

Translated English of Chinese Standard: GB/T39760-2021

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 65.020.30

B 44

GB/T 39760-2021

Laboratory animal - Guidelines for euthanasia

实验动物 安乐死指南

Issued on: March 09, 2021

Implemented on: October 01, 2021

**Issued by: State Administration for Market Regulation;
Standardization Administration of the People's Republic of China.**

Table of Contents

Foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Basic principles	4
5 Implementation conditions	5
6 Euthanasia methods	5
Annex A (normative) Selection of common euthanasia methods for laboratory animal	8
Annex B (normative) Euthanasia methods for rodents	10
Annex C (normative) Carbon dioxide (CO ₂) euthanasia method for rodents	12

Laboratory animal - Guidelines for euthanasia

1 Scope

This document gives suggestions on the basic principles, implementation conditions, drug selection, and common methods of euthanasia for laboratory animals.

This Standard is applicable to guide the work related to euthanasia of laboratory animals.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB 14925, *Laboratory animal - Requirements of environment and housing facilities*

GB/T 35892, *Laboratory animal - Guideline for ethical review of animal welfare*

Guiding Opinions on Treating Laboratory Animals Kindly (Guo Ke Fa Cai Zi [2006] No. 398)

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 euthanasia

With scientific and humane ideas and methods, the process of killing animals with rapid loss of consciousness is adopted to minimize the physical and psychological pain of animals.

4 Basic principles

4.1 Respect for Life: Animal life is respected throughout the euthanasia process.

4.2 Fast and less pain: The animal suffers minimal pain, loses consciousness and awareness in the shortest time and dies.

4.3 Compliance with laws and regulations: Comply with relevant requirements such as "Guiding Opinions on Treating Laboratory Animals Kindly" and GB/T 35892. Pass the review by the Institutional Animal Care and Use/Welfare Ethics Committee

(IACUC).

4.4 Correct way: According to the animal species, age, body size, weight, quantity, physiological state, tameness, according to the opinions of laboratory veterinarians, in a humane way, select the appropriate method.

4.5 Personnel training: IACUC develops plans. Train operators on euthanasia-related regulations, standards and regulations. Be familiar with the purpose and significance of euthanizing animals. Master the correct euthanasia technique. Familiarize with animal pain or signs of distress. Confirm the methods of animal death. Provide mental health and occupational health and safety training for euthanasia operators as necessary.

4.6 Appropriate place: Euthanize animals and choose a non-public place away from other animals. Environmental facilities meet the relevant requirements of GB 14925.

4.7 Confirmation of death: After euthanasia, the operator confirms whether the animals have died one by one.

5 Implementation conditions

Euthanasia can be performed when the following conditions are met:

- a) Get the experimental results or end the animal experiment;
- b) Based on the animal's body weight, appetite, infection, tumor, moribund symptoms, the laboratory veterinarian judges that the animal's pain level reaches or exceeds the preset mercy endpoint;
- c) For other reasons, it is not suitable to continue feeding.

6 Euthanasia methods

6.1 Method selection

6.1.1 When choosing the method of euthanasia, consider the following factors:

- a) Make animals lose consciousness and awareness without pain, fear, anxiety and restlessness, until death;
- b) Shorten the time from unconsciousness to awareness of death;
- c) The drugs and methods are verified and scientifically reliable;
- d) The operation process does not affect the operator's mood, health and safety;
- e) The euthanasia process is irreversible;

- f) Be suitable for animals of different species, ages and health conditions;
- g) Be suitable for different experimental needs and purposes;
- h) The equipment used is easy to obtain and easy to maintain;
- i) Do not affect environmental hygiene;
- j) Confirm animal death after all euthanasia methods are performed. A second method of euthanasia shall be used for confirmation if necessary.

6.1.2 See Annex A for common euthanasia methods for laboratory animals.

6.1.3 See Annex B for common euthanasia methods for rodents.

6.1.4 See Annex C for the carbon dioxide (CO₂) euthanasia method for rodents.

6.2 Inhaled drugs

6.2.1 Common inhaled drugs include CO₂, nitrogen (N₂), halothane, methoxyflurane, isoflurane, enflurane.

6.2.2 CO₂ is the most commonly used inhaled drug in rodents. It is suitable for rodents such as mice, rats, guinea pigs and hamsters. Inhalation of 40% CO₂ achieves anesthesia effect quickly, while prolonged inhalation can lead to animal death. There shall not be too many animals in the euthanasia box. A see-through box can be used to confirm animal death.

6.2.3 The implementation of inhalation drug euthanasia shall be implemented in a well-ventilated place.

6.3 Injection drugs

6.3.1 Commonly used injection drugs include barbiturates, potassium chloride.

6.3.2 Commonly used injection methods include intravenous injection, intraperitoneal injection, cardiac injection. Intravenous injection is preferred.

6.3.3 Intraperitoneal injection requires higher doses of drugs, which will prolong the time of death and struggle before death. Cardiac injection shall only be used in animals presenting moribund, shock or deep anesthesia.

6.4 Physical methods

6.4.1 Animals can be euthanized by physical methods such as cervical dislocation, neck fracture, electric shock, head crushing, and bloodletting.

6.4.2 Physical methods can be used for animals whose anatomical traits are suitable for use or where other methods of euthanasia affect experimental results.

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----