

**Institutional Animal Care and Use Committee (IACUC)**

**Application to Use Animals for Research and Training Purposes**

The following animal use protocol application form fulfills Lehigh University's ethical and legal obligations under the:

Federal Animal Welfare Act of 1966, amended 1970, 1976 and 1985,

United States Public Health Policy (Public Law 99-158)

Guidelines set forth in the Guide for the Care and Use of Laboratory Animals (NIH Publication 92-3415)

All research and training protocols involving the use of animals must be approved by the IACUC. Animal use protocol application forms must be submitted to the office of Research Integrity for distribution to the members of the IACUC. Applications must be submitted electronically through [IRBNet](https://www.irbnet.org/).

Animal use protocol application forms must be signed by both the principal investigator and his or her department chairperson. If animals are being housed in the Central Animal Facility and/or Central Animal Facility space is being used for surgery, the Central Animal Facility Director must also sign. Applications must be signed electronically in IRBNet.

In order to verify the experience and training of those who are involved in research involving animals, all personnel must complete the [IACUC Qualifications Form](https://research.cc.lehigh.edu/iacuc-qualifications).Personnel with incomplete Qualifications Forms will not be approved to work on the animal use protocol. Personnel must also complete [CITI online training courses](https://research.cc.lehigh.edu/iacuc-qualifications) relevant to species listed on the protocol.

The IACUC will send notice of approval, modifications required to secure approval, or disapproval via IRBNet. **Do not order animals or begin research activities involving animal use without an approved animal use protocol.**

1. **PROTOCOL TITLE:**

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1. **PROTOCOL CLASSIFICATION**

Please select one of the following:

Research

Research/Training

Biological Testing

Pilot Study

Please indicate the type of submission:

New Protocol

Modification

Triennial Renewal

Renewal 3 (4th Year Renewal)

Renewal 6 (7th Year Renewal)

Renewal 9 (10th Year Renewal)

1. **PERSONNEL**

3.a. Principal Investigator:

|  |  |
| --- | --- |
| Name: |  |
| Phone: |  |
| Email Address: |  |
| Department: |  |
| Department Chairperson: |  |

3.b. List all additional personnel involved in the animal-related part of the protocol. Upload an additional page if necessary. Each individual must complete and submit an [**IACUC Qualifications Form**](https://research.cc.lehigh.edu/iacuc-qualifications).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Responsibilities | Department | Title | Email |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
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3.c. Personnel to contact in case of emergencies after hours (Include a separate page with the same information for additional personnel, if necessary)

|  |  |  |
| --- | --- | --- |
| Name | Phone | Email |
|  |  |  |
|  |  |  |
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1. **FUNDING SOURCE** (check one):

|  |
| --- |
| Un-funded research |

|  |  |  |
| --- | --- | --- |
| Funded Research | Sponsor: |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Funding Pending | Potential Sponsor: |  | Grant Application Submission Date: |  |

1. **RESEARCH SUMMARY**

**In language understandable to a non-expert, please provide an abstract of the research, describing the study objectives, hypotheses, and significance.**

|  |
| --- |
|  |

1. **ANIMALS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Species | Strain | Age | Weight | Source of Animals |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

6.a. Is the source of the animals on the LU IACUC [approved vendor list](https://research.cc.lehigh.edu/iacuc-vendors)? **YES** **NO**

6.b. Does the animal use in this protocol unnecessarily duplicate previous experiments? **YES** **NO**

If **YES**, please explain:

|  |
| --- |
|  |

6.c. Please explain why it is necessary to involve animals in this research (i.e., explain why a non-animal model could not be used).

|  |
| --- |
|  |

6.d. Please justify the appropriateness of the species selected for this research.

|  |
| --- |
|  |

6.e. Animal numbers:

|  |  |
| --- | --- |
| Total number of animals to be used in this protocol: |  |
| Total number of animals used in experimental groups: |  |
| Total number of animals bred in support of, but not used in experiments: |  |

6.f. Rationale: Provide the rationale for the number of animals listed. Please include: (1) a brief description of the experimental design, including control and experimental groups and their sample sizes, (2) a description of the statistical method for determining sample size (e.g. a power analysis), (2) the probability value used to detect significant differences, (3) a statement of the effect size that will be considered substantive.

