

# Are you using HAZARDOUS CHEMICALS, ACTIVITIES, OR DEVICES?

## FORM 3 (Risk Assessment) QuickSheet

### What are **Hazardous Chemicals, Activities, or Devices?**

- HCAD includes substances and devices that are regulated by local, state, country, or international law.
- These may restrict use by minors, such as DEA controlled substances, prescription drugs, alcohol, tobacco, firearms, and explosives, or involve risks that are beyond that encountered in a student's everyday life

### In your **Research Plan...**

- Describe the specific use of ALL HCAD in the project's procedures
- List amounts and types of all HCAD to be used in the study
- Describe the supervision and safety protocols that will be used during the study
- Describe how HCAD will be safely disposed of

### On Form 3...

- On Form 3, completely address each question **WITH DETAIL...** Use an attachment if necessary
- Have a **Qualified Scientist and/or Direct Supervisor** review and sign Form 3 prior to experimentation

### Rules for **ALL HCAD Projects**

- Complete a detailed Risk Assessment (Form 3) prior to experimentation
- Project must be approved and directly supervised by a DS or QS
- Regulated substances must be used in accordance with all laws
- For materials that require them, permits must be acquired prior to experimentation
- Impacts to the environment must be minimized, including minimal quantities of chemicals and safe disposal of hazardous materials

### **ALWAYS** Check Complete ISEF HCAD Rules!

<https://www.societyforscience.org/isef/international-rules/hazardous-chemicals-activities-or-devices/>



### Practice **Environmentally Responsible Chemistry**

- Order minimal amounts, and reduce waste and long-term storage
- Use safer/less toxic chemicals where possible
- Design and conduct safer chemical synthesis
- Use renewable materials
- Use safer catalysts for efficiency
- Use safe solvents where possible
- Neutralize/bind Haz. wastes

### Additional Rules for **Specific Regulated Substances** (see full rules for clarification)

- **DEA-Controlled Substances** - Must be supervised by a Qualified Scientist who is licensed by the DEA at a Regulated Research Institution. Use of Schedule 1 substances must be directly approved by the DEA.
- **Prescription Drugs** - Cannot be used outside of the authority of a practitioner/researcher that is using them for the purpose for which they were prescribed. Research-grade products that are not for human consumption are exempt.
- **Alcohol and Tobacco** - Fermentation studies in which minute quantities of ethyl alcohol are produced are permitted. The DS is responsible for the acquisition, use, and appropriate disposal of the alcohol/tobacco used in the study. Production of wine/beer by adults is allowable in the home and must meet TTB home production regulations. Students are allowed to design and conduct a home brewing research project under direct parental supervision. Students are prohibited from conducting distillation experiments that produce consumable alcohol, but are permitted to distill alcohol for fuel or other non-consumption use.
- **Firearms and Explosives** - Allowed when conducted with the direct supervision of a DS and when in compliance with all laws. Rocket motors and propellant modules containing more than 62.5 grams of propellant are subject to federal permitting and storage regulations. Potato and paintball guns are not considered firearms, but are treated as hazardous devices.
- **Regulated Drones** - Must follow all laws, see the FFA rules ([www.ffa.gov/uas/registration](http://www.ffa.gov/uas/registration)) for details.
- **Radiation** - Studies involving radionuclides and X-rays may not exceed dose limits set by the NRC. Voltage limits for the production of the radiation apply (see specific rules for guidelines)