

Risk Assessment Form (3)

Must be completed before experimentation.

Student's Name(s) Julianne Lampert

Title of Project Epitaxial Growth and Characterization of a Novel (001) Cd3As2 Thin Film on a Lattice Match

To be completed by the Student Researcher(s) in collaboration with Designated Supervisor/Qualified Scientist: (All questions must be answered; additional page(s) may be attached.)

1. List all hazardous chemicals, activities, or devices that will be used; identify microorganisms exempt from pre-approval (see Potentially Hazardous Biological Agent rules).

Gallium Arsenide (GaAs), Cadmium arsenide (Cd3As2), Aluminum Indium Antimonide (Al(.58)In(.42)Sb), Molecular Beam Epitaxy, X-ray Diffractometer

2. Identify and assess the risks involved in this project.

Molecular Beam Epitaxy: Contains GaAs, Cd3As2, and Al(.58)In(.42)Sb, all of which are toxic when inhaled, swallowed, or in contact with skin
X-ray Diffractometer: Exposure to X-rays may cause radiation sickness

3. Describe the safety precautions and procedures that will be used to reduce the risks.

Nitrile gloves, lab coats and goggles will be worn in the presence of hazardous machinery.
GaSb, Al(.58)In(.42)Sb and Cd3As2 will not make direct contact with skin. The student will not handle machinery or chemicals directly.

4. Describe the disposal procedures that will be used (when applicable).

All hazardous materials will be placed in the appropriate waste container and removed by the UCSB Environmental Health and Safety department

5. List the source(s) of safety information.

Material Safety Data Sheets
Materials Research Laboratory at UCSB-General Safety Guidelines
UCSB Environmental Health and Safety-Chemical Hygiene Plan

To be completed and signed by the Designated Supervisor (or Qualified Scientist, when applicable):

I agree with the risk assessment and safety precautions and procedures described above. I certify that I have reviewed the Research Plan/Project Summary and will provide direct supervision.

Manik Goyal

Manik Goyal
Signature

06/26/19

Designated Supervisor's Printed Name

Date of Review (mm/dd/yy)

Graduate student researcher, UCSB

manikgoyal@ucsb.edu

Position & Institution

Phone or email contact information

Experience operating machinery

Experience/Training as relates to the student's area of research