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**7. METHODS AND PROCEDURES**

7.a. Please provide a **comprehensive, chronological** description of all the procedures animals will undergo, including those that do not require pain and/or distress-relieving drugs, such as injections.

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|  |

7.b. Has the investigator performed the procedure(s) in the past three years?:  **YES** **NO**

7.c. Are sedation, analgesics, tranquilizers, and/or anesthesia used?: **YES** **NO**

If yes, please identify below:

|  |  |  |
| --- | --- | --- |
| Drug | Dosage | Route |
|  |  |  |
|  |  |  |
|  |  |  |

7.d. Please identify all other drugs or agents used during research (excluding analgesics, tranquilizers, and/or anesthesia):

|  |  |  |
| --- | --- | --- |
| Drug | Dosage | Route |
|  |  |  |
|  |  |  |
|  |  |  |

7.e. Are any non-pharmaceutical grade medications such as antibiotics, anesthetics, analgesics, or experimental compounds listed above?: **YES** **NO**

If yes, indicate the medication and justify its usage:

|  |
| --- |
|  |

8**. SURVIVAL SURGERY**

8.a. Will survival surgery (surgery after which the animal is allowed to recover) be performed?: **YES** **NO**

If **YES**, please complete the rest of question 8. If **NO** please skip to question 9.

8.b. List the room and building in which surgery will take place:

|  |  |
| --- | --- |
| Room: |  |
| Building: |  |

8.c. List pre-anesthetics with dosages and routes of administration.

|  |  |  |
| --- | --- | --- |
| Preanesthetic | Dosage | Route of administration |
|  |  |  |
|  |  |  |
|  |  |  |

8.d. List anesthetics with dosages and routes of administration.

|  |  |  |
| --- | --- | --- |
| Anesthetic | Dosage | Route of administration |
|  |  |  |
|  |  |  |
|  |  |  |

8.e. List postoperative analgesics and dosages that may be used.

|  |  |  |
| --- | --- | --- |
| Postoperative analgesic | Dosage | Route of administration |
|  |  |  |
|  |  |  |
|  |  |  |

8.f. Describe the post-operative monitoring procedures:

|  |
| --- |
|  |

8.g. List the personnel responsible for post-operative monitoring. Attach a copy of the form that will be used for monitoring and record-keeping. (Required for dogs, cats, lagomorphs (rabbits) and non-human primates.)

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8.h. Categorize the surgical procedure(s) as “major” or “minor”: **MAJOR  MINOR**

(see “[LU IACUC Guidance: Major and Minor Surgical Procedures](https://research.cc.lehigh.edu/sites/research.cc.lehigh.edu/files/documents/ORSP/30-Sep-2016%20LU%20IACUC%20Guidance%20-%20Major%20and%20Minor%20Surgical%20Procedures.pdf)” for definitions)

8.i. Will multiple major survival surgery be performed on the same animal? **YES  NO**

If **YES**, please provide scientific justification:

|  |
| --- |
|  |

**9. NON-SURVIVAL SURGERY**

9.a. Will non-survival surgery (surgery after which the animal is not allowed to recover) be performed?:

**YES**  **NO**

If **YES**, please complete the rest of question 9. If NO, please skip to question 10.

