

UMMC Standard Operating Procedure For Handling

1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP)

Prepared by the Department of Environmental Health and Safety

Hazard: MPTP, (1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine), is a potent neurotoxin known to produce severe irreversible brain damage similar to advanced Parkinson's disease. Unsafe handling of MPTP or MPTP-treated animals, contaminated materials, or sharps may result in neurological damage to the researchers therefore its handling, storage use and disposal must follow a strict safety protocol.

Signs and symptoms of the on-set of MPTP-associated disease include slowness of movement, postural instability, rigidity and tremors.

Unused Material and Instruments Disposal: Surplus MPTP will be disposed by EHS as a hazardous waste. Used syringes will be placed in a sharps container and disposed as *Regulated Medical Waste*.

PPE for handling or change out of treated animals:

N95 mask is recommended when working with pure MPTP or concentrated solutions

Eye protection: Splash-Proof Safety goggles or a face shield

Disposable laboratory coat, jumpsuit or other appropriate protective clothing, lab coat or jumpsuit must be removed and discarded as hazardous waste

Disposal Nitrile gloves (Not latex) gloves, double gloving is recommended, changes gloves frequently and when contaminated, punctured or torn, wash hands immediately after removing gloves

Waste Disposal: **The first cage change after each drug administration is to be done by the Principal Investigator no sooner than 3 days after the administration.** Cage changing will be performed inside the fume hood and by trained staff only. If the schedule of cage changes of every other day is maintained, a minimum of two (2) cage changes will be captured for disposal. The dirty bedding will be placed in a container provided by EHS for disposal and disposed as a hazardous waste. Animal carcasses will be incinerated. After this second cage change there is no need for further special precautions to be taken regarding the animals or the cages as long as the animals have not received any more MPTP. Leftover drinking water may be mixed with a bleach solution and then disposed in the sewer. Leftover feed can be added to and disposed along with the bedding as hazardous waste. The disposable cage is to be disposed as hazardous waste.

Cage Disinfection: Disposable cages are recommended.

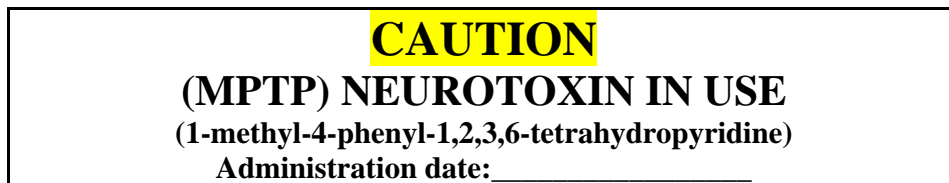
Laboratory Doors and Other Work area Signage:

When MPTP is in use, warning signs (see samples below) must be posted on the laboratory door, and the chemical hood until the MPTP has been returned to storage and the work area has been decontaminated.

A sign must be posted on animal room door/s and on animal cages that contain animals dosed with MPTP.

Signs will include the information shown below.

Animal Cage Caution Sign



Chemical Hood Sign



MPTP NEUROTOXIN IN USE
(1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine)
Antidote: Selegiline HCL/Deprenyl
Dose: _____

Laboratory or Animal Holding Area Door Sign



**NEUROTOXIN (MPTP) IN USE
(1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine)
AUTHORIZED PERSONNEL ONLY**

Investigator's Name: _____ Phone# _____

In case of emergency call Environmental Health and Safety at: **4-1981**

Material Safety Data Sheets are available in Room _____

Antidote: Selegiline HCl/deprenyl Location _____

Contact the Safety Officer – Chemicals at 601-984-1981 if additional information is needed.