

A DLC-Specific Standard Operating Procedure (SOP) Template

This template form is available at: <http://ehs.mit.edu/site/content/chemical-hygiene-program>

Please mark an 'X' in the gray boxes where appropriate to indicate selection.

[illegible]

Describe how and where MSDS information for above chemicals is maintained in the lab (notebook or on computer or attached to this SOP)

Attached to this SOP

STEP BY STEP HAZARD SUMMARY

Enumerate the steps to be followed in performing the procedure and the required precautions to avoid harm. The steps should be detailed and should include prohibited activities and cautionary statements, where applicable. Include in procedure waste management requirements.

Task	Hazards	Precautions
Cutting fiber		
Warming up sulfuric acid	Corrosiveness	Careful control of temperature, experiment under fume hood, protective equipment (gloves, glasses, lab coat)
Immersion of fiber in acid	Corrosiveness	Careful control of temperature, experiment under fume hood, protective equipment (gloves, glasses, lab coat)
Acetone wash	Flammability	Under fume hood and keep away from heat, hot surfaces, open flames, sparks, and especially from the hot plate used for acid.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Special PPE required is noted below. **Note:** Standard PPE, listed in Part II of the Department CHP should always be worn in the lab. The section below is for additional PPE required due to the unusual nature of materials involved. If no additional PPE is needed, this section can be deleted.

X	Goggles		Faceshield
X	Protective Clothing, Special lab coat, chemical resistant apron, etc. (list type)		
	Other (list item or items)		
X	Gloves (thickness, length, and whether disposable or reusable should also be considered in gloves selected.)		
		Butyl	Neoprene
	X	Nitrile – double glove.	Silver shield or 4H
		PVC	Kevlar
		Latex	Other (list)
	Respirator (If checked, contact EHS Office for additional assistance)		

SPECIAL PRECAUTIONS

	Training:
	Medical Surveillance:
	Other:

SPECIAL EMERGENCY PROCEDURES

This section is for any emergency procedures different from standard responses, or for additional emergency information due to the nature of materials or task.

Fire/Explosion:	
Chemical Spill:	
Personal exposure or other medical emergency:	

STEP-BY-STEP PROCEDURE

- Cutting fiber samples (a few centimeters each)
- Warming up sulfuric acid beaker on a hot plate to desired temperature (between 120°C and 200°C)
- Repeat these for different samples:
 - o Immerge fiber portion for desired time
 - o Wash in acetone bath (beaker)
 - o Wash in DI water beaker
 - o Put sample in container
- Transfer sulfuric acid to waste stream 1
- Transfer DI water and acetone to waste stream 2

WASTE MANAGEMENT PROCEDURE

Waste stream 1: bottle for sulfuric acid

Waste stream 2: bottle for Acetone + DI Water (rinse)