9.b. List the room and building in which surgery will take place:

|  |  |
| --- | --- |
| Room: |  |
| Building: |  |

9.c. List pre-anesthetics with dosages and routes of administration.

|  |  |  |
| --- | --- | --- |
| Preanesthetic | Dosage | Route of administration |
|  |  |  |
|  |  |  |
|  |  |  |

9.d. List anesthetics with dosages and routes of administration.

|  |  |  |
| --- | --- | --- |
| Anesthetic | Dosage | Route of administration |
|  |  |  |
|  |  |  |
|  |  |  |

**10. ALLEVIATION OF POTENTIAL PAIN OR DISTRESS: (Check, A, B, or C)**

10.a. Please select one of the following categories:

|  |  |
| --- | --- |
|  | Category C: No pain or distress will occur OR any pain or distress will be slight or momentary (i.e., injections, imaging, etc.) Please skip to question 11. |
|  | Category D: Procedures which cause more than slight or momentary pain or distress will be employed (i.e., surgical procedures, etc.). HOWEVER, appropriate drugs or other methods will be used to prevent or relieve significant pain or distress.  List methods to be used below. *Example: ketamine (90 mg/kg)/xylazine (9mg/kg)*:    Complete 10.b. |
|  | Category E: No method is available for completely alleviating pain or distress, OR the available appropriate drugs would interfere with the experiment. Complete 10.b. and 10.c. |

10.b. **If Category D or Category E is checked:** Indicate methods used to assess alternatives to procedures that may cause pain or distress, including procedures in which potential pain is alleviated. For example, methods may include consultation with colleagues or literature searches. If there are less invasive/alternative procedures, describe them and explain why they cannot be used for your experiments.

All surgical procedures are considered to cause more than momentary or slight pain or distress to animals. Therefore, an alternative to surgical procedures must be considered. Alleviation of pain by administration of anesthetic does not eliminate the need to address alternatives to the procedure.

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10.c. **If Category E is checked:** For each potentially painful/invasive procedure, provide information on the method used to research and establish a lack of alternative procedures or appropriate drugs to alleviate pain or distress.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Procedure** | **Database(s) searched** | **Date of Search** | **Period covered by the search, e.g. 1/1/09-10/1/19** | **Keywords or search strategy used** |
|  |  |  |  |  |
|  |  |  |  |  |
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Please explain why pain or distress cannot be fully alleviated. Please include an explanation for each potentially painful procedure in this protocol. If the available appropriate drugs would interfere with this research, please identify these drugs and explain why each drug cannot be used in this research.

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**NOTE: If pain and distress cannot be completely alleviated, the Attending Veterinarian must be consulted on protocol design. The consultation must be documented in writing and submitted with this application.**

**11. EUTHANASIA**

11.a. Will animals be euthanized? **YES  NO**

If YES, please answer all of question 11. If NO, please skip to question 12

11.b. Describe the criteria that will be used to determine a humane and experimentally valid endpoint (the point at which pain or distress in an experimental animal is prevented, terminated, or relieved).

|  |
| --- |
|  |

11.c. Method of Euthanasia:

|  |  |
| --- | --- |
|  | Overdose of anesthesia  Identify anesthetic: |
|  | Cervical dislocation with anesthesia or sedation |
|  | Cervical dislocation without anesthesia or sedation  Justify reason for not using anesthesia or sedation: |
|  | Exsanguination under anesthesia or sedation |
|  | CO2 |
|  | Other  Define: |

11.d. How will death be confirmed? If a secondary method of euthanasia will be used, describe this method.

Note: All rodents euthanized with CO2 must receive a confirmatory method of euthanasia, according to the [Standard Operating Procedures for CO2 Euthanasia of Rodents](https://research.cc.lehigh.edu/iacuc-sops). If the CO2 chamber in the Central Animal Facility is used, the chamber must be operated according to the [Standard Operating Procedures for CO2 Euthanasia of Rodents](https://research.cc.lehigh.edu/iacuc-sops).

