

# X-RAY SCIENCE DIVISION

## 401/L1103 Facility Hazard Analysis

The purpose of this form is to serve as a summary of facility characteristics, recognized hazards, implemented hazard controls, pertinent sources of information, and incident reporting contacts.

**Scope of work conducted in this facility:** Preparation of ultra-thin films of nano composite polymers and Development, inspection, etching, cleaning, and polishing of Germanium/Silicon Crystals

### Hazardous materials/equipment associated with this facility:

|                  |                                 |                     |
|------------------|---------------------------------|---------------------|
| Organic Solvents | Compressed Gases                | Flammable Liquids   |
| Acids/Bases      | Fume hood                       | Hand tools          |
| UV light         | Class IV Embedded laser (532nm) | Electric furnace    |
| Hand Tools       | Epoxies                         | Hazardous Materials |

### Hazards associated with this facility:

|                   |                |                   |
|-------------------|----------------|-------------------|
| Chemical Exposure | Nano Materials | Pressurized gases |
| Carcinogens       | Chemical Waste |                   |

### Hazard controls implemented within this facility:

|                               |                               |                           |
|-------------------------------|-------------------------------|---------------------------|
| <b>Engineered Controls</b>    | <b>Procedural Controls</b>    | <b>PPE</b>                |
| GFCI outlets                  | Etching Procedure             | Laser Eye wear            |
| Anti-restart devices          | Laser operation and alignment | Safety Glasses/goggles    |
| Chemical Fume Hood            |                               | Chemical resistant gloves |
| Eyewash Station/Safety Shower |                               | Chemical resistant Apron  |

### Relevant ESH manual chapters that may be associated with this facility:

- 1) Ch. 4.1 Hazard Communication
- 2) Ch. 4.3 Laboratory and Chemical Safety
- 3) Ch. 6.2 Laser Safety
- 4) Ch. 7.12 Safe Use of Tools
- 5) Ch. 12.1 Personal Protective Equipment
- 6) Ch. 13.1 Pressure Safety Systems

### Pertinent safety training courses that may be associated with this facility:

- 1) ESH 108400 Building/Facilities Safety Orientation
- 2) ESH 115 Laboratory Hazard Communication Training
- 3) ESH 120 Laser Safety Training
- 4) ESH 141 Portable Hand & Power Tool Safety
- 5) ESH 195 Personal Protective Equipment
- 6) ESH 196 Hazard Communication
- 7) ESH 574 Chemical Waste Generator
- 8) DIV 832 Hazard Specific Training - Agents Which Damage Skin/Mucous Membrane/ Eye
- 9) DIV 824 Hazard Specific Training - Corrosives, Irritants, & Sensitizing Chemicals

*Note: This is not intended to be an all-inclusive list of training that is required to work within this facility. The authoritative record of required training is depicted by the individual's JHQ.*

### Incident reporting contacts:

|                     |   |        |
|---------------------|---|--------|
|                     | <b>****Dial 911 in an emergency****</b> |        |
| Lab Safety Captain: | John Attig                              | 2-9611 |
| Group Leader:       | Lahsen Assoufid                         | 2-2774 |
| ES&H Coordinator:   | Paul Rossi                              | 2-4192 |

Facility hazard analysis completed by: \_\_\_\_\_  
Lab Safety Captain or designee Date

Reviewed and approved by: \_\_\_\_\_  
ES&H Coordinator Date

\_\_\_\_\_  
Line Management Date

This hazard analysis must be reviewed and updated whenever conditions change. Once approved, this hazard analysis must then be posted in a conspicuous space within the facility.