GREATER SAN DIEGO SCIENCE & ENGINEERING FAIR (GSDSEF)

CERTIFICATION OF BIOHAZARDS CONTROL FORM

The SRC Pre-Approval Form and this form must be completed, signed, and approved by the GSDSEF Scientific Review Committee (SRC) BEFORE experimentation begins. If there are any questions or concerns about a student's project, contact Steve Rodecker, stevegsdsef@gmail.com. Save a copy or take a picture of this completed and signed form. The completed and signed Form must then be given to your teacher who will file it for quick reference if needed. Remember that this form MUST BE COMPLETED, SIGNED, attached to the SRC Pre-Approval Form, SUBMITTED through your GSDSEF Account, and each APPROVED by the GSDSEF SRC before experimentation can begin.

Student 1 Name (last, first, middle initial)

Student 2 Name (When applicable)

School Grade(s) /

Teacher/Advisor email address

Project Title

The student(s), and all who sign this form, MUST READ AND COMPLY with the following rules which apply to research using Potentially Hazardous Biological Agents (PHBA). Potentially Hazardous Biological Agents Rules apply to the use of microorganisms (including bacteria, viruses, viroids, prions, rickettsia, fungi and parasites), recombinant DNA technologies or human or animal fresh/frozen tissues, blood, or body fluids.

These rules are intended to protect the student researcher by ensuring proper supervision and the consideration of all potential risks so that the appropriate safety precautions are taken. Students are required to meet all standards imposed by ISEF, school, local, and/or regional fair(s).

Complete ISEF Rules and Guidelines, Potential Hazardous Biological Agents (PHBA)

1. The student researcher must conduct a biohazards risk assessment in collaboration with a Teacher, Designated Supervisor, Adult Sponsor, and/or Qualified Scientist prior to experimentation, which will be detailed in this Form.
2. The Teacher, Designated Supervisor, Adult Sponsor, and/or Qualified Scientist must directly supervise the use of biohazardous substances, organisms, and/or tissues and involvement in biohazardous activities/procedures.
3. All regulated substances must be obtained in accordance with local, state, and U.S. federal laws.
4. Experimentation involving the culturing of potentially hazardous biological agents, even Biosafety Level 1 (BSL-1) (ISEF Rules and Guidelines, PHBA) organisms, is prohibited in a home environment. However, specimens may be collected at home as long as they are immediately transported to a laboratory with the BSL containment determined by the affiliated fair SRC.
5. Research determined to be at Biosafety Level 1 (ISEF Rules and Guidelines, PHBA) must be conducted in a BSL-1 or higher laboratory. The research must be supervised by a trained Designated Supervisor or a Qualified Scientist. The student must be properly trained in standard microbiological practices. Research determined to be a Biosafety Level 2 (BSL-2) (ISEF Rules and Guidelines, PHBA) must be conducted in a laboratory rated BSL-2 or above (commonly limited to a Regulated Research Institution).
6. Students are prohibited from designing or participating in BSL-3 or BSL-4 Research. (ISEF Rules and Guidelines, PHBA)
7. Laboratory studies designed to culture known clinically significant multidrug resistant organisms (MDROs) must have a written justification for usage and be conducted at a Regulated Research Institution laboratory with a minimum of BSL-2 containment and documented IBC review and approval.
8. Insertion of antibiotic resistance markers for the clonal selection of bioengineered organisms is permitted, with the following exceptions: Students are prohibited from the insertion of antibiotic-resistance traits or selection of organisms expressing traits that may affect the ability to provide effective treatment of infections acquired by humans, animals, or plants. Students are prohibited from designing or selecting for multiple drug resistant organisms (MDROs) to investigate the pathology, development, or treatment of antibiotic-resistant infections.
9. The culturing of human or animal waste, including sewage sludge, is considered a BSL-2 study.
10. Naturally-occurring plant pathogens may be studied (not cultured) at home, but may not be introduced into a home/garden environment.
11. All potentially hazardous biological agents must be properly disposed at the end of experimentation in accordance with their biosafety level. For BSL 1 or BSL 2 organisms: Autoclave at 121 degrees Celsius for 20 minutes, use of a 10% bleach solution (1:10 dilution of domestic bleach), incineration, alkaline hydrolysis, biosafety pick-up and other manufacturer recommendations are acceptable.
12. Unknown Microorganisms- See ISEF Rules and Guidelines, PHBA
13. Recombinant DNA (rDNA) Technologies- See ISEF Rules and Guidelines, PHBA
14. Tissues and Body Fluids including Blood and Blood Products- See ISEF Rules and Guidelines, PHBA
15. Tissues and Studies Exempt from Biohazards form – See ISEF Rules and Guidelines, PHBA

