

## AEC STANDARD OPERATING PROCEDURES

<b>SOP No:</b>	17
<b>SOP</b>	Rats
<b>Scientific Name:</b>	<i>Rattus norvegicus</i>
<b>Category:</b>	2 or 3
<b>Approval Level:</b>	Category 2: School Principal may delegate Category 3: School Principal may <b>NOT</b> delegate
<b>Authority:</b>	<b>Government Schools</b> – Department for Education and Childhood Development Animal Ethics Committee <b>Independent and Catholic Schools</b> – Non-Government Schools Animal Ethics Committee
<b>Authority Approval Date:</b>	1 August 2010
<b>Last update</b>	1 November 2013
<b>Disclaimer:</b>	<i>This document may be updated at any time. You should check the web site regularly to ensure that you are meeting the most recent recommendations. If you note any concerns with the information provided (inadequate, incorrect) please contact the relevant AEC</i>
<b>Licensing Requirement:</b>	Not applicable
<b>Compliance Requirement:</b>	The keeping of this species requires approval from the School Principal. It is recommended that this Standard Operating Procedure be followed as a minimum in the provision of appropriate care and housing for this species.

**General Information:** Rats *Rattus norvegicus* - Brown, Sewer or Norway rat, are those which are used in laboratories and should not be confused with *Rattus rattus* - Black or Ship rat.

The rats used extensively in laboratory trials are domesticated animals related to the common sewer rat. However, many years of selective breeding have developed very tame animals. They are very intelligent and make affectionate and fascinating pets. Colours have also been developed from pure white (albino) to hooded rats (coloured head), and of course, completely coloured bodies of black, brown or creamy grey.

Rats are rodents and have sharp teeth for gnawing that grow continuously throughout their life. They are warm-blooded mammals. Rats are not native to Australia and came on the sailing ships from Europe. They are now wild in much of Australia particularly in cities and towns and are a pest and threat to native species. Wild rats should never be caught and kept as pets.

**Physical Attributes:**

- **Size (adult):** Average length nose to tail 25-35cm.
- **Weight (adult):** Male 200g – 600g, female 250g – 400g.
- **Life span:** 2-4 years.
- **Sexual maturity:** At 3 months
- **Gestation period:** 20 – 22 days.
- **Number of offspring:** 6-12 kittens.

**Behaviour:**

- **Normal:** They are nocturnal and therefore more active during the night, early morning and late afternoon and will be resting more during the day.
- **Socialisation:** They are used to being in colonies but must be kept according to the need to breed or not. Rats are communal animals and normally readily accept new arrivals. However, when new animals are added they should be observed for a while to ensure acceptance. It is not advisable to introduce an adult male to a cage of more adult males. Females accept other females

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readily at any age but males will fight to the stage of drawing blood and inflicting nasty wounds. Males should be introduced from birth.

- **Activity levels (hibernation etc):** As young rats they will play a lot but as older rats they are not overly active but do love to socialise with others and with humans when very tame. As they are intelligent they enjoy Skinner boxes and mazes.

### Environment:

- **Space:** The following cage aspects are required to provide basic housing for one or two rats.
  - An area of 500sq cms per rat or for larger rats 800sq cms (ie 500g or more).
  - Minimum for two small rats - Length 600mm, depth 300mm and height 250mm
  - Part solid and part wire lid for security and ventilation.
  - Wire mesh should be woven or flat mesh with very small squares
  - Glass or a material not easily chewed – they will chew through exposed areas of wood or plastic.
  - Water sipper with metal tubing.
  - Sawdust/wood shavings for base. Absorbent and free from dust and splinters, non-toxic, non-edible.
  - Dark sleeping area.
  - Varied floor levels.
  - A basket made from approximately 10mm wire suspended from the side of the cage is suitable for pellets.
  - Shredded paper, paper towel, cardboard boxes and tissues for sleeping areas, nesting and to play in.

Remember over-crowded cages place undue stress on the mice and may lead to fighting and injury.
- **Movement:** Rats do like some activity. They do not appear to need a lot of activity to maintain muscles or reduce fat. Young small rats will like exercise wheels. Boxes, ladders, ropes, hollow logs, tubes and ramps assist with movement.
- **Water:** Fresh water must be provided daily through sipper bottles or water bowls.
- **Temperature:** Optimum temperatures are between 18-25°. They should have good bedding and shelter to protect them from weather extremes.
- **Ventilation:** Adequate ventilation is important to maintain healthy rats and to reduce odours. They should be protected from draughts, fumes and direct sunlight. If indoors they should be kept away from direct cooling and heating appliances.
- **Lighting:** A natural source of light is essential but they should not be placed in direct hot sun or near windows and glass doors. An artificial light can be used but they must be on for no more than 12 hours during the day. Note that Albino rats have more light sensitive eyes and prefer low light areas.
- **Covering:** There must be a cover over the cage to protect rats from external harms and to prevent them from escaping. Mesh top or part solid/ part mesh are good and help with ventilation.
- **Shelter:** The cage must provide areas to shelter from the weather, retreats and hiding places. Cardboard boxes, wooden boxes, large pipes are items that can be used. They need creative items to stimulate them – roots and twigs for gnawing, toys, straw, newspaper or peat moss for bedding and chewing. Depending on the size of the cage landscape and play materials

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such as branches, leaves, flowers, hollow logs, cardboard tubes, large rocks, banksias or pine cones, mallee roots, pieces of native cherry can be provided which allow them to shelter and hide in. Rats are sensitive to loud noise and should be placed in a quiet area. Children should not bang on the glass.

