1. La	aboratory Security
A100	Security
A101	Unlocked Lab (Item of Concern): Lock laboratory doors when no one is present to secure
	hazardous materials and equipment. TAMU Laboratory Safety Manual, Chapter 2 Section
	1.1(g), Section 1.2(a); BMBL V 2007, Section IV, Page 30 & 33
A102	Unlocked cabinets, etc. (Item of Concern): Cabinets, refrigerators, and freezers that contain
	hazardous materials and are located in areas outside the laboratory must be locked. TAMU
	Laboratory Safety Manual, Chapter 2 Section 1.2 & Chapter 3 section 7.1(h)
A103	Inspector not identified (Item of Concern): Visitors to lab should be approached and identified.
	TAMU Lab Safety Manual Chapter 2 section 1.2(g); BMBL V 2007, Section IV
2. El	ectrical Safety
B100	Extension Cords/Power Strips/Plug Adapters.
B101	Permanent Use of Extension Cords (Item of Concern): Extension cords are for temporary use
	only (no more than 8 hours per day). Replace with fuse-protected power strip or permanent
	wiring. To have permanent wiring installed, submit request through AggieWorks. IFC 605.5;
	TAMU Safety Manual-Fire & Life Safety Chapter VIII, Section 11.1
B102	Extension cords above ceiling tiles (Item of Concern): Remove extension cords that are placed
0102	above ceiling tiles IEC 605 5: TAMU Safety Manual-Fire & Life Safety Chanter VIII. Section
	11.1.7
D102	Extension cords (nower string connected in series (Item of Concern): Extension cords and
D102	extension cords/power strips connected in series (item of concern). Extension cords and nower strips should be plugged directly into wall recentacle, not "daisy-chained" or connected
	in a series TAMU Safety Manual-Fire & Life Safety Chanter VIII Section 11.1.3
B104	3-way plugs (Item of Concern): Discontinue use of 3-way plug/multiple adapters. Replace with
	fuse-protected power strip(s). <i>IFC 605.4</i>
B105	Power strips in fume hood (Item of Concern): Remove electrical strips from fume hood.
	Prudent Practices 2011, Page 26 Section 2.E.3; NFPA 45
B106	Damaged electrical cord/plug (Item of Concern): Have electrical cord or plug repaired by a
	certified technician. IFC 605.5.3; TAMU Safety Manual-Fire & Life Safety Chapter VIII, Section
	11.1.5
B200	Misc. Electrical.
B201	No GFCI near wet areas (Deficiency): Submit request through AggieWorks to have GFCI
	(ground fault circuit interrupter) installed on electrical outlets located within 6 feet of wet
	areas. NFPA 70.210.8(B)(5)
D 202	
B202	Damaged electrical outlet (Item of Concern): Repair is needed on electrical outlet. Submit
	request for repair through Aggleworks. IFC 605.5.3; TAIMU Safety Manual-Fire & Life Safety
	chapter vill, section 11.1.5
B203	Blocked electrical panel (Item of Concern): Remove items that block access to the electrical
	panel. TAMU Safety Manual - Fire & Life Safety (chapter VIII, section 11.2)

3. Fi	re/Life Safety					
C100	Fire Extinguishers.					
C101	Blocked fire extinguisher (Deficiency): Remove obstruction blocking fire extinguisher. <i>NFPA</i> 10.6.1.3.1 to 10.6.1.3.3					
C102	Discharged fire extinguisher (Item of Concern): Fire extinguisher has been discharged. Complete an "Accident/Investigation Form" for the incident or near-miss, and submit the form to the EHS inspector within 24 hours. (See https://ehsd.tamu.edu/Pages/OccSafety.aspx) <i>NFPA</i> 10.7.2.1.2					
C103	Damaged fire extinguisher (Item of Concern): Fire extinguisher is damaged. EHS inspector will notify Fire & Life Safety personnel. <i>NFPA 10.7.2.2.2</i>					
C200	Clearance.					
C201	Blocked evacuation routes (Deficiency): Keep evacuation/exit routes clear of obstructions. NFPA 101.3.3.161					
C202	Blocked sprinkler head (Item of Concern): Remove all items stored within the 18" plane below the level of the sprinkler heads, throughout the room. <i>NFPA</i> 1.10.19.3					
C203	Combustibles near ceiling (Item of Concern): Remove all combustible items stored within 24" of the ceiling. <i>NFPA 1.10.19.3</i>					
С300	Bunsen Burners.					
C301	Damaged Bunsen burner tubing (Deficiency): Replace brittle or cracked Bunsen burner tubing. ASTM D 2513 Standard					
C302	Bunsen burner in BSC (Deficiency): Do not use a Bunsen burner in a biological safety cabinet. Personal protection is reduced when the air curtain is disrupted by flame, and unburned gas can collect in filters, increasing explosion potential. (EHS will notify the Office of Research Compliance & Biosafety of this violation.) <i>BMBL 5th edition 2007, Appendix A+B18</i>					
C400	Misc. Fire/Life Safety.					
C401	Lab doors open (Item of Concern): Lab doors must be kept closed to maintain fire barriers and proper ventilation in lab areas. <i>NFPA</i> 45.8.3.3 & 45.7.4					
C402	Missing/damaged ceiling tiles (Item of Concern): Submit request through AggieWorks to replace missing/damaged ceiling tiles. <i>NFPA 101.8.4.2(1)(2)</i>					
4. Sa	fe Lab Practices					
D100	Food/Beverages.					
D101	Food/drink in lab (Deficiency): Food and beverages may not be consumed, stored, or prepared in lab areas. Post a 'NO FOOD and DRINKS ALLOWED' sign on the door to the lab or inside the lab. 29 CFR 1910.1030(d)(2)(ix); Prudent Practices 2011, Page 109 Section 6.C.2.3					
D102	Food/drink in lab refrigerator/freezer (Deficiency): Food/beverages and chemicals may not be stored in the same refrigerator or freezer. Rather, store food and drink in an area outside of the lab. <i>Prudent Practices 2011, Page 97 - 98, Page 109 Section 6.C.2.3 ; TAMU Laboratory Safety Manual, Chapter 2 Section 1.1</i>					

