

# Solid Organics

## Standard Operating Procedure

Lab: ESB 155

Department: Materials Science and Engineering

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### Section 1: Overview

Type of SOP:  Process  Hazardous Material  Hazardous Class of Materials  Equipment

Synopsis:

*The purpose of this standard operating procedure is to explain the proper ways of handling organic solids. This includes proper handling procedures, waste disposal and implementation of safety measures.*

### Section 2: Risk Assessment Summary (Hazards and control measures)

Information obtained from performing a risk assessment should be entered into this section.

Materials:

Material (name, CAS #, other ID)	Hazards
Organic Solids	Dependent on Material (check MSDS for material being used)

Relevant References for Material Hazards:

*Material Hazards depend on solid organic being used. All material hazards can be found in the corresponding materials MSDS. <https://www.sigmaaldrich.com/united-states.html>*

Equipment Hazards:

N/A

Hazardous Conditions:

N/A

Technique Hazards:

N/A

### Personal Protective Equipment

*Safety Goggles*

*Protective Gloves (material dependent on resistance to solid organics being used, check reactivity)*

*Lab Coat*

*Long Pants*

*Close-toed Shoes*

### Engineering Controls

*Solid organics should be placed in secondary containment when possible during use, to protect against accidental spills. Solid organics with inhalation risk should be placed in fully closed containers when not in use or being transported. When in use, these organics should be placed into a working fume hood.*

### **Section 3: Procedures**

*Begin by putting on proper personal protective equipment. Locate the solid organics needed. Carefully transport the container(s) to the fume hood and place in a secondary container or aluminum foil to catch potentially spilled material. Measure out the amount required for experiment into needed container. Label container with solid organic chemical name.*

### **Section 4: Waste Disposal/Cleanup**

*Organic solid waste should be put into sealed containers or plastic bags. Label these containers and plastic bags with included chemical names. If MSDS mentions any hazards to humans or aquatic life DO NOT put with regular trash or down sinks. Make sure to completely clean up remaining organic from glassware and tabletop using organic solvents. Put the corresponding waste into closed containers (separating liquid waste from solid waste). This includes contaminated kimwipes, aluminum foil etc.*

### **Section 5: Emergency Response**

*If contact is made with hazardous solid organic go directly to the hospital and show the doctor the corresponding MSDS.*

### **Section 6: Additional Information**

#### Advice:

*This section should be updated regularly by the researchers performing the procedure. This section can be a list of things to never do when working with the hazard or quick tips for using a material in a safe manner. The points in this section should be read regularly to see if they should be highlighted in another section (e.g., procedure):*

- 1. Heating of organic solids should be done in the fume hood due to higher evaporation rates.*
- 2. Heating organic solids to very high temperatures should not be done in completely sealed containers due to possible high pressures.*
- 3. For easy removal of solid organics, organic solvents should be used.*
- 4. Measured solid organics from plastic containers can have extra static cling. This can create difficulties in handling.*

Checklist:

*When using solid organics the following check list should be followed:*

- Read (Material) Safety Data Sheets.*
- Proper personal protective equipment worn*
- Another researcher is nearby and knows the hazards present.*
- All calculations are done prior to beginning the procedure.*
- The required glassware is of the proper size to accommodate all steps of the procedure.*
- All materials with inhalation risk are placed into a working fume hood*
- All containers containing organics solids must be labeled with chemical names*

References: