

# Healthcare and Energy Materials Laboratory

(E3 05-09, E3 05-10, E3 05-14, E3 05-15)

## Standard Operating Procedures (SOP)

### Electrospinning

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Prepared by

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## 1. General

### *a) General*

- ◆ The electrospinning slot for the subsequent week will be put up on Monday or Tuesday. Users are not allowed to book for more than 16 hrs of electrospinning slot for weekdays (except public holidays) between 9.00 am to 6.00 pm per week.
- ◆ On Friday, any electrospinning slot for the subsequent week still available will be free for booking including those who already booked 16 hrs of electrospinning slot for weekdays 9.00 am to 6.00 pm for the subsequent week.
- ◆ For electrospinning slot on weekends, public holidays, slot before 9.00am and after 6.00 pm on weekdays, there is no restriction on the amount of slot that can be booked. However, for these timings, there must be somebody in the lab or neighbouring lab who knows that you are doing experiment.
- ◆ Note that the electrospinning slot is the sum of all the slots available in all the fumehood used for electrospinning.
- ◆ Any users who have booked the electrospinning slot but did not turn up 30 min into their scheduled slot will have their slot made available for other users. Users who repeatedly failed to use their electrospinning slot may be temporarily banned from using the electrospinning fumehood.

### *b) Chemical safety*

- ◆ Electrospinning involves the use of solvents to dissolve the polymers before subjecting to a high voltage. Hence, please refer to laboratory Chemical Safety SOP for the chemical safety aspect.

***PLS REMEMBER TO LABEL ALL CONTAINERS WITH YOUR NAME,  
DATE AND CHEMICAL NAME***

### *c) Experimental Technique*

- ◆ All electrospinning experiments have to be done in an electrostatic/fume hood.
- ◆ Handle all chemicals in the fumehood.

- ◆ At all times long sleeve laboratory coats, long pants, safety spectacles/goggles, appropriate gloves, masks and covered shoes must be worn at all times. Contact lenses are not allowed.
- ◆ No watches and other wrist accessories are to be worn during electrospinning and chemical handling.
- ◆ Once the voltage supply is switched on, do not touch the crocodile clip and anything in contact with it with your bare/gloved hands or any conducting material so as to prevent electrical shock.
- ◆ To clean the needle tip during electrospinning, use a long Teflon stick or a long wooden peg with a folded tissue at the end of it.
- ◆ After switching off the voltage supply, electrically ground the needle tip and crocodile clip.
- ◆ The electrostatic/fume hood sash should be lowered at all times during electrospinning.
- ◆ Needles or any sharp objects must be thrown into the glass beaker in the fumehood. Do not try to cap needles back.
- ◆ Electrospinning are not to be left unattended overnight.
- ◆ After electrospinning switch on the blower before raising the sash. Wipe the sash and any surfaces that have fibers on it.
- ◆ All excess solution left in the syringe must be disposed of into the chemical waste bottle.
- ◆ The plunger of the syringe must be pulled out and the both the syringe body and plunger must be thrown into the plastic bin in the fumehood,
- ◆ Used gloves and tissue must be thrown into the plastic bin in the fumehood for at least a day.