D103	Food utensils washed in lab sink (Deficiency): Plates, cups, and silverware for food or beverage use may not be washed in the same sink as lab utensils and should not be in lab areas at all. TAMU Laboratory Safety Manual, Chapter 2 section 1.1						
D200	Hand-washing Facilities.						
D201	Sink/water needed (Item of Concern): Provide running water for hand washing. 29 CFR 1910.1030(d)(2)(iv)						
D202	Soap needed (Item of Concern): Provide soap for hand washing. 29 CFR 1910.1030(d)(2)(iv)						
D203	Paper towels needed (Item of Concern): Provide paper towels for drying hands after washing. 29 CFR 1910.1030(d)(2)(iv)						
D300	Sharps Handling, Storage, and Disposal.						
D301	Recapped needles (Deficiency): Do not manually recap needles. Use self-sheathing syringes or dispose of used syringes in a sharps waste container without recapping. 29 CFR 1910.1030(d)(2)(vii)(viii)						
D302	Unsecured sharps (Deficiency): Secure razors, knives, needles, microtome blades, and other sharps to be reused in rigid protective cases. 29 CFR 1910.1030(d)(2)(vii)(viii)						
D400	Housekeeping/Misc.						
D401	Spilled chemicals (Deficiency): Clean up spilled chemicals on bench top, in fume hood, or on floor. TAMU Laboratory Safety Manual, Chapter 3 Section 6						
D402	Clutter in lab (Item of Concern): Dispose of clutter, including unnecessary boxes, old equipment, and trash. 29 CFR 1910.22(a)(1)						
D403	Dirty fume hood (Item of Concern): Clean dirty fume hood. <i>Prudent Practices 2011, Page 223</i> Section 9.C.2.5						
D404	Dirty work surface (Item of Concern): Clean dirty or untidy workspace or lab bench. TAMU Laboratory Safety Manual, Chapter 2 Section 1.4						
5. Phy	sical Hazards						
E100	Cryogenic Cylinders and Dewars.						
E101	Damaged cryogenic cylinder (Deficiency): Ribbing, excessive ice buildup on tank, cracked gaskets, excessive rust, etc. are indications that the cryogenic cylinder is in poor condition. Contact service provider to have cylinder serviced. 29 CFR 1910.101; TAMU Laboratory Safety Manual, Chapter 2 Section 2.7						
E102	Pressure relief valve compromised (Deficiency): Do not plug or otherwise compromise the pressure relief valve on a cryogenic cylinder. This is an important safety feature of the cylinder. <i>NFPA 55.8.2.5</i>						
E103	Blow-out disc compromised (Deficiency): Do not plug or otherwise compromise the blow-out disc on a cryogenic cylinder. This is an important safety feature of the cylinder. <i>NFPA</i> 55.8.2.5						
E104	Cryogenic cylinder due for maintenance (Item of Concern): TAMU-owned cryogenic cylinder is due/past due for maintenance. Obtain maintenance from service provider and affix appropriate label of current maintenance/service. <i>29 CFR 1910.101</i>						

