics include nitrous oxide and various halogenated agents. The most widely used halogenated agents include isoflurane (Forane®), desflurane (Suprane®), sevoflurane (Ultane®), halothane (Fluothane®), and enflurane (Ethrane®). Many of these substances are liquids at room temperature when pure, but when mixed with oxygen and vaporized become gaseous - resulting in increased inhalation hazards. Exposure to anesthetics and waste anesthetic gases (WAGs) may result in adverse neurological effects, reproductive problems in women, and developmental defects in the unborn fetus.



Personal Protective Equipment & Personnel Monitoring

Lab Coat	Gloves	Eye Protection
		
Traditional lab coat. A barrier lab coat may be appropriate when biological hazards are present.	Nitrile or neoprene gloves typically provide adequate protection against minor splashes.	Safety glasses.

Labeling & Storage

Store in a well-ventilated location below 30°C (86°F), away from heat, flame, and from other materials that may be chemically incompatible. Incompatibilities include strong oxidizing agents, strong acids, bases, and alkali metals. Keep containers tightly closed and locked up.

Engineering Controls, Equipment, & Materials

Fume Hood/Biosafety Cabinet IIB2

Use fume hoods or hard-ducted Class II B2 biosafety cabinets (BSC) whenever possible.

Active Scavenging

When a fume hood or appropriate BSC is not available, active scavenging devices can be used. These include exhausted induction chambers/surgery nose cones or snorkel trunks ducted to

the building exhaust system. Do not use the house vacuum line for active scavenging unless approved by EH&S.

Passive Scavenging

Charcoal canisters that adsorb used gas via positive pressure from equipment and the anesthetized animal's exhalation are also acceptable means of scavenging WAGs. Weigh the canisters regularly to monitor adsorption levels and prevent channels from forming in the charcoal; these allow gas to enter the local atmosphere. Never place the exhaust side of the canister on a flat surface as this inhibits the flow of gas.

Housekeeping***Spills***

Treat all spills of these materials as a major spill. Notify others in the area of the spill, including your supervisor. Evacuate the location and allow anesthetic to evaporate. Call 911 and alert TWU DPS (940-898-2911 in Denton; 214-689-6666 in Dallas; 832-870-6128 in Houston). Report any exposure to EH&S at 940-898-4001. Remain on-site (at a safe distance) to provide detailed information to first responders.

Decontamination

Wipe residual liquid with absorbent pads and clean the area with soap and water. Dispose of the absorbent pads as hazardous waste following TWU EH&S guidelines.

Waste

Dispose of unused liquid anesthetic as hazardous waste. Refer to the TWU Chemical Hygiene Plan for details.

First Aid & Emergencies***Skin or Eye Contact***

Remove contaminated clothing and accessories; flush the affected area with water. If symptoms persist, seek medical attention.

Inhalation

Move affected individual(s) into fresh air. If symptoms persist, seek medical attention.

Ingestion

Rinse mouth with water. If symptoms persist, seek medical attention.

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