

GSDSEF Hazards Control Form — Page 3

BOX 3 — Statement of Compliance and Signatures

With the understanding that failure to comply will result in disqualification, we CERTIFY THAT:

- The rules of the *GSDSEF* and the *Intel ISEF* will be followed
- No animal will be harmed or endangered in any way
- All animals will receive adequate nutritional food and water, comfortable living quarters, humane treatment and gentle handling at all times (including weekends, holidays, and vacations)
- Experiments will NOT involve surgery, toxicity, nutritional deficiency, physical or psychological stress, injury or the sacrifice of any animal
- Only animal tissues lawfully acquired from an approved source will be used and *GSDSEF* – 5, 2009 is completed, signed and included in the project notebook
- In projects other than observational studies of animals in their natural habitats, a biomedical scientist with an earned doctoral degree AND specific knowledge of the procedures involved will assume responsibility for the design of the project

In addition we AGREE that should this student (9th – 12th grade only) be selected to compete at the 2009 Intel International Science and Engineering Fair (*Intel ISEF*), each person

GO TO PAGE 4

GSDSEF Hazards Control Form — Page 4

Box 2, Continued

- Where will the experiment be done? (Note: Experiments involving hazardous materials are not to be done at home.)

- List ALL procedures to be performed and experimental steps to be taken by the STUDENT.

- List all procedures to be performed and experimental steps to be taken by the SUPERVISING SCIENTIST AND/OR ADULT SUPERVISOR.

GO TO PAGE 5

GSDSEF Hazards Control Form — Page 7

Required Signatures

_____/_____
Student's Signature *Date*

_____/_____
2nd Student's Signature *(Senior Division 2-person projects only)* *Date*

_____/_____
Parent/Guardian's Signature *Date*

_____/_____
2nd Student's Parent/Guardian's Signature *Date*

_____/_____
Teacher's Signature *Date*

_____/_____
Supervising Scientist's Signature *Date*

(may be parent or teacher see ISEF Rules, Item 4 on Page 4)

Go to Page 8

GSDSEF Hazards Control Form — Page 8

SPECIAL CONSIDERATIONS FOR PROJECTS INVOLVING HAZARDOUS MATERIALS OR SUBSTANCES

The 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 methods and materials 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 Box 2 of this form.

- All cultures in petri dishes must be sealed with two tapes on opposite sides immediately after exposure. Examine through lids only and dispose of as possible pathogen (biohazard bags or sterilization).
- All bacteria, protozoa and fungi (including molds) are to be handled as though pathogenic. Pathogenic bacteria are not to be cultured, instead, pure cultures of nonpathogenic microorganisms should be used in experiments. When soil or water is used as a source of bacteria (or fungi), it is important to collect samples unlikely to be contaminated by human pathogens. For example, water should be collected from lakes, estuaries or beaches free of sewage or animal-waste pollution and never from areas suspected to be or posted as polluted. Collection of soil samples in or around old building sites, animal burrows, and/or areas in which Valley Fever is endemic should be avoided.
- 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.
- 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 BHI, but rather nutrient or trypticase soy agar.
- 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.
- 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. 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.
- Eyes and skin must not be exposed to ultraviolet light experimentally or accidentally as part of a project.

GO TO PAGE 9

(Continued on page 9)

GSDSEF Hazards Control Form — Page 9

- 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. Consult *Materials Safety Data Sheets (MSDS)* prior to use of any hazardous chemicals (available online for each chemical). Student use or handling of Ethidium Bromide or gel stained with Ethidium Bromide is prohibited. If this is 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.
- Projects involving tobacco; tobacco products; smokeless powder; black powder; explosives; the manufacture of rocket fuel and/or alcohol/other intoxicants (or the production of these) are prohibited. Please note that students may not load or reload any ammunition with gunpowder, etc.
- 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 a pharmacist or contact the *State Department of Health* for information about these laws. The use of many such substances is prohibited by the GSDSEF.
- Arrangements must be made to assure that any proposed procedure is safe before any project proposal is approved. Whenever specialized safety equipment and/or facilities (e.g., fume hoods, clinical laboratory) are necessary for a procedure, arrangements must be made in advance.

*Requests for approval of procedures (to be performed at hospital, university or other professional labs) that include activities such as transfer or microscopic identification of unknown bacterial cultures must include detailed information/statements on safety procedures and equipment, i.e., "the following procedures will be conducted by the laboratory supervisor" or "these procedures will be conducted in a bacteriological hood using the following additional precautions."

Please contact Philip D. Gay – (619) 697-2024 or phil@gsdsef.org or src@gsdsef.org -- regarding questions or concerns related to hazardous materials, substances, or devices for use in a project.

GSDSEF USE: SRC APPROVAL