

Perfusions with Fixative Solutions (Paraformaldehyde, Formalin, etc.) Standard Operating Procedure

OVERVIEW

HAZARD CLASSIFICATION

Carcinogen
Irreversible damage to eyes
Heritable genetic damage
Skin and respiratory sensitizer & irritant

- Aldehyde-based fixatives such as formaldehyde, paraformaldehyde, formalin, and glutaraldehyde are corrosive, flammable, poisonous and chronic exposure is toxic. Such fixatives are sensitizers, known carcinogens and upper respiratory tract and eye irritants.
- Perfusion of animal carcasses involves body fluids and chemical preservatives.
- Many perfusates are classified as Hazardous Waste by the EPA.
- Potential hazards include chemical and possible biological exposures.
- All perfusion procedures must be documented in the lab's Animal Use Protocol and approved by the IACUC.

REQUIREMENTS

- It is the responsibility of the PI to assure the safe use of fixative solutions by laboratory staff. The PI is responsible for the appropriate training of research personnel for the safe use of these chemicals in the species approved on the protocol.
- Personnel using Fixatives must be familiar with their Safety Data Sheet (SDS), which must be readily available in the lab.
- EH&S Training: **1)** Hazardous Waste Management (EHS809) and **2)** Chemical Hygiene Plan (EHS861).

REQUIRED ENGINEERING CONTROLS

Certified fume hood
Certified ducted biosafety cabinet
Certified down draft perfusion table

REQUIRED PPE

Lab coat or disposable gown
Chemical compatible gloves
Safety glasses or goggles
Surgical mask
Face shield is highly recommended
Impervious apron if splash may occur

WASTE

- Perfusate should never be diluted.
- **DO NOT POUR** paraformaldehyde waste into sinks or drains.
- Waste and unused solutions must be collected for proper disposal in chemically compatible hazardous waste containers (available through [EH&S Hazardous Waste Management](#).)
- Waste solutions must be placed in tightly sealed, labeled containers and segregated for disposal via the [EH&S Hazardous Waste Management](#).

SPILLS

- Evacuate personnel and allow aerosols to settle. Follow the [EH&S guidance for chemical spill clean-up](#). Call [EH&S \(352.392.1591\)](#) for support with large spills.

FIRST AID

- For **exposure to the eyes**, immediately flush the affected eye(s) with gently flowing potable water for at least 15 minutes, moving the eye(s) side-to-side and up-and-down during rinsing, and call 911.
- In any medical emergency, call 911 immediately.
- Follow the [EH&S Guidelines for a Chemical Spill with Injury or Contamination](#).
- Reference the manufacturer's SDS.