

# Chemical Safety Survey

Room:	
PI:	
Date:	

*This is the checklist that EHS uses for their annual survey. The purpose of this survey is to identify unsafe conditions and/or behaviors in laboratories where chemical, biological, and/or physical hazards are present. Laboratory personnel are encouraged to utilize this survey to evaluate their work area(s) on a regular basis. Safe science is smart science.*

<b>critical</b>	Critical finding: a safety departure that can result in personnel injury or exposure and/or environmental contamination. Noncritical findings that continue unaddressed or are found to be excessive within a work area and thus present more than a moderate hazard will be elevated to a critical finding. These findings are required to be corrected on sight but no longer than 24hrs.
<b>non-critical</b>	Non-critical finding: a safety departure that presents a moderate hazard; are generally indicative of inadequate safe work practice(s). These findings should be corrected as soon as possible, but no longer than 30 calendar days.
<b>admin</b>	Administrative safety departure: Indicates the lack of, or deficiency in, written safety policies, rules, supervision, schedules, and / or training with the goal of reducing the duration, frequency, and severity of exposure to hazardous materials or situations. Administrative safety departures can be critical or non-critical in nature. Unless otherwise specified, corrective actions should be completed within 30 calendar days.

Type	Area of Interest	Y	N	N/A	COS
	<b>Chemical Fume Hoods</b>				
	Are fume hoods used for volatile, flammable, and gaseous hazards?				
	Are fume hoods free of excess storage?				
	Are large pieces of equipment raised to allow air flow?				
	Are items placed and procedures conducted at least 6 inches inside fume hood?				
	Is there a visual indicator of fume hood flow?				
	Is the sash lowered as much as possible and closed when personnel are not actively working at the fume hood?				
	Are operations using heated perchloric acid performed in a perchloric acid fume hood?				
	Are fume hood baffles unobstructed?				
	<b>Chemical Handling and Storage Safety</b>				

Are yellow barcodes removed from containers before disposal/repurposing and returned to EHS?				
Has the inventory been entered in RRAMP (SafetyStratus)?				
Are chemical containers in good condition?				
Are original chemical container labels and EHS barcodes present and legible?				
Are all chemicals segregated by storage group (as defined in Appendix AA of the Laboratory Safety Manual)? Is secondary containment used when needed?				
When present, are acids and bases stored separately properly?				
Are secondary containers labeled properly?				
When present, are hydrofluoric, nitric, and perchloric acids stored properly with their own secondary container?				
Is unexpired calcium gluconate gel available where hydrofluoric acid (HF) is present?				
Is picric acid stored hydrated at all times? Is an appropriate usage log maintained?				
Are all flammable/combustible chemicals stored in approved flammable chemical storage cabinets?				
Are all flammable/combustible chemicals stored in approved flammable chemical storage refrigerators?				
Is the total flammable chemical storage limited to 80gallons for research and 20gallons for teaching labs of 200 sq. ft. or greater and half those amounts in smaller labs?				
Are chemicals stored away from intense light sources?				
Are large chemical containers stored near the floor?				
Are organic peroxide-forming compounds labeled with receipt date, open date and/or expiration date?				
Are peroxide-forming compounds checked for peroxide formation every 6 months after the open date?				
Are drawers/cabinets with visual barriers properly labeled when they contain chemicals, samples, or specimens?				
Are labels completely removed, covered, or defaced on reused chemical containers?				
Are chemicals stored upright?				
Are no more than 5 gallons (~20 liters) of flammable liquids used at one time in the work area?				
Are secondary containers appropriate?				

