



TITLE: Operation of the Euthanex SmartBox Model EA-32000 Single Cage Euthanasia Chamber

SOP Category: Veterinary

RUAC SOP #: 7.23

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Approval:

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Revisions:

SCOPE: This SOP applies to all Animal Care Staff (ACS), ACS Supervisors (ACSS), Veterinary Staff (VS) and Research Staff members (RS) at the Rutgers Newark, New Brunswick and Piscataway facilities using the Euthanex SmartBox model EA-32000 single cage euthanasia system.

OBJECTIVE: The goal of this document is to provide instructions on proper use of the Euthanex Smartbox model EA-32000 euthanasia automated controller along with reference values for the device.

Note: The SmartBox Controller system (Fig. 1) is an efficient system for euthanizing a single cage of animals with a standardized CO2 exposure and holding (dwell) period.

Materials:

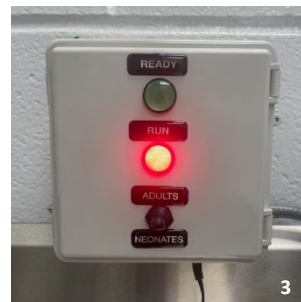
SmartBox Controller and Euthanex lid:



Ready Mode:



Run Mode:



PROCEDURES:

To operate device:

- 1) Check to ensure the **GREEN READY** light is on (Fig. 2). If not, check to ensure that the power cord is plugged in and that the Smartbox power switch, located at the bottom of the control box is set to ON. ***This device should always remain ON.*** Next, check to ensure that the CO2 Cylinder or House supply valve is in the full opened position.
- 2) Remove filtertop lids and bottles (where applicable) from home cages with wire bar lids and remove food hoppers from NexGen Cages to ensure appropriate fit to the lid.
- 3) Place the stainless steel Euthanex lid over the home cage.
- 4) Start a cycle by raising or lowering the black toggle switch located on the front of the control box toward the appropriate age group label, adults or neonates (Fig. 4). The **RED RUN** light will illuminate, and the euthanasia cycle will begin (Fig. 3). The cycle cannot be interrupted once started!



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5) The controller program will cycle through two stages for a preset time interval:

Life Stage:	Stage 1: Fill	Stage 2: Dwell	Elapsed Time
Adult	5 minute	3 minutes	8 minutes
Neonate	5 minute	60 minutes	65 minutes

On completion of the Fill and Dwell sequence the system will return to **READY** mode (Fig. 2).

6) Remove Euthanex lid from the cage.

7) Confirm death of each animal by performing secondary physical method of euthanasia as approved in the researcher's IACUC protocol and dispose of the carcasses using the appropriate facility carcass disposal procedure. Research Staff must complete euthanasia station use log.

8) Return soiled cages to the facility dirty side cage wash area.

Cleaning:

When using a preplaced station cage as the primary euthanasia container, the cage **MUST** be inverted to empty CO₂ after each use. The station cage must be cleaned with Chlorine dioxide-based compounds (MB10 or Clidox) or hydrogen peroxide (Peroxigard) spray or wipes (figure 5) after use. **Do Not Use Alcohol.**

REFERENCES

1. <https://www.ezsystemsinc.com/> (vendor homepage)
2. AVMA Guidelines for the Euthanasia of Animals, 2020 edition



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