E200	Compressed Gas Cylinders.						
E201	Improperly secured gas cylinder (Item of Concern): Properly secure compressed gas cylinder(s)						
	with a device designed for such use. Ropes and bungee cords are not permitted for securing						
	cylinders. <i>NFPA 45.11.1.5.1; NFPA 45 Annex F.17</i>						
E202	Gas cylinders secured in group (Item of Concern): Secure compressed gas cylinder(s)						
	individually, not in groups. Prudent Practices 2011, Page 168 Section 7.D.3						
E203	Gas cylinder missing safety cap (Item of Concern): Apply safety cap to cylinders when not in						
	use. NFPA 45 Annex F.14						
E300	Vacuum Pumps.						
E301	Vacuum pump missing guard (Item of Concern): Replace the belt and pulley guard that is						
	missing from the vacuum pump. <i>Prudent Practices 2011, Page 153 Section 7.C.2</i>						
E302	Vacuum pump leaking oil (Item of Concern): Repair or replace the vacuum pump, which is						
	leaking oil. Prudent Practices 2011, Page 153 Section 7.C.2						
E303	Vacuum pump venting exhaust (Item of Concern): Repair or replace the vacuum pump, which						
	is venting exhaust into the lab. <i>Prudent Practices 2011, Page 153 Section 7.C.2</i>						
E304	Vacuum pump needs secondary containment (Item of Concern): Place vacuum pumps						
	containing oil in secondary container made of non-combustible materials in order to contain						
	any leaks that may occur.						
E400	Glass Equipment or Containers.						
E401	Unshielded glass under pressure (Item of Concern): Shield and/or wrap tape around glass that						
	is under vacuum pressure (Rotovap, glass Dewars, etc.). Prudent Practices 2011, Page 171						
	Section 7.E.1.2; TAMU Laboratory Safety Manual, Chapter 2 Section 2.5						
E402	Glass items on floor (Item of Concern): Do not store glass items directly on the floor. Place in						
	cabinets or in secondary containment. Prudent Practices 2011, Page 77 Section 4.E.10						
E500	Misc. Hazards.						
E501	Unguarded moving parts (Deficiency): Guard all the exposed and moving parts of equipment,						
	including pinch points and belts. Prudent Practices 2011, Page 163 Section 7.C.8.4.2; TAMU						
	Laboratory Safety Manual, Chapter 2 Section 2.3						
E502	Tripping hazard (Item of Concern): Relocate, tape down, or otherwise secure electrical cords,						
	computer cables and/or hoses that present tripping hazards. <i>Prudent Practices 2011, Page 77</i>						
	Section 4.E.10						
6. Che	mical Fume Hood						
F100	Obstructed Fume Hood.						
F101	Airflow obstructed in fume hood (Deficiency): To avoid obstructing airflow in the fume hood,						
	place items at least 6 inches back from the face of the hood and 6 inches away from the baffles						
	in the rear of the hood. Prudent Practices 2011, Page 223 Section 9.C.2.5, Page 159 Section						
	7.C.5.7, Page 110 Section 6.C.2.4.1						

F102	Equipment blocks airflow in fume hood (Deficiency): Use jacks to elevate equipment 2-4" off the floor of the fume hood to improve airflow in the hood. <i>Prudent Practices 2011, Page 223 Section 9.C.2.5, Page 110 Section 6.C.2.4.1</i>
F103	Clutter in fume hood (Item of Concern): Remove clutter from fume hood. <i>Prudent Practices</i> 2011, Page 223 Section 9.C.2.5, Page 110 Section 6.C.2.4.1
F104	Chemicals stored in fume hood (Item of Concern): Remove chemicals stored in fume hood. Return them to chemical storage cabinets. <i>NFPA 45.9.2.3.7; Prudent Practices 2011, Page 223</i> <i>Section 9.C.2.5</i>
F105	Loose paper in fume hood (Item of Concern): Remove loose paper (paper towels, Kim wipes, notebook paper) from fume hood. Paper can become lodged in the ductwork, and removing it requires significant monetary costs and labor. <i>Prudent Practices 2011, Page 223 Section 9.C.2.5, Page 110 Section 6.C.2.4.1</i>
F200	Improper Use of Fume Hood.
F201	Personnel using out-of-service fume hood (Deficiency): Do not use any fume hood that has been tagged out of service. Submit work order through AggieWorks for repair. EHS must certify the repaired hood before it can be used. <i>NFPA 45.8.13.2; TAMU Laboratory Safety</i> <i>Manual, Chapter 5 Section 2</i>
F202	Fume hood sash left up (Item of Concern): Pull fume hood sash down completely when the hood is unattended. Pull down to lowest working level when working in the hood. <i>NFPA</i> 45.8.8.3
F203	Personnel using perchloric acid (70% or greater, or heated) in a regular chemical fume hood (Deficiency): Use of perchloric acid (70% or greater, or heated) in a regular chemical fume hood can lead to formation of explosive peroxides in the duct work. The department is now responsible for having the fume hood professionally cleaned before any maintenance or repair work. Contact EHS for referrals. Notify EHS at EHSD-Fumehood@tamu.edu when the fume hood has been cleaned. <i>NFPA 45.8.11.10</i>
F300	Misc. Fume Hood.
F301	Items on fume hood knobs (Item of Concern): Remove items that are hanging on fume hood control knobs.
7. Pers	onal Protective Equipment/Eyewash/Showers
G100	Emergency Shower.
G101	Blocked emergency shower (Deficiency): Remove obstruction(s) blocking emergency shower to ensure clear access to this safety equipment. <i>ANSI Z358.1-2009 Section 4.5.2</i>
G200	Eyewash.
G201	No eyewash (Deficiency): Provide a continuous-flow (plumbed), hands-free, ANSI Z358.1 approved eyewash station. There is not one available in this lab. <i>ANSI Z358.1-2009 Section 5</i>
G202	Inadequate eyewash (squeeze-bottle) (Item of Concern): Provide a continuous-flow (plumbed), hands-free, ANSI Z358.1 approved eyewash station. A squeeze-bottle eyewash is not adequate. <i>ANSI Z358.1-2009</i>

