

III. Project Safety Analysis

Purpose: To provide faculty and researchers with the opportunity to determine applicable environmental health and safety aspects of the research project to be undertaken identify potential risks and hazards, implement safe standard operating procedures, and implement necessary protective controls. This will help protect the researchers, graduate students, and staff involved with the project as well as conserve environmental resources and facilities.

Scope: All Faculty and Principle Investigators (PI's) shall file a written report on the environmental health and safety aspects of each research project before the project begins. The Project Safety Analysis (PSA) shall identify potential hazards and risks and shall detail the engineering and administrative controls that will be necessary to protect the researchers, graduate students, and staff as well as the occupants of the building, and the environment. The PSA will identify the costs, and the source of adequate funding, to implement necessary controls and abate hazards. It will identify necessary personal training needs. The PSA will identify a plan of ultimate disposition of leftover equipment, materials, and wastes; and for mitigation, decontamination, and cleanup. The completed and approved PSA will serve as the "Operational Procedure" and "Safety Manual" for the references project, include Material Safety Data Sheets (MSDS) and make sure all chemicals are segregated by Hazard Class.

Extent of Applicability: Recognizing that no activity is without some degree of risk, and that certain routine risks are accepted without question by the vast majority of persons (for example: machine shops that do not handle hazardous materials, cars used for personal transportation, etc.) the applicability of this analysis has been limited to those academic and research projects that involve hazards not routinely encountered and accepted in the course of everyday living by the vast majority of the general public.

Assistance in Conducting PSA: The Safety Office is available to work with the Faculty/PI and research staff to identify potential hazards of the project and to identify necessary protective control measures. Contact the TAMU Environmental Health and Safety Department at ehsd@tamu.edu or (979) 845-2132 or for more information visit <http://ehsd-online.tamu.edu/>

1) Equipment - List all equipment (I.e. Computers, Computer Numerical Control (CNC), woodworking equipment, metalworking equipment, etc.)

2) Chemical Inventory - Required chemical inventory must be current and posted. All chemicals must have appropriate Material Safety Data Sheets (MSDS) and be segregated by Hazard Class. For more information on MSDS see <http://ehsd.tamu.edu/MSDS.aspx>

3) Analysis of Potential Hazards

A) Physical hazards (Please check all that apply)

- ☐ None
- ☐ Electrical Shock
- ☐ Burns
- ☐ Abrasions
- ☐ Slips
- ☐ Trips
- ☐ Falls
- ☐ Amputations
- ☐ Cuts

☐ Other
- If other, please elaborate: _____

B) Chemical Hazards (Please check all that apply; use the MSDS sheets as reference.)

☐ None
☐ Acids
☐ Bases
☐ Oxidizers
☐ Flammables
☐ Solvents
☐ Toxic Chemicals
☐ Reactives
☐ Explosives
☐ Other
- If other, please elaborate: _____

C) Biological Hazards (Please check all that apply)

☐ None
☐ Microbiologicals
☐ Bacteriologicals
☐ Bloodborne Pathogens
☐ Select Agent List (Bio-Terrorism Act of 1996)
☐ Other
- If other, please elaborate: _____

D) Secure, Segregated Chemical Storage – Chemicals and other hazardous materials shall be provided with secure storage and segregated by Hazard Class. Storage areas shall not be accessible to students or passers-by.

Locations:

Quantities:

Authorized person(s) accessing the chemicals:

E) Hazardous Waste Disposal

Chemical: _____ Disposal method: _____

F) Monitoring and Detection

Substance: _____ Detection method: _____

4) Personal Protective Equipment (PPE) must be worn *at all times* when working in the shop or applicable and should be ANSI/NIOSH/MSHA approved where appropriate. Everyone will wear safety glasses, long pants, closed-toe shoes, tucked in shirttails and hair pulled back at all times. Aprons/lab

coats, goggles/face shields, gloves, respirators, and any other protective equipment as needed must be worn when working with machinery and/or chemicals. It is your personal responsibility to wear the appropriate protective equipment for your own protection and for those around you. Failure to follow these rules will result in a termination of facility use privileges.

5) Personnel Training – For any personnel who need extra training, give the date the training was completed. If not applicable, leave blank. **Everyone** must complete Shop Safety training. Shop training is valid for **one year only**. If your shop training has not been done within the past year, it must be renewed.

Principal Investigator:

Shop Safety training - Completed Date: _____
Woodworking - Completed Date: _____
Welding - Completed Date: _____
Hand tools - Completed Date: _____
CNC- Completed Date: _____
Other- Training name: _____ Completed Date: _____

Research/Lab Technician: Name _____

Shop Safety training - Completed Date: _____
Woodworking - Completed Date: _____
Welding - Completed Date: _____
Hand tools - Completed Date: _____
CNC- Completed Date: _____
Other- Training name: _____ Completed Date: _____

Graduate Student: Name _____

Shop Safety training - Completed Date: _____
Woodworking - Completed Date: _____
Welding - Completed Date: _____
Hand tools - Completed Date: _____
CNC- Completed Date: _____
Other- Training name: _____ Completed Date: _____

Student Worker: Name _____

Shop Safety training - Completed Date: _____
Woodworking - Completed Date: _____
Welding - Completed Date: _____
Hand tools - Completed Date: _____
CNC- Completed Date: _____
Other- Training name: _____ Completed Date: _____

Other: Name _____ Title: _____

Shop Safety training - Completed Date: _____
Woodworking - Completed Date: _____
Welding - Completed Date: _____
Hand tools - Completed Date: _____
CNC- Completed Date: _____
Other- Training name: _____ Completed Date: _____

6) Potential Accidental Responses

- Utility Failure (ie electrical failure, gas/water leaks) – Will result in facility shut down.

- Ventilation dust collection system and compressed air failure – Will result in temporary shutdown.
- Chemical spill – Will result in temporary shutdown; contact the TAMU Environmental Health and Safety Department.

7) Safety - Equipment Inspection and Procedures - PI is responsible for research equipment preventative maintenance, upkeep and operation. If you are working outside the facilities inspection and approval from the TAMU Environmental Health and Safety Department is required.

Note: In case of emergency know your location, how to get there and be able to give the emergency personnel directions to the location. For further information and future reference see the [TAMU Emergency Protocol Quick Reference](#) (.pdf) and in case of injury the [First Report of Injury](#) form.

A) Give documentation for the following, if applicable:

- Emergency Shutdown procedure
- First Aid station & Fire Extinguisher locations
- Evacuation Route
- Emergency Response Procedure (ambulance, fire, etc.)

B) **Safety Reviews** – Final inspection from EHS must be completed in order to begin work. [Bi-Weekly safety](#) reviews by the PI must be completed and submitted to the Architecture Ranch Manager.

8) Noise

Will the project generate Excessive noise? ☐ Yes ☐ No

- If yes, what is the anticipated dBA? _____
- What type of hearing protection will be provided? _____