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McMaster University  
**Department of Biology**  
**Standard Operating Procedures for Sodium dodecyl sulphate**

**Revised: January 28, 2008**

**Reviewed by: EOHSS May 2008**

**Effective: Immediately**

**Applicable Legislation:**

Occupational Health and Safety Act (OHSA), R.S.O. 1990, Sections 27 (2) (a), 27 (2) (c).

**Intent:** To outline safe handling procedures of Sodium dodecyl sulphate, including any equipment that is used in conjunction with Sodium dodecyl sulphate, and to outline potential hazards and first aid measures should incidences occur.

**Definitions:**

**Sodium dodecyl sulphate (SDS):** An anionic surfactant (detergent) used for denaturing proteins. It works by disrupting non-covalent bonds in proteins

**Qualified person:** A person who, in respect of a specific duty, is qualified by knowledge, training and experienced to perform the duty safely and properly.

**Requirements of OHSA, Section 27 (2) a, c and Section 28(1) a, b, c**

27. (2) (a) A supervisor shall advise a worker of the existence of any potential or actual danger to the health or safety of the worker of which the supervisor is aware.

27. (2) (c) Take every precaution reasonable in the circumstances for the protection of a worker.

**Duties of workers**

28. (1) A worker shall,

(a) work in compliance with the provisions of this Act and the regulations;

(b) use or wear the equipment, protective devices or clothing that the worker's employer requires to be used or worn;

(c) report to his or her employer or supervisor the absence of or defect in any equipment or protective device of which the worker is aware and which may endanger himself, herself or another worker

**Potential Hazards**

**Inhalation** Causes respiratory tract irritation. May be harmful if inhaled.

**Skin** Toxic if absorbed through skin. Causes skin irritation.

**Eyes** Causes eye irritation.

**Ingestion** May be harmful if swallowed.

**Description of Procedures (Refer to MSDS)**

1. All persons shall read the Material Safety Data Sheet and SOP on SDS before use.
2. All persons shall have WHMIS, Fire Safety, Chemical Handling and Spills training.
3. A qualified person shall train persons on the correct handling procedures for SDS.
4. All persons must wear personal protective equipment including lab coats, glove and closed toed shoes.
5. All persons shall know Life Sciences Building Emergency Procedures including the location of Fire pull stations, eye wash stations and safety showers.

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6. SDS is a very fine powder and as such it easily blows with the slightest movement of air which can contaminate the user, equipment and work surfaces in a large area surrounding the balance. Special precautions must be taken to safely handle this chemical.
7. **SDS must be measured in the Fume Hood ONLY.**
8. To measure out desired quantity of SDS move chemical container, balance and solution bottle(s) to the fume hood.
9. Protect the balance/measuring area from the fume hood air-flow using the special cardboard box cut-out. Position the cardboard cut-out behind the balance. This helps to prevent the chemical from blowing onto other items in the fume hood.
10. Carefully measure the desired quantity with a scapula. **DO NOT POUR DIRECTLY FROM THE CONTAINER.**
11. Carefully transfer SDS from the weigh boat to the solution bottle(s).
12. To prevent the SDS powder from being splashed up and out of the solution bottle carefully pour the desired amount of solvent into the bottle.

### **Waste Management and Environmental Responsibility**

Hazardous decomposition products: formed under fire conditions. - Carbon oxides, Sulphur oxides  
Follow McMaster University Hazardous Waste disposal procedures

### **Waste disposal procedures**

Prevent further leakage or spillage if safe to do so.

Do not let product enter drains.

Dispose through the McMaster University Hazardous Waste disposal procedures

### **Decontamination of Equipment**

Wear appropriate PPE and wet any spills of SDS powder. Carefully mop up spill with paper towels and place into appropriate waste container.

All equipment and should be rinsed thoroughly with water.

### **Handling and Storage Requirements**

Avoid contact with skin and eyes.

Avoid formation of dust and aerosols.

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Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition – No smoking. Take measures to prevent the build up of electrostatic charge.

Keep container tightly closed in a dry and well-ventilated place, store in cool place.

Stable under recommended storage conditions.

**Conditions to avoid:** Heat, flames and sparks.

**Materials to avoid:** Oxidizing agents

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All accidents and spills will require persons involved to fill out an "incident report" after the situation has been contained. **In case of critical injury or major spill Dial 88 and EOHSS ext 24352.**

**Accident response**

**General advice** Consult a physician. Show the MSDS safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled** If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

**In case of skin contact** Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**Spill clean up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see Section 13 EtBr MSDS sheet). Keep in suitable, closed containers for disposal.

**References:**

Material Safety Data Sheets: Sigma Aldrich

Risk Management Manual (RMM) McMaster University

Occupational Health and Safety Act (OHSA)

Cameron Lab Protocols (2008)