G203	Inadequate eyewash (single-head drench hose) (Item of Concern): Provide a continuous-flow (plumbed), hands-free, ANSI Z358.1 approved eyewash station. A single-head drench hose is						
	not adequate. ANSI Z358.1-2009						
G204	Eyewash unit not flushed (Item of Concern): Lab personnel must flush eyewash units once weekly for 3-5 minutes. Keep a log to record weekly activation of eyewash units (EHS will provide an Eyewash Activation Log upon request). <i>ANSI Z358.1-2009</i>						
G205	Non-functional eyewash (Item of Concern): Eyewash unit is in need of repair. Submit request through AggieWorks to have eyewash unit repaired. <i>ANSI Z358.1-2009 Page 12 Section 5.5</i>						
G300	Personal Protective Equipment (PPE).						
G301	Inadequate PPE (general) (Deficiency): Ensure lab personnel wear appropriate PPE (eye protection, lab coats, gloves, etc.) and clothing (no shorts, bare midriffs, unsecured long hair, dangling jewelry or open-toed shoes) when working in the lab. Post PPE requirements on the door to the lab based on hazards present within the lab. <i>29 CFR 1910.132; TAMU Laboratory Safety Manual, Chapter 5 Section 3, Prudent Practices 2011, Page 175</i>						
G302	Safety eyewear inadequate or not worn (Deficiency): Use appropriate safety eyewear for the work being performed, such as safety glasses for impact hazards or chemical splash goggles for handling chemicals. Post PPE requirements for appropriate eyewear on the door to the lab. 29 <i>CFR 1910.133; TAMU Laboratory Safety Manual, Chapter 5 Section 3; Prudent Practices 2011, Page 175 Section 7.F.1.3</i>						
G303	Lab coats not worn (Deficiency): Ensure lab personnel wear lab coats or other protective clothing when working in areas with chemical or biological hazards. Post PPE requirements on the door to the lab. <i>Prudent Practices 2011, Page 175 Section 7.F.1.1; 29 CFR 1910.132; TAMU Laboratory Safety Manual, Chapter 5 Section 3</i>						
G304	Improper foot-wear (Deficiency): Ensure lab personnel wear closed-toe shoes in the lab. Crocs, sandals, flip flops, and other shoes that do not cover the feet are not appropriate. Post appropriate foot wear requirements on the door to the lab. <i>Prudent Practices 2011, Page 175 Section 7.F.1.2 & 176; 29 CFR 1910.136; TAMU Laboratory Safety Manual, Chapter 5 Section 3</i>						
8. Che	mical Safety						
H100	General Chemical Storage.						
H101	Hazardous liquids above eyelevel (Item of Concern): Do not store hazardous liquid chemicals above the eye level of the shortest person working in the lab. <i>Prudent Practices 2011, Page 95 Section 5.E.1, Page 114 Section 6.C.5</i>						
H102	Chemicals on workbench (Item of Concern): To avoid cluttering workspaces, do not store multiple chemicals on workbenches. Return chemicals to storage cabinets when they are not actively being used. <i>Prudent Practices 2011, Page 95 Section 5.E.1</i>						
H103	Chemicals on edge of bench top (Item of Concern): Do not place chemical bottles on the edge of the bench top, where they can easily be knocked to the floor. <i>Prudent Practices 2011 page 95</i>						
H104	Heavy chemicals on upper shelves (Item of Concern): Store heavy chemical containers on the lowest shelves. <i>Prudent Practices 2011, Page 95 Section 5.E.1</i>						