- **Cleaning:** As the output of urine and faeces is high cages must be cleaned regularly. The cage floor must be covered with absorbent material. This should be cleaned at intervals of approximately one week in order to keep the smell down to a minimum. Cages can be scrubbed and disinfected as required with mild detergent. This smell is caused because the males are territorial and 'mark' their territories. For this reason, in small cages only one male should be kept. If more males are to be kept, then a larger cage must be supplied. As rats are dependent on smell they are also sensitive to smell so avoid exposure to chemicals, perfumes, deodorisers. They can also smell other predators such as dogs, cats and should not be co located, as they will become very stressed.

### Feeding:

- **Diet:** Rats are very quiet animals and do not move about more than necessary. Therefore be careful not to overfeed them. Rats are omnivorous. Commercially developed pellets have sufficient protein, vitamins and minerals to provide a balanced diet. Plenty of water should be available at all times. Rats will foul their food and water so these should be kept in dishes off the floor.
- **Daily requirements:** A generous handful of seed and pellets every day. Greens can be fed 2-3 times per week. Wash the fruit and vegetable first before feeding. Lactating females need four times the daily amount of food and water.
- **Supplementary feeding:** Seeds, hard shelled nuts, fruit, insects, occasional boiled egg and vegetables may be added. Never use insects that have been killed with insecticide spray.
- **Equipment:** Water sipper bottle with metal tubing, bowls.

### Breeding:

- **Mating:** The rat has a continuous post partem oestrus cycle.
- **Pregnancy:** The length of the oestrous cycle is 4-5 days, with the duration of the oestrous being approximately 12 hours. The gestation time for a rat is 21 – 23 days. Young rats may be weaned after 21 – 24 days. This varies with size and health of litters. The litter size may be 6 – 12.
- **Fate planning:** Breeding stock must be re homed. They must NEVER be released into the environment.

### Handling:

- **Human:** Rats are often very quiet and easy to handle. They may bite if frightened, provoked or driven into a corner. It is best to let the rat come forward to the cage opening if possible. Avoid loud noises and voices when handling rats. Small rats can be picked up by the base of the tail but large rats should only be caught by the tail and then their weight supported by a hand. Grasp the rat under the body or over the body high up over the animal's back with the thumb around the neck under the mouth. Even very young rats can be moved for cage cleaning if the adults are tame. Always remove the mother before her young and watch her when replacing young.
- **Equipment:** Make sure they are handled in an enclosed area to avoid losing the rats.
- **Transporting:** Use the cage or small-ventilated carry cages. Do

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not leave for long periods in heat or cold conditions.

- **Children:** Should handle rats under staff supervision and petting is preferable to holding. Be aware of biting risks. Both staff and children should wash their hands before handling the rats as fingers that have been touching food smell like food and may be bitten by mistake! Rats should never be touched in the head area. Children should be seated with a towel in their lap.

### Hygiene:

Thoroughly wash hands with soap and running water for at least 10-15 seconds after working or handling any animals. Dry hands with clean paper, cloth towel or air dryer. Turn off the tap with the paper towel if possible. Follow first aid procedures should a bite occur.

### Signs of illness:

- Indicators:
  - Stretched out rather than foetal curling to rest.
  - Problems with or little movement.
  - Discharges.
  - Coughing or sneezing.
  - Excessive scratching.
  - Lack of balance.
  - Weight loss, raised fur, lumps, swellings, and infections.
  - Sores, scabs, fur loss, and excessive grooming.Sick rats should be segregated from the others and all cages cleaned thoroughly.

### Treatments:

Assistance from a veterinarian should be sought for confirmation of conditions and treatment options.

### Euthanasia:

When an illness or injury is such that recovery is unlikely then the animal must be euthanased by a veterinarian. Any death must be reported to the Animal Ethics Committee using the appropriate form (see section relating to ADVERSE EVENTS). Forms are available on the relevant websites – see contact details below.

### Disposal/fate planning:

When no longer required rats must be re homed. As an introduced species they must NEVER be released into the environment. Bodies must be disposed of correctly in accordance with local council regulations.

### Holiday and weekend care:

Rats generally cope with being rostered to responsible carers. They need to be checked daily and fed regularly over weekends and holiday periods if they remain on site.

Records must be kept of 'off site' care. Cages and feeding equipment and supplies must be provided to carers, with contact details for emergencies.

### Approved activities:

Observation

### Resources:

### Websites:

[www.ozpets.com.au](http://www.ozpets.com.au)

[www.mypets.net.au](http://www.mypets.net.au)