Risk Assessment - View form

Overview

Title of Task or Activity :

Silicon Devices Undergraduate Lab

Location(s) where work will be carried out :

611 cleanroom Rankine Building

Short description of procedures involved in the activity :

Preparation of Silicon devices - Diodes and/or MOSFET's using photolithography, metallisation and etching.

Potential risks involved in preparing for or carrying out work

Risk	Likelyhood *without* control measures	Severity	Control measures to mitigate risk, consequences of an incident, and how to deal with it where necessary	Likelyhood *with* control measures
Solvent Cleaning of substrates	Likely	Very	Latex or Nitrile Safety gloves, safety glasses, apron and working wihin fumehood	Unlikely
Acid cleaning and etching of substrates	Very Likely	Very	Demonstration of process by technical staff or demonstrators mandatory.	Unlikely
Photoresist and borosilicate spinning of substrates	Likely	Very	Spinner cabinet with cover, training by technical staff or demonstrators, safety	Unlikely
Exposure and development of photoresist	Likely	Moderate	safety gloves and glasses, work in fumehood. demonstration by technical	Unlikely

Use the free text 'other' box at the end of the form to include more risks & information if necessary

Specific control measures required for this task and not covered in the laboratory's General Code of Practice :

Personal Log file of COSHH forms required and read should be kept by all undergraduate students and MSc students.

(Bio)Chemicals or micro-organisms involved (hazardous or otherwise)

Some or all of the following chemicals and reagents will be used during the practical lab. Acetone, Methanol, Propan-2-ol, AZ1415 photoresist, AZ developer, Sulphuric Acid, Hydrogen Peroxide (30%), 5:1 buffered Hydrofluoric Acid

Should the work be carried out on the open bench, using other local exhaust ventilation, in a fume cupboard or in a glove box?

The majority of the work will be carried out in a laminar flow cabinet with extract. uv exposure will be carried out on the HTG mask aligner with shutter and eye protection

Personal protective equipment required for some or all aspects of the task :

- [x] Eye Protection
- [x] Face Protection
- [x] Hand Protection
- [x] Foot Protection
- [ ] Respiratory Protection

Other :

Supervision required

- [ ] Supervisor approves straightforward and routine work
- [x] Supervisor will specifically approve the scheme of work outlined above
- [ ] Supervisor will provide personal supervision to control and oversee the work

Monitoring

- [ ] Monitoring of airborne contaminents will be required
- [ ] Biological monitoring of workers will be required

Contingency Planning

- [x] Written emergency instructions will be provided for workers and others on the site who might be affected

The following may be required in an emergency

- [x] Spill neutralisation chemicals
- [x] Eye irrigation point
- [x] Body Shower
- [x] Other first aid provisions
- [ ] Breathing apparatus (with trained operator)
- [x] External Emergency Services
- [ ] Poison Antidote

Other :

Disposal methods for materials used and wastes produced (if any) :

Waste solvent is collected via a solvent chute to the rear of the cabinet and disposed via the University approved waste management supplier (Veolia). All acids are diliuted with copious amounts of water and diluted in diltion tank in cabinet before going to drain. Vulcathene or ptfe pipework in place. Silicon waste goes

Other persons who need to be told in full or in part about the information in this risk assessment

- [x] Academic/Postgraduate staff, research & undergraduate students and technicians working in the lab
- [x] Cleaners
- [ ] Contractors
- [ ] Other

Any further information not already covered

Any further information not already covered

(e.g, additional risks, additional hazardous substances and, when significant risks/hazards are present, a detailed scheme of work (if not given above))

You are : ○ Student ◉ Staff

Attach documents (e.g. MSDS's)

- Acetonemsds.pdf
- H2OO2msds.pdf
- hfmsds.pdf
- Methanolmsds.pdf
- Sulphuric.pdf
- PROPAN-2-OL-TECH-MSDS.pdf

Choose file No file chosen
Choose file No file chosen
Choose file No file chosen
Choose file No file chosen
Choose file No file chosen

Click here to add more files

Risk assessment prepared by (your email address) :
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