

Risk Assessment Form (3)

Must be completed before experimentation.

Student's Name(s) Megha Gopal

Title of Project Investigating Substrate Mechanics Effects in Combination with TiO₂ Thin Layer Coated by Atomic Layer Deposition (ALD) for Dental Pulp Stem Cell Proliferation and Differentiation

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).

HF acid, Biosafety Level 2 Cabinet, Formaldehyde, silicon wafers, ammonium hydroxide, toluene, polybutadiene (PB), vacuum oven

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

HF and Ammonium hydroxide burn in case of skin contact, eye contact, and ingestion. Biocabinet: Infection or contamination from the biological substances. Formaldehyde is toxic if swallowed, inhaled, or makes contact w/skin. Si wafers cause shrapnel when being cut. Toluene is irritant of eyes and noses, PB harmful if inhaled. Oven is hot.

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

Full face shield, goggles, apron, and gloves to be worn when using HF. Lab coat, goggles, and gloves for all else. Long hair is tied back and long pants with closed toed shoes are to be worn. Use thermal protective gloves when using oven. All work with Formaldehyde and hazardous chemicals is done in a ventilated chemical fume hood.

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

All chemicals, are placed in vented labeled waste bottles. HF is disposed in a vented plastic waste bottle. Waste from biosafety cabinet is disposed as biological waste. Chemical waste is kept in a secondary containment area and is removed on a regular schedule by environmental health and safety at the university.

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

Safety Data Sheet of all chemicals and polymers, http://www.nap.edu/catalog.php?record_id=12654, <https://www.emsdiasum.com/microscopy/technical/manuals/63234.pdf>

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.

M. Rafailovich
Designated Supervisor's Printed Name

[Signature]
Signature

6/30/2019
Date of Review (mm/dd/yy)

Prof. / Stony Brook
Position & Institution

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