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**12.** **BIOHAZARDOUS MATERIALS**

12.a. Do any of the proposed procedures involve the use of biohazardous materials?

|  |  |
| --- | --- |
|  | **NO** **biohazardous** materials will be used in or disposed of by Central Animal Facility (skip to 12.d.). |
|  | **YES**, **biohazardous** materials will be used.  (Documentation of [IBC approval](https://www.lehigh.edu/~inehs/policies/biohaz.html) must be provided to the IACUC before IACUC approval will be granted) |

12.b. **If YES, biohazardous** materials will be used, please indicate which of the following will be used:

|  |  |
| --- | --- |
|  | Radioisotopes (researchers considering the use of radioisotopes MUST first contact EH&S for review and approval by the [Radiation Safety Committee](https://www.lehigh.edu/~inehs/nrc.html)) |
|  | Carcinogens, Teratogens, Mutagens, Chemicals |
|  | Infectious Agents or Organisms |
|  | Biological Toxins |
|  | Select Agents |
|  | Prions |
|  | Bloodborne Pathogens |
|  | Oncogenic viruses |
|  | Plant, animal or human pathogens |
| Recombinant DNA (rDNA) involving:  Human gene transfer  Creation of transgenic rodents  Breeding of two different strains of transgenic rodents at ABSL-2 or higher  Cloning genes using plasmids  Generating and use of vectors to deliver genes | |
|  | Other  Define: |

12.c. Briefly describe the planned use and handling of biohazardous materials:

|  |
| --- |
|  |

12.d. Will tumor cells, tissue, sera, or other biologics from either animal or human sources be used in or on animals as part of the protocol?

**YES**  **NO**

12.e. If **YES**, what are the precautions that will be observed with materials or with live/dead animals?

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| --- |
|  |

**13. ANIMAL HOUSING**

13.a. Where will animals be housed?

|  |  |
| --- | --- |
| Room: |  |
| Building: |  |

13.b. If animals are housed inside the Central Animal Facility, will they be moved outside of the Central Animal facility at any point for research purposes?

**YES**  **NO**

**N/A (No animals will be housed in the Central Animal Facility)**

**If YES, please complete all of question 13. If NO or N/A, please move to question 14.**

13.c Animals will be moved to:

|  |  |
| --- | --- |
| Room: |  |
| Building: |  |
| Amount of time in this location: |  |

13.d. Please explain what procedures will take place outside of the Central Animal Facility and **why** animals must be moved outside of the Central Animal Facility:

|  |
| --- |
|  |

13.e. Describe precautions used to prevent the contamination of the area by the animals (e.g., smells, dander) and procedures to assure that animals are maintained in a humane manner and with limited human exposure. Attach any relevant lab SOPs:

|  |
| --- |
|  |

**14. GENETICALLY MODIFIED ANIMALS**

14.a. Will genetically modified animals be used? **YES  NO**

If NO, move to question 15.

14.b. If **YES**, describe the plan for monitoring the animals’ well-being, and please describe any potential adverse effects.

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|  |

Note: first offspring of a newly generated GMA line must be carefully observed from birth into early adulthood for signs of disease, pain, or distress. Conditions in a genetically modified animal that reveal a negative effect on animal well-being must be reported to the IACUC.

**15. ADJUVANTS**

15.a.Will adjuvants be used? **YES  NO**

If YES please complete the rest of question 15. If NO, please move to question 16.

15.b Please identify which adjuvants will be used:

|  |
| --- |
|  |
| If Freund's Complete Adjuvant is used, please provide justification. Have alternatives been considered?: |
|  |

15.c. If adjuvants are used, please list the following:

|  |  |
| --- | --- |
| Route of administration: |  |
| Amount injected: |  |

**16.** **REPORTING OF EXCEPTIONS**

If this protocol involves **USDA regulated species** (e.g., gerbils, hamsters, guinea pigs, rabbits, cats, or dogs), **complete** **16.a.**

If this protocol involves **non-USDA regulated species** (e.g. mice, rats, fish, birds, reptiles), **complete 16.b.**

16.a. USDA regulations allow for exceptions to full compliance at research facilities when these exceptions are approved by the IACUC. They are required to be reported annually to the USDA. The following list provides examples of exceptions considered reportable by USDA; this list is not all-inclusive. If there are questions concerning whether or not a particular exception is reportable, contact the Research Integrity Specialist for further information. (See attached for USDA specifications.)

