



Institutional Animal Care and Use Committee Guidelines and Policies

Approved 4-19-06

GUIDELINES FOR THE USE OF CARBON DIOXIDE FOR EUTHANASIA OF SMALL LABORATORY ANIMALS

The Office of Laboratory Animal Welfare (OLAW) has recently determined a need to issue specific guidance to Assured institutions clarifying current requirements regarding the use of carbon dioxide (CO₂) as a euthanasia agent for small laboratory animals. The Animal Care unit of the Animal and Plant Health Inspection Service, U.S. Department of Agriculture (USDA), has reviewed and concurs with this guidance as it relates to USDA-covered species. Thus, PIs using CO₂ should attend to all of these comments.

CLARIFICATION CONCERNING USE OF CARBON DIOXIDE

Although CO₂ is generally considered an acceptable euthanasia agent for small laboratory animals when properly administered, its acceptability is predicated on the following:

1. High concentrations of CO₂ may be distressful to some species. Accordingly, pre-filling the chamber is NOT recommended.
2. A secondary, physical means of confirming death must be used after CO₂ euthanasia and prior to disposal to prevent unintended recovery of the animal. OLAW notes that thoracotomy after apparent death from CO₂ is one way to ensure death; decapitation or cervical dislocation are also acceptable methods.
3. All individuals responsible for administering CO₂ euthanasia must be appropriately trained, qualified and adhere to IACUC-approved protocols and institutional policies.
4. Chambers must not be overcrowded. In this regard, it is important to also consider that mixing unfamiliar or incompatible animals in the same container may be distressful.
5. Compressed CO₂ in cylinders is the only AVMA Panel-recommended source of CO₂ for euthanasia purposes. Dry ice is NOT permitted as a CO₂ source.

REPORTING OF NONCOMPLIANCE

Unintended recovery of animals after apparent death from CO₂ (e.g., in necropsy coolers) is a documented occurrence. Institutions are reminded that such incidents constitute serious noncompliance with the PHS Policy and serious deviation from the provisions of the Guide for the Care and Use of Laboratory Animals. As such, the IACUC, through the Institutional Official, must promptly provide OLAW with a full explanation of the circumstances and actions taken.