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) Kim, Janie **Date** 1/2/15

Partner's Name (Senior Division only)

School Scripps Ranch High School **Grade** 10

Science Teacher Mrs. Elaine Gillum

Project Title Developing a Contact Lens Solution with an Expanded Range of Antimicrobi

Hazardous procedures/materials/substances involved MRSA TCH1516 bacteria, Pseudomonas Aeruginosa PA01 bacteria

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** UCSD Microbiology Department
2. **Disposal method(s) to be used for hazardous materials** Destroying bacteria with bleach
3. **Procedures to be performed by the student** *On attached paper
4. **Procedures to be performed by supervising scientist/adult supervisor** *On attached paper
5. **Safety precautions to be taken during procedures (be specific for each hazard involved)** *On attached paper
6. **Name of adult hazards supervisor, Title, Phone, Company or Organization** *On attached paper

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

7. **Source of microorganism(s)** UCSD Microbiology Department
8. **Genus, species, strain** MRSA, TCH1516; Pseudomonas Aeruginosa PA01
9. **Culture medium** Todd Hewitt Agar, Lysogeny Agar
10. **Method & timing of sealing Petri dishes** *On attached paper

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 Janie Kim **Date** 8/3/14

Parent/ Guardian signature Janie Kim **Date** 8/3/14

Teacher signature [signature] **Date** 9-1-14

Adult Hazards Supervisor signature [signature] **Date** 1/2/15

SRC Approval

GSDSEFh 4, 2015

3) All procedures with the exception of growing the bacteria and the example assays done by the supervising scientist will be performed by the student.

4) The growing of both MRSA and *P. aeruginosa* will be performed by the supervising scientist, as well as the example assays.

5) Sterile gloves will be worn for all procedures, hands will be thoroughly washed before entering the lab and after exiting the lab, ankle-length pants and closed-toed shoes will always be worn, and a lab coat will be worn for overall protection.

6) Dr. Victor Nizet, (858)-534-7408 (Faculty Assistant phone number is (858)-822-5993), Skaggs School of Pharmacy and Pharmaceutical Sciences Professor and Division Chief, Department of Pediatrics, School of Medicine, Nizet Lab.

   Mr. Leo Lin, MD/PhD student, (650)-804-2575, Nizet Lab

10) Immediately after inoculating *Staphylococcus aureus* or *Pseudomonas aeruginosa* onto the agar plate by using a sterile swab and streaking it across the agar, the lids will be securely placed onto the dishes and taped firmly down.