	Is secondary containment appropriate?				
	Is equipment using volatile chemicals inside a fume hood or under local exhaust? If not, are volatile chemical containers sealed/filtered?				
	Do original chemical labels meet the requirements of the hazardous communication and laboratory standards (29 CFR 1910.1200 and 1910.1450)?				
	<b>Compressed Gases</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
	Are cylinders upright/secured? Are securing devices in good condition?				
	When cylinders are stored or not in use, are the caps in place?				
	Are main valves closed and the pressure regulators released when not in use?				
	Are flammable gases present only where there is ongoing use?				
	Are flammable gases separated from oxidizing agents by at least 20ft?				
	Are compressed air piping, hoses & fittings in good condition?				
	Are gas cylinders stored away from high heat, flames, etc.? 1910.253(b)(2)(i)				
	<b>Electrical Hazards</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
	Are electrical cords and plugs intact- not damaged or frayed and free of tape, splices or repairs?				
	Is no more than one item plugged into an individual receptacle?				
	Are extension cords used on a temporary basis only, not as a permanent source of electricity?				
	Do all electrical outlets within 6 ft of a water source have a Ground Fault Circuit Interrupter (GFCI)?				
	Are grounded or polarized plugs unaltered?				
	Are electrical cords not daisy-chained together?				
	<b>Electrical Safety</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
	Circuit breaker panels & emergency shutoffs are unobstructed at least 30 inches and labeled.				
	Outlet, switch & junction box covers are in place & in good repair.				
	<b>Emergency Equipment/Fire Safety</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
	Are safety showers/eyewashes clearly visible and unobstructed?				
	Are fire extinguishers clearly visible and unobstructed?				

Does lab staff know the location of emergency equipment?				
Are exits and means of egress unlocked and unobstructed?				
Is an eighteen inch vertical clearance maintained from sprinkler heads?				
Are first aid kits maintained with unexpired/unopened items?				
Are eyewashes flushed weekly? Is this recorded?				
Are eye wash covers in place?				
Is there an 18 inches (~46 cm) clearance from the center of the spray from the safety shower?				
<b>Energetic Materials</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
Detonators are not stored within magazine with explosive materials?				
Explosive materials are not stored directly against interior magazine wall and are stored inside of secondary containers in magazine?				
Explosive material storage magazine is inspected every seven days?				
Magazine interior is clean, dry, and free of grit, paper and empty packages?				
'No Smoking' sign is provided on outdoor magazine or room door of indoor magazine?				
Total explosive materials stored in indoor magazine do not surpass 50 lbs?				
<b>Facilities</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
If hand sinks are available are towels and soap present?				
Are laboratory floors easily cleaned? (Carpets and rugs are inappropriate)				
Are bench tops impervious to water and resistant to moderate heat, chemicals, and decontaminating agents?				
Is lab furniture capable of supporting anticipated loading and uses?				
Are spaces between benches, cabinets, and equipment accessible for cleaning?				
Are chairs covered with easily cleaned (non-fabric) material?				
Are vacuum lines equipped with traps?				
Are walkways unobstructed and at least 36 inches (~90cm) wide?				
Is there a clearance of at least 32 inches (~80cm) at all work area exits?				
<b>Laboratory Hygiene</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
Does hand washing occur after removal of gloves and before leaving the laboratory?				

	Are food, drink, medicine, cosmetics, or other personal hygiene products not stored or consumed in lab?				
	Mouth pipetting is prohibited. Are mechanical pipetting devices available in the work area?				
	Are work surfaces and equipment decontaminated after any spill or splash?				
	Are appropriate solutions/neutralizers used for decontamination?				
	Are floors and vertical surfaces regularly decontaminated?				
	Are aisles free of slip, trip, and fall hazards?				
	Are kitchen appliances and normal food/drink containers used for lab work properly labeled?				
	Is broken or leaking equipment tagged out and secured for repair?				
	Are bench tops and work areas free of excess storage and clutter?				
	Is a signed EHS decontamination form attached to equipment tagged out for surplus?				
	<b>Personal Protective Equipment (PPE)</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
	Is proper lab attire worn?				
	Is appropriate PPE available (e.g., lab coats, scrubs, eyewear, gloves)?				
	Is protective apparel worn according to the hazards present?				
	Are gloves available for chemical / biological / physical hazards present in the work area?				
	Are appropriate gloves worn while working with chemical / biological / physical hazards?				
	Are used disposable gloves immediately discarded after removal?				
	Is appropriate eye protection available?				
	Is appropriate eye protection worn?				
	Have respirator users been approved by EHS in the past 12 months?				
	Is PPE in good working condition?				
	Is soiled, reusable PPE decontaminated?				
	Is PPE stored in such a way that the inner surfaces that contact the user are not at risk of becoming contaminated?				
	Is PPE stored in the work area and not in public areas or offices?				

