I. PURPOSE:

The purpose of this Standard Operating Procedure (SOP) is to describe procedures that are used when Marquette University ships live animals.

II. REFERENCES:

The Research Animal Diagnostic Lab (RADIL) in Columbia Missouri. www.radil.missouri.edu

III. ABBREVIATIONS:

MU – Marquette University
RADIL – Research Animal Diagnostic Laboratory
ARC – Animal Resource Center

IV. PROCEDURES:

Animal Identification:

1. Animals of all coat colors may be marked on tails with different color permanent markers (Figure 1). A 2 mm band around the tail is preferable to prevent removal of mark by excessive grooming while in transit. It is best to use no more than 10 lines per animal. Avoid black markings on dark tailed mice; other colors such as blue, red and green work well for these mice.

Figure 1
2. Groups can be designated with different colored stripes along the length of the tail (Figure 2). This will aid in identification of animals whose primary means of identification has been damaged, lost or is difficult to interpret.

3. In our experience, cardboard and plastic dividers are often not adequate at keeping animals separated during shipping. Occasionally the box may be damaged in shipping, allowing animals to move freely over or under dividers. Also, animals may chew through dividers. Therefore, it is beneficial to differentiate animals that are in the same box but separated by a divider by coat color or other markings.

4. Regardless of the marking system, please describe the method used to identify animals on the submission form.

Shipping:

a. Shipping crates are provided by ARC or can be purchased from Charles River Lab (1-800-522-7287). Purchased shipping crates already come with trans-gel and bedding in the container.
b. Animals should be shipped in a clean, sturdy ventilated shipping container and provided with adequate room, food, transgel (for water consumption) and bedding. Always include enough food and transgel (for water consumption) for at least 72 hours of transit in the event that animal receipt is delayed. Animal comfort may be enhanced by providing extra transgel (for water consumption) in the summer months and extra bedding in the winter months. Be sure the container is properly secured to prevent animal escape or injury in transit.

c. *All animal crates are to be shipped PREPAID* by one of the following:
   - MNK Midnite Express – 1-800-241-6685
   - World Courier – 1-800-221-6600
   *Call or e-mail RADIL to notify them about the animal shipment.*

d. **Ship from Monday through Wednesday** to avoid the possibility of weekend deliveries.
   - Include enough food and transgel (for water consumption) for at least 72 hours of transit in the event that animal receipt is delayed.
   - Ship from Monday through Wednesday to avoid the possibility of weekend deliveries.

**During the summer months (June-Sept in Missouri)**

- Inquire about morning flight shipments, procedures for movement of animals from airport tarmac to ground transport and ground transport animal holding conditions
- Provide extra transgel (for water consumption) sources
- Decrease animal density; heat stress is more common in large groups of rodents
- Observe [weather](https://www.weather.gov) and consider delaying shipping if local or Columbia, Missouri temperatures are above 85°F or if the heat index is above 95°F. **NOTE:** rats are particularly sensitive to heat stress.

**During the winter months (Nov-Feb in Missouri)**

- Provide extra bedding
- Observe [weather](https://www.weather.gov) and consider delaying shipping if local or Columbia, Missouri temperatures are below 25°F.