



**Date: 25/05/2021**

## **SOP # 010 for Dextran Sulfate Sodium (DSS)**

### **Standard Operating Procedure (SOP) for using Dextran Sulfate Sodium (DSS) in Animals**

**In whole animal research, low concentrations of DSS (1-5%) are added to the drinking water of rodents to induce colitis as an animal model of inflammatory bowel disease (IBD).**

1. DSS has an acute oral toxicity (LD50: 20,600 mg/kg – rat) and has been reported to promote colorectal carcinogenesis in mice.
2. Routes of entry are through inhalation and ingestion; however, there are no known acute effects from either route.
3. DSS can cause respiratory, eye, skin irritation, and may cause digestive tract irritation with nausea, vomiting, and diarrhea.
4. Dextran-containing substances may cause transient cardiac abnormalities.
5. Dextran is a potent antigen. Overexposure can cause a temporary increase in cardiac output.
6. Ecologically, DSS itself and its products of degradation are not toxic.
7. DSS in its active form is not secreted in animal urine or feces; however, small amounts will drip from the sipper bottles and will be absorbed by cage bedding.
8. DSS should be prepared and handled using safety procedures as outlined below.
  - When weighing and preparing DSS, laboratory workers should read first the SDS and do so in accordance with good laboratory, industrial hygiene, and safety practices.
  - The compound should be prepared in a fume hood or biological safety cabinet while wearing gloves and a lab coat.
  - Filter-topped cages or ventilated cage racks must be used to house animals being given DSS in drinking water.
9. Rooms housing animals being given DSS should be clearly identified on the outside of the room



10. A hazardous sign should be posted on cages
11. Anyone handling potentially contaminated cages or bedding should wear chemically-resistant gloves, disposable gown and shoe covers.
12. Opening cages, handling animals or handling bedding must be done using procedures that minimize aerosolization either in a biological safety cabinet, a chemical fume hood, or while wearing an N-95 or P3 respirator.
13. Bedding should be changed in a biological safety cabinet or a specially designed animal bedding disposal cabinet.
14. Soiled cages from DSS-treated mice must be emptied at a HEPA-filtered dump station.
15. Bedding from cages housing DSS-treated mice should be emptied at a HEPA-filtered dump station and collected for biomedical waste disposal via incineration.
16. Food should be disposed with the dirty bedding.
17. Cages and water bottles should be thoroughly washed and rinsed before being returned to the animal facility.
18. Animal carcasses should be placed into biohazard waste bags and marked for incineration.

I hereby confirm that I have read the SOP (Standard Operating Procedure) for Working with DSS in Animals and agree to follow these procedures.

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_