<b>Procedural Safety</b>		<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
	Do lab personnel know the location of the work area safety plan (WASP)?				
	Are there appropriate disinfectant/neutralizer/absorbent materials available for spills? (spill kit)				
	Has the assessment been completed in RRAMP (SafetyStratus) in the last 12 months?				
	Have all lab personnel signed the WASP acknowledgement form?				
	Are written standard operating procedures available for all operations conducted and equipment used in the work area?				
<b>Satellite Accumulation Area</b>		<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
	Do all chemical waste containers have the EHS chemical waste label?				
	Are EHS waste labels correctly filled out and in good condition?				
	Are waste containers appropriate and in good condition?				
	Are waste containers properly capped?				
	Is chemical waste kept from being disposed down the sink or in regular waste bins?				
	Is waste generated in the work area kept in the work area until pick up from EHS?				
	Is waste generated by work area personnel under the control of that work area personnel that generated the waste?				
	Is there not excess storage of waste (i.e., less than 40 gallons / ~150L total, excess biowaste)?				
	Are waste containers compatible with the contents?				
	Are waste containers filled no more than 3/4 full?				
	Are vented capped used for waste streams subject to pressurization?				
	Are waste containers free of contamination (e.g., outside of liquid collection containers in inner portions of solid collection containers)?				
	Is the waste area physically marked off, stored and separated from its surrounding area?				
	The SAA has less than 55 gallons and / or less than 1 quart of acutely hazardous waste and the date range for storage in the satellite accumulation area has not been exceeded?				
	Are waste determinations complete and available?				

<b>Special Procedures for Carcinogens, Teratogens, and Highly Toxic or Reactive Chemicals</b>		<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
	Are designated work areas for these materials present and labeled?				
	Have adequate written procedures been created for the use of these materials?				
	Are safety procedures for these materials posted in the immediate work area (e.g., hydrofluoric acid (HF))?				
	Is unexpired calcium gluconate gel available where hydrofluoric acid (HF) is present?				
	Is picric acid stored hydrated at all times? Is an appropriate usage log maintained?				
	Are storage group 9 chemicals stored according to the SDS?				
	When present, are hydrofluoric, nitric, and perchloric acids stored properly with their own secondary container?				
<b>Walking-Working Surfaces</b>		<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
	Are floors even, have no holes, no cracks & no tripping hazards? 1910.22(a)(1)				
<b>Waste</b>		<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
	Is glass waste segregated from regular trash or other wastes?				
	Is glass waste decontaminated before disposal in the glass waste container?				
	Are glass waste container not overfilled?				
	Are only needles and other sharps disposed of in a sharps container?				
	Are sharps containers not overfilled?				
	Are glass waste containers appropriate?				
	Are needles intact and not bent/removed before disposal?				
	When sharps containers are full, is the lid secured for EHS pick up?				
<b>Work Practices</b>		<b>Y</b>	<b>N</b>	<b>N/A</b>	<b>COS</b>
	Are needles kept from being recapped? If needles are recapped, is an EHS-approved SOP in place and posted?				
	Are sharps secured?				
	Are the doors to the work area kept closed? Are doors locked when the work area is vacant?				
	Are ignition sources kept from where flammable materials are used or stored?				

Are pulleys, belts and other moving parts properly guarded?				
Are freezers periodically defrosted to prevent ice build-up?				
Do soldering stations have a 10-foot zone of clearance?				
Are soldering stations using solder containing lead exhausted/contained (i.e., local exhaust, inside a fume hood, or a table-top scrubber)?				
Do liquid containers (including waste containers) stored on the floor have secondary containment?				
Are sharps containers available in the immediate area where sharps are used?				
Is broken / chipped glass secured for repair or properly disposed of?				
Are closed systems under heat or pressure contained behind a blast shield or in a fume hood with the sash closed?				
Are cryogenic liquids stored in Dewar flasks or cold traps wrapped with screens, friction tape, or a metal jacket?				
Are devices containing mercury secured with secondary containment?				