

# GREATER SAN DIEGO SCIENCE & ENGINEERING FAIR (GSDSEF)

## CERTIFICATION OF HAZARDS CONTROL FORM 4 (GSDSEF-4, 2015)

This form, if required, must be completed and signed before starting your project. Place it in your notebook for the GSDSEF SCREENING Fair. (Use the "Tab" key to move from line to line)

The student, and all who sign this form, MUST READ AND COMPLY with the Hazardous Material and Safety requirements for dealing with such materials as, bacteria; molds or fungi; protozoa; chemicals; toxic, corrosive, mutagenic, carcinogenic, teratogenic or infectious agents; venomous animals as explained in GSDSEF RULES & REGULATIONS page 13

Student's Name (last, first, middle) He, Michelle Jingwen Date 9-1-14

Partner's Name (Senior Division only) \_\_\_\_\_

School Thurgood Marshall Middle School Grade 8th

Science Teacher Mrs. Elaine Gillum

Project Title Understanding the Oligodynamic Effect: How Metals Can Kill Bacteria

Hazardous procedures/materials/substances involved E. Coli and S. Epidermidis bacterial culture used, spread on agar plates, incubated and grown

Answer 1 - 10 in detail & identify potential hazards clearly (use n/a if none—use additional sheets if needed):

1. Source of materials to be used Carolina Biological Supply Company, Amazon.com, lab of mentor
2. Disposal method(s) to be used for hazardous materials Sterilize with alcohol, thrown away
3. Procedures to be performed by the student preparing culture, inoculating agar plates, handling plates with growth
4. Procedures to be performed by supervising scientist/adult supervisor supervision and guidance of all above activities
5. Safety precautions to be taken during procedures (be specific for each hazard involved) safety goggles, lab coat, rubber gloves worn for protection
6. Name of adult hazards supervisor, Title, Phone, Company or Organization Dr. Ly, Tai Wei, Sr. Director, Drug Development Technologies; 858-458-1892; Axitin Pharmaceuticals Inc.

Where bacteria, protozoa, fungi, molds, etc. are used, full details are required in 7-10:

7. Source of microorganism(s) Carolina Biological Supply Company
8. Genus, species, strain Esherichia Coli, K-12 strain; Staphylococcus Epidermidis, strain n/a
9. Culture medium Luria Broth Nutrient Agar
10. Method & timing of sealing Petri dishes n/a

### REQUIRED CERTIFICATION SIGNATURES:

Failure to follow the rules and regulations will result in disqualification I CERTIFY THAT:

- The hazards control rules and regulations of the GSDSEF and the Intel ISEF will be followed.
- The procedures followed will ensure that neither the process nor the materials used constitute any known danger.
- All microorganisms, pathogenic or non-pathogenic, will be handled and disposed of as if pathogenic.
- I have previously signed the completed Form GSDSEF-1, 2015 (which outlined the procedures to be followed for this study).

Student's signature Michelle He Date Sept. 1, 2014  
Parent/ Guardian signature [Signature] Date 9/1/2014  
Teacher signature [Signature] Date 9-1-14  
Adult Hazards Supervisor signature [Signature] Date SEPT. 1, 2014

SRC Approval