**Please check any reportable exceptions.** (Veterinary medical exceptions need not be reported.)

|  |  |
| --- | --- |
|  | Use of an animal in more than one protocol involving a major operative procedure from which it is allowed to recover. |
|  | Deprivation of food or water (i.e., inadequate nutrition and/or feeding less than once a day and/or water is provided less than once a day). |
|  | Maintaining animals at temperatures and/or humidities outside the ranges specified by the standards. |
|  | Not cleaning and/or sanitizing at required frequencies. |
|  | Not providing diurnal lighting as required. |
|  | Not meeting space requirements (including innovative enclosures). |
|  | Use of prolonged or non-conventional physical restraint. |
|  | Single housing of a social species. |
|  | Other |
|  | None |

If you selected “Other,” please explain:

|  |
| --- |
|  |

If you are reporting an exception, please provide a scientific explanation justifying the exception. The IACUC is required to provide a brief summary to the Institutional Official):

|  |
| --- |
|  |

16.b. OLAW regulations allow for departures from PHS Policy and *The Guide for the Care and Use of Laboratory Animals* when these departures are approved by the IACUC. They are required to be reported to the Institutional Official in the semiannual report. The following list provides examples of possible departures from *The Guide*; this list is not all-inclusive. If there are questions concerning whether or not a particular departure is reportable, contact the Research Integrity Specialist for further information.

**Please check any reportable departures from *The Guide*:**

|  |  |
| --- | --- |
|  | Use of an animal in more than one protocol involving a major operative procedure from which it is allowed to recover. |
|  | Deprivation of food or water (i.e., animals do not have access to palatable, uncontaminated food and/or drinking water once a day, or animals do not have access to food and/or drinking water according to their particular requirements). |
|  | Maintaining animals at temperatures and/or humidities outside the ranges specified by the standards. |
|  | Not cleaning and/or sanitizing at required frequencies. |
|  | Not providing diurnal lighting as required. |
|  | Not meeting space requirements (including innovative enclosures). |
|  | Use of prolonged or non-conventional physical restraint. |
|  | Single housing of a social species. |
|  | Other |
|  | None |

If you selected “Other,” please explain:

|  |
| --- |
|  |

If you are reporting a departure, please provide a scientific explanation justifying the departure. The IACUC is required to provide a brief summary to the Institutional Official:

|  |
| --- |
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**APPROVALS AND CERTIFICATIONS**

By signing below or via IRBNet, I certify that I will conduct my research activities specifically as outlined in this animal use protocol application form. If during the course of these activities I need to make any alterations, I will submit a protocol modification form.

I certify that I will follow and ensure conformity to the Guide for the Care and Use of Laboratory Animals (the Guide), the Federal Animal Welfare Act, and all LU IACUC and if applicable, CAF policies and procedures. I will humanely treat all animals used in my protocol. I understand that I must obtain annual reapproval to continue this work beyond the approval period determined by the IACUC.

I certify that as Principal Investigator, I accept ultimate responsibility for the conduct of my research protocol and for the care of the animals that are used in my animal use protocol. I accept responsibility for monitoring and overseeing all work, ensuring that personnel who perform work under the protocol are prepared and able to do so properly, and providing project-specific training to all personnel. I accept responsibility for ensuring that caretakers understand the necessary details of assigned projects and the importance of proper care of animals. I accept responsibility for continual assessment of student investigators’ capabilities considering their levels of skill and development as investigators, as well as their obligations, and will assign work accordingly so as to avoid compromising animal welfare.

Signature may be completed via IRBNet.

Principal Investigator Date

By signing below or via IRBNet, I certify that the information provided on this animal use protocol applications form accurately reflects the nature of activities proposed.

Signature may be completed via IRBNet.

Department Chairperson Date

If animals are being housed in the Central Animal Facility and/or Central Animal Facility space is being used for surgery, the signature of the Central Animal Facility Director is required.

Signature may be completed via IRBNet.