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Research Plan

1. What training will the student receive for this project? What is the experience and training of the project supervisor as it relates to the student's area of research? What final biosafety level do you recommend for this project?
2. Identify potentially hazardous biological agents to be used in this experiment. Include the source, quantity and the biosafety level risk group of each microorganism. If agar is used in the experiment, state specifically which kind of agar is going to be used.
3. Describe the site of experimentation including the level of biological containment.
4. Describe the procedures that will be used to minimize risk (personal protective equipment, hood type, etc.).
5 . Describe the method of disposal of all cultured materials and other potentially hazardous biological agents.

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***Before experimentation can begin*, you must**

1) attach this completed, signed form and any other necessary forms to the SRC Pre-Approval Form in your GSDSEF account. Each additional form must either be in pdf format or a picture.
   a) If tissues are used at a Regulated Research Institution (RRI), the Qualified Scientist must complete ISEF Form 2 (Qualified Scientist) and 6B (Human and Vertebrate Tissue Form). For other circumstances, see GSDSEF Rules.
2) submit the SRC Pre-Approval Form, this pdf form and necessary, additional forms to the SRC of the GSDSEF.
3) receive approval from the SRC of the GSDSEF.

Student Certification

I certify that I will follow the Rules and Regulations of the International Science and Engineering Fair regarding biohazardous substances/organisms/tissues and techniques listed on page 1 of this form in this project.

Student 1 Name

Student 1 Signature Date

Student 2 Name (if applicable)

Student 2 Signature (if applicable Date

Teacher/Advisor Certification

I certify that I have reviewed and approved the Research Plan for this project and agree to sponsor and assume responsibility for compliance with ISEF Rules/Guidelines pertaining to potential biohazardous substances/organisms/tissues and techniques in this project listed on page 1 of this form.

Teacher/Advisor Name

Teacher/Advisor Signature Date

Parent/Guardian Certification

I know my son/daughter will be using potential biohazardous substances/tissues/organisms and/or engaging in potentially hazardous procedures for research and he/she must follow all ISEF Rules and Guidelines.

Parent/Guardian 1 Name

Parent/Guardian 1 Signature Date

Parent/Guardian 2 Name (if applicable)

Parent/Guardian 2 Signature (if applicable) Date

Designated Supervisor/Adult Sponsor Certification (if necessary, see GSDSEF Rules)

I certify that I have reviewed and approved the Research Plan for this project and I will supervise and accept primary responsibility for potential biohazardous substances/organisms/tissues in this project listed on page 1 of this form. I certify I have been trained in the techniques to be used by this/these students and I will provide direct supervision of the research.

Adult Supervisor's Name email

Adult Supervisor's Signature Date

Qualified Scientist Certification (if necessary, see GSDSEF Rules)

I certify that I have reviewed and approved the Research Plan of this project before experimentation began. If experimentation is to be done at a Regulated Research Institution, or I provide direct supervision or training elsewhere, I have filled out and signed Qualified Scientist Form 2 and ISEF Form 6B (if necessary). I will ensure that all rules and guidelines of the International Science and Engineering Fair pertaining to potential biohazardous substances, organisms, and/or tissues and techniques listed on page 1 of this form are adhered to. I will provide personal supervision, advice, or any necessary training of a Designated Supervisor.

Qualified Scientist Name Degree

Signature Date

Institution Telephone

Address email