H105	Chemicals on floor (Item of Concern): Do not store chemicals directly on the floor. Rather,						
	store them in approved cabinets or in secondary containers large enough to hold the entire						
	contents of the bottle in case of a spill. Prudent Practices 2011, Page 95 Section 5.E.1, Page						
	113 Section 6.C.3						
H200	Flammable Chemical Storage.						
H201	Excessive flammables outside of flammable cabinet (Deficiency): Store flammable chemicals in						
	excess of 10 gallons in a flammable storage cabinet. <i>NFPA 45.10; NFPA 30.9.5</i>						
H202	Flammables stored near ignition source (Deficiency): Store flammable chemicals away from ignition and heat sources and out of direct sunlight. <i>NFPA</i> 45.12.2.3.3						
H203	Flammables in household-style refrigerator/freezer (Deficiency): Flammable chemicals needing refrigeration must be kept in a Lab-safe refrigerator/freezer (that is, safe for flammable storage). Flammable chemicals may not be kept in a household style or commercial refrigerator/freezer or in a walk-in cooler. <i>NFPA</i> 45.12.2.2.1						
H205	Improper storage of flammables (Item of Concern): Store flammable chemicals in flammable storage cabinet. <i>NFPA 30.9.5</i>						
H300	Chemical Dating & Retention.						
H301	Old non-time sensitive chemicals (Item of Concern): Noted non-time sensitive chemicals older than 5 years in the lab. Periodically review chemical inventory. Dispose of old chemicals that are no longer used. Label non-time-sensitive chemicals that are still in use with current 'in use' date.						
H302	Chloroform out of date (Deficiency): Chloroform should be used within 1 year of purchase or 6 months after opening, because it can form phosgene gas upon decomposition. Dispose of any chloroform once these time limits have passed. This is also true for chloroform that has had stabilizers added. <i>NFPA 45.9.2.3.4</i>						
H303	Peroxide forming chemicals out of date (Deficiency): Explosive peroxide forming chemicals and oxidants such as ethyl ether, tetrahydrofuran (THF), perchloric acid, cyclohexene, butadiene, isopropyl ether and dioxanes must be used within 1 year of purchase or 6 months after opening and must be disposed of before the expiration date. Tag these chemicals for disposal immediately if past these time constraints. <i>NFPA 45.9.2.3</i>						
H304	Undated chemicals (Item of Concern): Date chemicals when received and again when opened. If date of acquisition or opening is unknown, back-date to the oldest known date for a reference point, e.g. "REC'D PRE-2010" or "OPENED PRE-2010" <i>NFPA 45.9.2.3.4; NIOSH</i> <i>Publication 2007-107</i>						
H400	Faulty Containers & Unstable Chemicals.						
H401	Unstable chemicals (Deficiency): Do not attempt to open or move peroxide-forming and oxidizing chemicals (such as ethyl ether, THF, perchloric acid, cyclohexene, butadiene, isopropyl ether and dioxanes) with crust on lid, stratification of liquid, discoloration, or crystallization. (EHS will follow-up with PI).						
H402	Damaged chemical container (Item of Concern): Repackage or dispose of chemicals in deteriorated containers. <i>Prudent Practices 2011, Page 113 Section 6.C.3</i>						
H403	Missing or damaged chemical cap (Item of Concern): Replace cracked or missing cap on chemical container. <i>Prudent Practices 2011, Page 113 Section 6.C.3</i>						
H500	Chemical Segregation.						