Central Animal Facility Director Date

(Approved by the Office of Management and Budget under control number 0579-0093)

**Subpart B - Specifications for the Humane Handling, Care, Treatment and Transportation of Guinea Pigs and Hamsters**

FACILITIES AND OPERATING STANDARDS

**3.25 Facilities, general**.

(a) *Structural strength.* Indoor and outdoor housing facilities for guinea pigs or hamsters shall be structurally sound and shall be maintained in good repair, to protect the animals from injury, to contain the animals, and to restrict the entrance of other animals.

(b) *Water and electrical power.* Reliable and adequate electric power, if required to comply with other provisions of this subpart, and adequate potable water shall be available.

(c) *Storage.* Supplies of food and bedding shall be stored in facilities which adequately protect such supplies against spoilage or deterioration and infestation or contamination by vermin. Food supplies shall be stored in containers with tightly fitting lids or covers or in the original containers as received from the commercial sources of supply. Refrigeration shall be provided for supplies of perishable food.

(d) *Waste disposal.* Provisions shall be made for the removal and disposal of animal and food wastes, bedding, dead animals, and debris. Disposal facilities shall be so provided and operated as to minimize vermin infestation, odors, and disease hazards.

(e) *Washroom and sinks.* Facilities, such as washrooms, basins, or sinks, shall be provided to maintain cleanliness among animal caretakers.

[32 FR 3273, Feb. 24, 1967, as amended at 44 FR 63492, Nov. 2, 1979]

**3.26 Facilities, indoor.**

(a) *Heating.* Indoor housing facilities for guinea pigs or hamsters shall be sufficiently heated when necessary to protect the animals from the cold, and to provide for their health and comfort. The ambient temperature shall not be allowed to fall below 60OF nor not to exceed 850.

(b) *Ventilation.* Indoor housing facilities for guinea pigs or hamsters shall be adequately ventilated to provide for the health and comfort of the animals at all times. Such facilities shall be provided with fresh air either by means of windows, doors, vents, or air conditioning, and shall be ventilated so as to minimize drafts, odors, and moisture condensation. The ambient temperature shall not be allowed to rise above 850F.

(c) *Lighting.* Indoor housing facilities for guinea pigs or hamsters shall have ample light, by natural or artificial means, or both, of good quality and well distributed. Such lighting shall provide uniformly distributed illumination of sufficient light intensity to permit routine inspection and cleaning during the entire working period. Primary enclosures shall be so placed as to protect the guinea pigs or hamsters from excessive illumination.

(d) *Interior surfaces.* The interior building surfaces of indoor housing facilities shall be constructed and maintained so that they are substantially impervious to moisture and may be readily sanitized.

**3.27 Facilities, outdoor.**

(a) Hamsters shall not be housed in outdoor facilities.

(b) Guinea pigs shall not be housed in outdoor facilities unless such facilities are located in an appropriate climate and prior approval for such outdoor housing is obtained from the Deputy Administrator.

**3.28 Primary enclosures.**

All primary enclosures for guinea pigs and hamsters shall conform to the following requirements:

(a) *General.* (1) Primary enclosures shall be structurally sound and maintained in good repair to protect the guinea pigs and hamsters from injury. Such enclosures, including their racks, shelving and other accessories, shall be constructed of smooth material substantially impervious to liquids and moisture.

(2) Primary enclosures shall be constructed and maintained so that the guinea pigs or hamsters contained therein have convenient access to clean food and water as required in this subpart.

(3) Primary enclosures having a solid floor shall be provided with clean bedding material.

(4) Primary enclosures equipped with mesh or wire floors shall be so constructed as to allow feces to pass through the spaces of the mesh or wire: *Provided, however,* that such floors shall be constructed so as to protect the animals feet and legs from injury.

(b) *Space requirements for primary enclosures acquired before August 15, 1990. -* (1) *Guinea pigs and hamsters.* Primary enclosures shall be constructed and maintained so as to provide sufficient space for each animal contained therein to make normal postural adjustments with adequate freedom of movement.

(2) *Guinea pigs.* In addition to the provisions of paragraph (b)(1) of this section, the following space requirements are applicable to primary enclosures for guinea pigs:

(i) The interior height of any primary enclosure used to confine guinea pigs shall be at least 6  inches.

