



Standard Operating Procedure

Title: Dimethyl sulfoxide (DMSO) Use	SOP No.:	Version: 1
Issue Date:	Page 1 of 2	Next Review Date:

1.0 Purpose/Process:

The purpose of this standard operating procedure (SOP) is to explain the proper procedures, preparation and use of **Dimethyl sulfoxide (DMSO)**

2.0 Chemical Description and Hazards:

- Description – combustible liquid
- Appearance – colorless liquid
- Causes- irritation/reddening of eyes. Garlic like breath, headache, sedation, diarrhea, and disturbances in color vision in some individuals after dermal contact. It may accelerate the skin absorption of other materials including toxics. Harmful if swallowed. Inhalation can cause headache, nausea, irritation, and dizziness.
- Handle/Store- in well ventilated, cool, and dry location away from heat or ignition.
- **Not compatible with strong oxidizing and reducing agents (i.e. sodium hypochlorite/bleach)**

3.0 Handling/PPE:

- Tight fitting protective eye wear
- Butyl Rubber gloves. Double Nitrile gloves (limited use, change after 25min).
- Do not get in eyes, on skin or on clothing.
- Wash thoroughly with soap and water after handling
- Remove contaminated clothing and wash clothing before reuse

DMSO should only be administered to animals in well ventilated areas; ex) B-barn stalls next to the north doors. Administration of large doses or systemic (iv) use of DMSO in VMTH, VMII & CCAH is prohibited. If an animal has already received DMSO upon being admitted please make arrangements to house them accordingly.

4.0 Dilution/Dose

Large animal; DMSO is used as topical agent (99%) and orally and intravenously at 0.5 to 1 g/kg BW. For the enteral and parenteral use, the sterile 90% solution is diluted to a 10% solution using water for oral use or polyionic fluids for intravenous use.

Small Animal; DMSO is only used on rare occasions as topical agent (99% gel).

Standard Operating Procedure
Veterinary Medical Teaching Hospital

Title: Dimethyl sulfoxide (DMSO) Use	SOP No.:	Version:
Issue Date:	Page 2 of 2	Next Review Date:

5.0 Use/Administration:

DMSO is predominantly used as a topical analgesic, a vehicle for topical application of pharmaceuticals, as an anti-inflammatory, and an antioxidant. DMSO increases the rate of absorption of some compounds through organic tissues, including skin, it can be used as a drug delivery system. For this reason **mixing DMSO with carcinogenic drugs such as nitrofurantoin is prohibited at the VMTH.**

- Dilute using above specifications and methods
- Administer by using proper handling techniques and PPE

6.0 First Aid:

If in eyes: Flush thoroughly with running water (including under the eyelids) for at least 15 minutes. If irritation persists after flushing, seek medical attention.

If on skin or clothing: Remove contaminated clothing promptly (launder before reuse). Wash contaminated skin. Seek medical attention if irritation persists.

If swallowed: Do not induce vomiting. Seek immediate medical attention.

If inhaled: Remove to fresh air. If breathing has stopped, provide artificial respiration. Keep the victim warm and seek medical attention.

7.0 Leak & Spill Procedures:

- If a spill or leak occurs, immediately consult your supervisor.
- Follow SafetyNet #13 - Guidelines for Chemical Spill Control
- If possible remove any ignition sources. Ventilate the area. Do not breathe the vapor or get liquid in eyes or on skin/clothing.