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H501	Unsegregated chemicals (Deficiency): Segregate chemicals by hazard class (flammable,						
	corrosive, oxidizer, reactive, toxic). Recommend using a color-coded labeling system on						
	chemical containers to quickly identify the hazard class. For more information, see the EHS						
	Laboratory Safety webpage (https://ehsd.tamu.edu/Pages/LabSafety.aspx). NFPA 45.9.2.3.2						
H600	Perchloric Acid Use and Storage.						
H601	Improper Perchloric acid storage (Deficiency): Perchloric acid must be stored away from						
	organic materials (including other chemicals, wooden shelves, and paper lining) and other						
	acids. Storage in secondary containment is strongly recommended. Review MSDS for more						
	Information. NFPA 45.9.2.3; TAMU Laboratory Safety Manual, Chapter 3 Section 9.1						
H602	Using/heating Perchloric acid outside of Perchloric acid fume hood (Deficiency): A Perchloric						
	acid tume hood is required when using 70% or greater concentration of perchionic acid or when heating any concentration of perchionic acid or						
	Manual Chapter 5 Section 2.1						
11000	Percencel using improvements functioning Developing acid head (Defining a)): A Developing acid						
H603	Personnel using improperty functioning perchionic acid nood (Deliciency): A Perchionic acid fume hood must be in proper working condition, with a functioning wash down system, when						
	using 70% or greater mixtures of perchloric acid or when heating any concentration of						
	perchloric acid. Submit a work request through AggieWorks to have the Perchloric acid fume						
	hood repaired. EHS must verify that the wash down system is working properly before the						
	hood may be used. NFPA 45.8.11						
H700	Flammable Storage Cabinets.						
H701	Flammable cabinet does not vent to outside (Deficiency): If vented, flammable storage cabinet						
	must vent directly outside the building. <i>NFPA 30.9.5.4.2</i>						
H702	Improper duct material on vented flammable cabinet (Deficiency): Flammable storage cabinet						
	exhaust duct shall be constructed of non-combustible material and should be of the same						
	material as the flammable storage cabinet. <i>NFPA 91.4.2.1</i>						
H703	Flammable cabinet vents from the top (Item of Concern): If vented, flammables cabinets						
	should vent from the bottom of the cabinet, with make-up air supplied at the top of the						
	cabinet. NFPA 30 Appendix A.9.5.4						
9. Was	ste Disposal						
1100	Waste Disposal.						
1101	Improper sharps waste container (Deficiency): Use an approved sharps container with a non-						
	removable lid for disposal of metals sharps. If sharps are biohazardous, autoclave before						
	disposal. If sharps are not bionazardous, remove the bionazard label from the container and						
	table the container NON-BIOHAZARDOUS SHARPS. When full, place the container in a black						
1102	Uncapped waste (Item of Concern): Cap/replace the lid on the waste containers except when						
	they are actively being used. 40CFR 265(I)						
1200	Improper Accumulation of Waste.						
1201	Old samples present (Deficiency): Dispose of old samples that are no longer needed.						

1202	Full waste containers (Deficiency): Dispose of filled chemical waste containers. TAMU Laboratory Safety Manual, Chapter 4 Section 1						
1203	Used lecture bottles (Deficiency): Dispose of used lecture bottles. <i>Prudent Practices 2011, Page 100 Section 5.E.6</i>						
1300	Glass Disposal.						
1301	Improper glass disposal (Deficiency): Dispose of broken glass in a covered sturdy box marked "BROKEN GLASS." 30 TAC § 330.1219 (b)(4); Prudent practices 2011, Page 113 Section 6.C.3						
1302	Over-filled glass waste (Deficiency): Do not overfill glass waste container. Glass should not protrude over lip of disposal container. <i>TAMU Laboratory Safety Manual, Chapter 4 Section 3</i>						
1303	Unlabeled glass waste (Item of Concern): Glass disposal box should be marked "BROKEN GLASS." <i>Prudent practices 2011, Page 114 Section 6.C.3</i>						
1400	Improperly Labeled Chemical Waste.						
1401	Improperly labeled chemical waste (Item of Concern): Label chemical waste container with the words "HAZARDOUS WASTE" or tie a Hazardous Waste Disposal tag on the container with string. 30 <i>TAC § 330.1207; TAMU Laboratory Safety Manual, Chapter 4 Section 1</i>						
1402	Hazardous waste not identified (Item of Concern): List the chemical contents on the waste disposal container or on the Hazardous Waste Disposal tag tied to the container. 30 TAC § 330.1207; NFPA 45.9.3; TAMU Laboratory Safety Manual, Chapter 4 Section 1						
1403	Dated hazardous waste disposal tags (Item of Concern): DO NOT date Hazardous Waste Disposal tag. EHS will date the tag at time of pick-up. <i>TAMU Laboratory Safety Manual,</i> <i>Chapter 4 Section 1.1</i>						
10. Wa	arning Signs/Labels						
L100	Chemical Container Labels.						
L101	Damaged/missing chemical label (Deficiency): Replace missing or deteriorating labels on primary (original) chemical containers. 25 TAC §295.6						
L102	Improperly labeled secondary container (Item of Concern): Ensure that all containers (squeeze bottles, flasks, dilutions, etc.) are labeled with the complete name of the contents, even those that contain water or are a part of equipment or experiments. The label should also include words, pictures, and/or symbols to notify users of the hazards of the chemicals. Replace fading/deteriorated labels. <i>TAMU Laboratory Safety Manual, Chapter 3 Section 2; 29 CFR</i> 1910.1200(f)(9)						
L103	Improperly defaced bottles (Item of Concern): Deface labels on all empty bottles prior to reuse, and label the bottles with the identity of the new contents to prevent confusion. <i>TAMU Laboratory Safety Manual, Chapter 4 Section 1; 25 TAC §295.6</i>						
L200	Equipment Signage.						
L201	Unlabeled microwave (Item of Concern): Label microwave "Lab Use Only." <i>TAMU Laboratory Safety Manual, Chapter 2 section 1.1</i>						
L202	Unlabeled freezer (Item of Concern): Label freezer "Not Safe for Flammable Storage." <i>Prudent</i> <i>Practices 2011, Page 98 Section 5.E.4; TAMU Laboratory Safety Manual, Chapter 2 section 1.1</i>						