(ii) Each guinea pig housed in a primary enclosure shall be provided a minimum amount of floor space in accordance with the following table:

|  |  |
| --- | --- |
| Weight or stage of maturity | Minimum  space per  guinea pig  (square inches) |
| Weaning to 350 grams | 60 |
| 350 grams or more | 90 |
| Breeders | 180 |

(3) *Hamsters.* In addition to the provisions of paragraph (b)(1) of this section, the following space requirements are applicable to primary enclosures for hamsters:

(i) The interior height of any primary enclosure used to confine hamsters shall be at least 5  inches, except that in the case of dwarf hamsters, such interior height shall be at least 5 inches.

(ii) A nursing female hamster, together with her litter, shall be housed in a primary enclosure which contains no other hamsters and which provides at least 121 square inches of floor space: *Provided, however,* that in the case of dwarf hamsters such floor space shall be at least 25 square inches.

(iii) The minimum amount of floor space per individual hamster and the maximum number of hamsters allowed in a single primary enclosure, except as provided for nursing females in paragraph (b)(3)(ii) of this section, shall be in accordance with the following table:

Minimum space per

hamster (square inches)

|  |  |  |  |
| --- | --- | --- | --- |
| Age | Dwarf | Other | Maximum population per enclosure |
| Weaning to 5 weeks | 5.0 | 10.0 | 20 |
| 5 to 10 weeks | 7.5 | 12.5 | 16 |
| 10 weeks or more | 9 | 15.0 | 13 |

(c) *Space requirements for primary enclosures acquired on or after August 15, 1990 -* (1) *Guinea pigs.* (i) Primary enclosures shall be constructed and maintained so as to provide sufficient space for each guinea pig contained therein to make normal postural adjustments with adequate freedom of movement.

(ii) The interior height of any primary enclosure used to confine guinea pigs shall be at least 7 inches (17.78 cm).

(iii) Each guinea pig shall be provided a minimum amount of floor space in any primary enclosure as follows:

Minimum floor

Space

|  |  |  |
| --- | --- | --- |
| Weight or stage of maturity | in2 | cm2 |
| Weaning to 350 grams | 60 | 387.12 |
| >350 grams | 101 | 651.65 |
| Nursing females with their litters | 101 | 651.65 |

(2) *Hamsters.* (i) Primary enclosures shall be constructed and maintained so as to provide sufficient space for each hamster contained therein to make normal postural adjustments with adequate freedom of movement.

(ii) The interior height of any primary enclosure used to confine hamsters shall be at least 6 inches (15.24 cm).

(iii) Except as provided in paragraph (c)(2)(iv) of this section, each hamster shall be provided a minimum amount of floor space in any primary enclosure as follows:

Weight Minimum floor

space per

hamster

|  |  |  |  |
| --- | --- | --- | --- |
| g | ozs | in2 | cm2 |
| <60 | <2.1 | 10 | 64.52 |
| 60 to 80 | 2.1-2.8 | 13 | 83.88 |
| 80 to 100 | 2.8-3.5 | 16 | 103.23 |
| >100 | >3.5 | 19 | 122.59 |

(iv) A nursing female hamster, together with her litter, shall be housed in a primary enclosure that contains no other hamsters and that provides at least 121 square inches of floor space: Provided, however, that in the case of nursing female dwarf hamsters such floor space shall be at least 25 square inches.

(3) Innovative primary enclosures that do not precisely meet the space requirements of paragraph (c)(1) or (c)(2) of this section, but that do provide guinea pigs or hamsters with a sufficient volume of space and the opportunity to express species-typical behavior, may be used at research facilities when approved by the Institutional Animal Care and Use Committee, and by dealers and exhibitors when approved by the Administrator.

[32 FR 3273, Feb. 2, 1967, as amended at 55 FR 28882, July 16, 1990]

ANIMAL HEALTH AND HUSBANDRY STANDARDS

**3.29 Feeding.**

(a) Guinea pig and hamsters shall be fed each day except as otherwise might be required to provide adequate veterinary care. The food shall be free from contamination, wholesome, palatable and of sufficient quantity and nutritive value to meet the normal daily requirements for the condition and size of the guinea pig or hamster.

