

CERTIFICATION OF HAZARDS CONTROL

This form must be completed and signed for all projects involving hazardous materials BEFORE the project is begun. In addition, students must submit their certification form to the OCSEF [Scientific Review Committee \(SRC\)](#) for review BEFORE starting experiments or risk not being accepted to the OCSEF.

PLEASE TYPE OR PRINT

Name of Entrant (Last Name, First Name)	School Name
Science Teacher	Grade
Project Title	

Following are examples of precautions that must be taken to prevent injury to persons or the environment. No list could possibly foresee all possible hazards, so teachers, parents and students must carefully plan and follow safe procedures specific to each study. The materials and procedure section of the project description must contain explicit and detailed statements as to how and where experiments will be conducted. Include all hazards you anticipate or encounter and necessary precautions in response to questions in the certification form.

MICROBIOLOGY

1. Bacterial studies must be conducted in a properly equipped laboratory under qualified supervision. Petri dishes may be inoculated at home but must be immediately sealed and taken to the lab to be cultured.
Culturing organisms in the home environment is prohibited.
2. All cultures in Petri dishes must be sealed with two tapes on opposite sides immediately after exposure/inoculation. After sealing, Petri dishes should NOT be opened and examination should be conducted through lids only. Dispose of as possibly pathogenic (biohazard bags or sterilization)
3. All bacteria, protozoa and fungi (including molds) are to be handled as though pathogenic. Pathogenic bacteria are not to be cultured. Pure cultures of nonpathogenic microorganisms should be used in experiments.
4. Petri dishes that are inoculated with materials containing unknown microorganisms (i.e. the material is not a pure non-pathogenic culture) must not contain blood agar or Brain Heart Infusion (BHI) broth, but rather nutrient or trypticase soy agar.
5. Manipulation of molds must take place in a fume hood or open-air area (to prevent contamination of living areas with fungal spores). If anyone in the area has a depressed or damaged immune system or any allergies, experiments with molds must be conducted in a laboratory. Containers must be sealed at all times during observations and disposed of as possible pathogens.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. Approved eye-protective devices should be used by all persons performing science activities involving hazards to the eyes. All persons in close proximity must be similarly equipped.
2. Laboratory aprons and rubber or plastic gloves should be available and should be worn whenever hazards exist that could damage clothing, injure someone or irritate skin.
3. Eyes and skin must not be exposed to ultraviolet light experimentally or accidentally as part of a project.

HAZARDOUS CHEMICALS

1. Consult materials safety data sheets (MSDS) prior to use of any hazardous chemicals. The use of especially hazardous chemicals should be avoided and substitutes used. If the use of certain hazardous chemicals (e.g. gel preparations of acrylamide, a neurotoxin or ethidium bromide, a mutagen) cannot be avoided, extra precautions must be exercised and any procedures involving exposure to these hazards MUST be performed by the supervisor.
2. Student use or handling of ethidium bromide or gels stained with ethidium bromide is prohibited. If a necessary part of the experiment, they must be handled only by qualified lab personnel trained in the standards for their use. Care must be taken that the student does not come into contact with them.
3. Petri dishes that are inoculated with materials containing unknown microorganisms (i.e. the material is not a pure non-pathogenic culture) must not contain blood agar or Brain Heart Infusion (BHI) broth, but rather nutrient or trypticase soy agar.
4. The use of controlled substances (drugs, chemicals, anesthetics, narcotics, etc. which are regulated by [the comprehensive drug abuse prevention and control act of 1970](#)) must be in accordance with existing local, state and federal laws. See your pharmacist or write the department of health for information about these laws. The use of many such substances is prohibited by the OCSEF.

HAZARDOUS EQUIPMENT

1. If working with hazardous activities or devices that involve a level of risk above and beyond that encountered in the student's everyday life or whose operation requires a moderate to high level of expertise in order to insure safety, the possible hazards, potential risks, and necessary safety precautions must be assessed. Household items can be hazardous if used improperly.
2. The supervising sponsor/advisor must assess the operation of a device that requires a moderate to high level of expertise to ensure safety. For example, hot plates and Bunsen burners may not require a documented risk assessment, whereas other devices such as high vacuum equipment, heated oil baths, NMR equipment, UV lights, lasers and high-temperature ovens require documentation of a risk assessment.

HAZARDOUS MATERIALS PLAN

For the questions below, provide detailed answers to the questions as they apply to your project and identify potential hazards clearly.

1. Describe the hazardous procedures/materials/substances involved with your experiment and where they will take place.
2. Source where materials are to be obtained (if a microorganism, include source as well as genus, species and strain).
3. Safety precautions to be taken during procedure (be specific for each hazard involved).
4. Describe the disposal method(s) to be used for hazardous materials.
5. Describe the procedures to be performed by the student.
6. Describe the procedures to be performed by the supervising scientist/adult supervisor.

MICROBIOLOGY PROJECTS ONLY (If these questions do not apply to your project write N/A next to the question).

7. What culture medium will be used?
8. Describe the method and timing of sealing petri dishes.

CERTIFICATIONS OF HAZARDS CONTROL

CERTIFICATION BY STUDENT

I certify that the experimental procedures used in this science fair follow [the rules and regulations of the OCSEF](#) and [the Intel ISEF](#). I also certify that the procedures followed will ensure that neither the procedures nor the materials used constitute any known danger and that all microorganisms, pathogenic or non-pathogenic, will be handled and disposed of as if pathogenic.

I understand that this form must be approved and signed by all parties BEFORE the project can begin, and I will comply with this regulation.

Student Name (Print)	Student Signature
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CERTIFICATION BY PARENT/GUARDIAN

I certify that I have reviewed the procedures described above and agree to supervise the above named student and assume primary responsibility for compliance with the existing rules and regulations pertaining to experiments with human subjects cited above.

Parent/Guardian (Print)	Signature of Parent/Guardian	
Home Address (Leave blank if parent)		Home Phone (Leave blank if home phone)

CERTIFICATION BY TEACHER/SUPERVISING SCIENTIST/SUPERVISOR

I certify that I have reviewed the procedures described above and agree to sponsor the above named student and assume responsibility for compliance with the existing rules and regulations pertaining to hazardous materials.

Teacher / Advisor Name (Print)	Signature of Teacher / Advisor	
School Name	Position	Date Signed
School Address	School Phone	