**UCCS Hazard Control Assessment Guide**

If a hazard exists, there must be a means of controlling it. There are 4 types of controls that are available which must be evaluated in the order given:

1. elimination or substitution,
2. engineering,
3. administrative (e.g. procedures, posters, work schedule, etc.) and
4. personal protective equipment.

Supervisor Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lab Location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Review the ―type of hazard column check the hazards applicable to your lab, for each hazard checked, mark the type of controls implemented in your lab

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|  | Type of Hazard | Types of Control |
| 1. | General | Hazard assessment performed by supervisor  Supervisor ensure proper PPE Used  Supervisor ensure that working procedures and protocols are developed for lab specific hazard operations |
| 2. | Hazardous Materials Used and Stored | Safety Manual Procedures are followed:  Safe Handling, Use & Storage of Hazardous Chemicals  Personal Protective Equipment  Personnel receive  Laboratory Chemical Safety training  On the job task specific training  Lab specific protocols developed and followed  Monthly safety inspection performed |
| 3. | Compressed gases used or generated  Flammable  Oxidizers  Toxic  Corrosive  Reactive | Safety manual procedure, Safe Handling, Use & Storage of Hazardous Chemicals- Compressed gas, followed  Minimize inventory  Proper securing and transportation  Signage  Leak test ,and storage in exhausted enclosures for hazardous gases  Inspected and dated  Monitors and alarms |
| 4. | Flammable materials | Safety manual procedure, Safe Handling, Use & Storage of Hazardous Chemicals- Flammable & combustible materials, followed  Material kept away from heat spark and open flame  Minimum quantity kept in work area  Volume limits observed  Storage in approved containers, cabinets and spark proof refrigerators  Stored away from oxidizers  Proper labels on containers and cabinets  Proper fire extinguishers in place |
| 5. | Oxidizing materials | Safety manual procedure, Safe Handling, Use & Storage of Hazardous Chemicals- Oxidizing materials, followed  Barriers are used to isolate from potential violent reaction  Only minimum amount necessary used and stored in work area  Kept away from incompatibles as reducing agents, flammable and combustible materials, organic acids |
| 6. | Toxic materials | Safety manual procedure, Safe Handling, Use & Storage of Hazardous Chemicals- Toxic materials, followed  Worker aware of the primary route of entry for materials used  Appropriate Personal Protective Equipment and engineering controls are used  The quantities used are minimized  Signs and symptoms of acute exposure are observed  Materials toxicity and potential chronic effects reviewed  Storage according to manufacturer‘s recommendations, away from incompatible chemicals |
| 7. | Corrosives | Safety manual procedure, Safe Handling, Use & Storage of Hazardous Chemicals- Corrosives, followed  Proper PPE used (goggles, and splash shield )  Ice bath or cold water available to control exothermic reactions  Additional hazards (toxicity, reactivity are considered)  Upon exposure immediate action taken to wash away the material  Eye wash station and safety showers are in place, accessible |
| 8. | Reactive materials  Pyrophoric materials  Water reactive  Shock sensitive materials | Safety manual procedure, Safe Handling, Use & Storage of Hazardous Chemicals- Reactive materials, followed  Work bench quantity restricted (amount needed for that day only)  Equipment shielded, and operator wear suitable Personal Protective Equipment  Work is isolated from worker by distance  Storage as required by properties free of stability compromising conditions (i.e. shock, vibration, incompatible chemicals, elevated temperature, rapid temperature change)  SDS reviewed to determine reactivity and compatibility | |
| 11. | Hazardous Waste Generated | Appropriate containers used  Container closed when not in use, properly labeled  Flammable liquids and biohazard waste containers with proper tags, and generator bar code stickers  UBC hazardous waste procedures are followed  Sanitary sewer discharge prohibitions are observed  Traps and back flow restrictors used as necessary  Worker trained on emergency procedure | |
| 12. | Energy Source/Energy Failures  Heating and cooling systems  High voltage  Machinery  Water/air  Ventilation  Automatic controls or equipment | Automatic shut off systems for machinery, power  Flow sensors and shut off valves for water, air, gases  Backup system for power, water, air  Lockout/ tag out procedures in place and followed  Process specific handling and emergency procedures developed and followed | |
| 13. | Physical Hazard |  | |
| 14. | Musculoskeletal Injury (MSI) | Worker aware of factors causing MSI and signs and symptoms of MSI  Work station arranged to fit task and employee  Proper PPE used  Worker implement proper posture while performing tasks  Sufficient space provided to perform task safely  Safe lifting rules and weight limits are observed | |
| 15.. | Extreme temperature | Proper PPE, and materials handling tools used | |
| 16. | Biological Hazards | Proper PPE available and used  Proper waste containers available and used | |
| 17. | Trip/ slip and fall Hazards  Equipment Hazard  Physical hazard  Harmful emission  Contamination backflow to water system  Electrical hazard | Exists and isles free of tripping hazard  Walking surface unobstructed, dry  Step stool available for out of reach items  Operation manuals and procedures, routine inspections  Hazard identification on equipment (signs/labels)  Safe guards  Shields  Isolation by location  Exhaust ventilation  Proper collection drainage and disposal  Vacuum break device  Lockout tag out procedure followed, guards in place | |
| 18. | Other |  | |