L203	Unlabeled refrigerator (Item of Concern): Label refrigerator "Not Safe for Flammable Storage."							
	Prudent Practices 2011, Page 98 Section 5.E.4; TAMU Laboratory Safety Manual, Chapter 2							
1204	section 1.1							
L204	Laboratory Safety Manual, Chapter 2 section 1.1							
L205	Unlabeled hot surface (Item of Concern): Place warning sign on equipment with hot surfaces.							
	TAMU Laboratory Safety Manual, Chapter 2 Section 2.6							
L300	Door Signs.							
L301	Lack of warning signs (Item of Concern): Post specific warning signs for the hazards present (Chemicals, Biohazards, Radioactive Materials, LASER, etc.) on the lab door. (EHS inspector will notify the appropriate group with oversight.) <i>TAMU Laboratory Safety Manual, Chapter 3 Section 3, Chapter 5 Section 1.1; 29 CFR 1910.145, 21 CFR 1040.10(q)</i>							
L302	Improper warning signs (Item of Concern): Remove from the lab door any warning signs that are not appropriate for the hazards in the lab. (EHS will notify the appropriate group with oversight.) <i>TAMU Laboratory Safety Manual, Chapter 3 Section 3, Chapter 5 Section 1.1</i>							
L303	No ECI outside lab door (Item of Concern): Post emergency contacts and off-hour phone numbers on all outer lab doors. <i>TAMU Lab Safety Manual, Chapter 5 Section 1.1</i>							
L304	Out of date ECI (Item of Concern): Update Emergency Contact Information on lab door. <i>TAMU</i>							
	Laboratory Safety Manual, Chapter 1 Section 3.2							
11. Las	ser Safety							
M100	Laser Safety.							
M101	Class IIIb and Class IV Lasers not registered with EHS (Item of Concern): EHS inspector will notify the Laser Safety Group. 25 TAC §289.301							
M102	No Laser eyewear available (Item of Concern): EHS inspector will notify the Laser Safety Group. 25 TAC §289.301							
M103	Lab personnel have not had Laser training (Item of Concern): EHS inspector will notify the Laser Safety Group. <i>TAMU Rule 24.01.01.M5 section 1(1.3)(1.4)</i>							
12. No	Unsafe Conditions Found							
NOV0	No Violations Found.							
13. Ot	her Violations							
OV00	Other: See Comments.							
14. Administrative								
P100	P100 Training.							

P101	Lab personnel lack general HazCom training (Deficiency): Laboratory employees must be provided general Hazard Communication and/or Introduction to Laboratory Safety Training prior to beginning work in a TAMU laboratory. This training must be documented and kept on file. <i>THCA Section 502.009; TAMU Hazard Communication Program, Page 5, Chemical Safety Information And Training - HSC 502.009 and 502.017(b) and Page 6; 25 TAC §295.7(b)</i>
P102	Lab personnel lack work area specific training (Deficiency): Laboratory employees must be provided Work Area Specific Training prior to beginning work in a TAMU laboratory and whenever new hazards, new equipment, and/or new processes are introduced. This training must be documented and kept on file. <i>THCA Section 502.009; TAMU Hazard Communication Program, Page 5, Chemical Safety Information And Training - HSC 502.009 and 502.017(b) and Page 6; 25 TAC §295.7(b)</i>
P103	Lab personnel lack hazard specific training (Deficiency): Laboratory employees must be provided Work Area Hazard Specific Training for extremely toxic chemicals (such as Hydrogen Fluoride, Phosgene), explosives, pyrophorics, etc., prior to beginning work in a TAMU laboratory and whenever new hazards, new equipment, and/or new processes are introduced.
P200	Documentation.
P200 P201	Documentation. No MSDS available (Deficiency): A current manufacturer-specific safety data sheet (MSDS or SDS) must be maintained and made available to lab employees for each chemical used or stored in the lab. THCA Section 502.006; TAMU Hazard Communication Program, Page 6 - Material Safety Data Sheets - HSC 502.006; 25 TAC §295.5
P200 P201 P202	Documentation. No MSDS available (Deficiency): A current manufacturer-specific safety data sheet (MSDS or SDS) must be maintained and made available to lab employees for each chemical used or stored in the lab. THCA Section 502.006; TAMU Hazard Communication Program, Page 6 - Material Safety Data Sheets - HSC 502.006; 25 TAC §295.5 Lab not decommissioned by EHS (Deficiency): Laboratories must be decommissioned by Environmental Health & Safety whenever a lab will be permanently closed or will be vacated by the current faculty member/principal investigator (PI). The decommissioning process, including a close-out inspection, must be completed prior to the new PI moving into the lab. TAMU Rules: (SAP) 24.01.01.M4.04