(b) Food comprising the basic diet shall be at least equivalent in quality and content to pelleted rations produced commercially and commonly available from feed suppliers.

(c) The basic diet of guinea pigs and hamsters may be supplemented with good quality fruits or vegetables consistent with their individual dietary requirements.

(d) Food receptacles, if used, shall be accessible to all guinea pigs or hamsters in a primary enclosure and shall be located so as to minimize contamination by excreta. All food receptacles shall be kept clean and shall be sanitized at least once every 2 weeks. If self-feeders are used for the feeding of pelleted feed, measures must be taken to prevent molding, deterioration or caking of the feed. Hamsters may be fed pelleted feed on the floor of a primary enclosure.

(e) Fruit or vegetables food supplements may be placed upon the bedding within the primary enclosure: *Provided, however,* That the uneaten portion of such supplements and any bedding soiled as a result of such feeding practices shall be removed from the primary enclosure when such uneaten supplements accumulate or such bedding becomes soiled to a degree that might be harmful or uncomfortable to the animals therein.

**3.30 Watering.**

Unless food supplements consumed by guinea pigs or hamsters supply them with their normal water requirements, potable water shall be provided daily except as might otherwise be required to provide adequate veterinary care. Open containers used for dispensing water to guinea pigs or hamsters shall be so placed in or attached to the primary enclosure as to minimize contamination from excreta. All watering receptacles shall be sanitized when dirty: *Provided, however,* that such receptacles shall be sanitized at least once every 2 weeks.

**3.31 Sanitation.**

(a) *Cleaning and sanitation of primary enclosures.* (1) Primary enclosures shall be cleaned and sanitized often enough to prevent an accumulation of excreta or debris: *Provided, however,* That such enclosures shall be sanitized at least once every 2 weeks in the manner provided in paragraph (a)(4) of this section.

(2) In the event a primary enclosure becomes soiled or wet to a degree that might be harmful or uncomfortable to the animals therein due to leakage of the watering system, discharges from dead or dying animals, spoiled perishable foods, or moisture condensation, the guinea pigs or hamsters shall be transferred to clean primary enclosures.

(3) Prior to the introduction of guinea pigs or hamsters into empty primary enclosures previously occupied, such enclosures shall be sanitized in the manner provided in paragraph (a)(4) of this section.

(4) Primary enclosures for guinea pigs or hamsters shall be sanitized by washing them with hot water (1800 F.) and soap or detergent as in a mechanical cage washer, or by washing all soiled surfaces with a detergent solution followed by a safe and effective disinfectant, or by cleaning all soiled surfaces with live steam.

(b) *Housekeeping.* Premises (buildings and grounds) shall be kept clean and in good repair in order to protect the animals from injury and to facilitate the prescribed husbandry practices set forth in this subpart. Premises shall remain free of accumulations of trash.

(c) *Pest control.* An effective program for the control of insects, ectoparasites, and avian and mammalian pests shall be established and maintained.

**3.32 Employees.**

A sufficient number of employees shall be utilized to maintain the prescribed level of husbandry practices set forth in this subpart. Such practices shall be under the supervision of an animal caretaker who has a background in animal husbandry or care.

**3.33 Classification and separation.**

Animals housed in the same primary enclosure shall be maintained in compatible groups, with the following additional restrictions:

(a) Except where harem breeding is practiced,

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| preweaning guinea pigs shall not be housed in the same primary enclosure with adults other than their parents.  (b) Guinea pigs shall not be housed in the same primary enclosure with hamsters, nor shall guinea pigs or hamsters be housed in the same primary enclosure with any other species of animals.  (c) Guinea pigs or hamsters under quarantine or treatment for a communicable disease shall be separated from other guinea pigs or hamsters and other susceptible species of animals in such a manner as to minimize dissemination of such disease. |