*The Laboratory Safety Group uses the above checklist when conducting general laboratory safety inspections. While the checklist is through, Laboratory Safety Group is not limited to inspecting only those items included in it. Any unsafe condition noted in a laboratory environment can and will be reported.

KEY:

Deficiency: Significant hazard and/or in violation of safety codes **Item of Concern:** Items in conflict with TAMU safety manual and/or good lab practices **Information:** Can make the work area safer for laboratory personnel ad emergency responders

ANSI

American National Standard Institute <u>http://www.ansi.org</u>

BMBL

Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th edition United States Department of Health and Human Services Center for Disease Control and Prevention and National Institutes of Health January 2007 <u>http://www.cdc.gov/od/ohs/biosafety/bmbl5/bmbl5toc.htm</u>

CFR Code of Federal Regulations <u>http://www.gpoaccess.gov/CFR/INDEX.HTML</u>

NFPA National Fire Protection Association <u>http://www.nfpa.org</u>

Prudent Practices

Prudent Practices in the Laboratory, Handling and Disposal of Chemicals National Academy of Sciences National Research Council Updated (2011) Edition

TAMU Rules

Texas A&M University Systems Rules (Includes SAPs – Standard Administrative Procedures) <u>http://rules.tamu.edu</u>

TAMU Laboratory Safety Manual

Texas A&M Laboratory Safety Manual http://ehsd.tamu.edu/LaboratorySafety.aspx

 TAMU Safety Manual

 Texas A&M Safety Manual

 http://ehsd.tamu.edu/documents/TAMUSafetyManual/0-TOC.htm

ТАС

Texas Administrative Code <u>http://info.sos.state.tx.us/pls/pub/readtac\$ext.ViewTAC?tac_view=2&ti=25</u>

ASTM

American Society for Testing and Materials

Environmental Health and Safety Texas A&M University

Wooley Laboratory Safety Evaluation

Date:

Room/Fume hood#: Inspected by:

1. Laboratory Security

A01 Inspector was not identified (Item of Concern)A02 Unlocked cabinets (Item of Concern)

A03 Unlocked lab (Item of Concern)

2. Electrical Safety (NFPA Code):

B01 Improper use of extension cords (Item of Concern)

B02 Electrical cords/outlets/plugs not in good condition (Item of Concern)

B03 3-way plugs present (Item of Concern) **B04** No ground fault circuit interrupter within 6' of wet area (Item of Concern)

B05 Obstruction blocking electrical panel (Item of Concern)

3. Fire/Life Safety (NFPA Code):

C01 Lab door open (Information)

C02 Obstruction blocking extinguisher (Deficiency)

C03 Obstruction blocking exit/cluttering hallway (Deficiency)

C04 Damaged ceiling tiles (Item of Concern)
C05 Extinguisher needs service (Information)
C06 Bunsen burner tubing deteriorated
(Deficiency)

C07 Obstructed fire sprinkler heads (Item of Concern)

C08 Combustibles stored within 24" of ceiling (Item of Concern)

C09 Bicycles observed in building (Information)

4. Safe Lab Practices:

D01 Personnel eating in lab (Item of Concern) **D02** Inadequate hand-washing facilities (Item of Concern)

D03 Unsecured or recapped sharps (Deficiency) **D04** Food and chemicals stored in the same refrigerator (Deficiency)

D05 Food and lab utensils washed in the same sink (Deficiency)

D06 Empty bottles are not defaced (Item of Concern)

D07 Housekeeping needed (Item of Concern)

5. Physical Hazards:

E01 Glass containers on floor (Item of Concern) *E02* Tripping hazards present (Item of Concern) *E03* Gas cylinders improperly secured (Item of Concern)

E04 Gas cylinder safety cap missing (Item of Concern)

E06 Vacuum pumps operated unsafely (Item of Concern)

E07 Tape glass under vacuum pressure (Item of Concern)

6. Fume Hood/Biological Safety Cabinet:

F01 Hood sash open (Item of Concern)F02 Item on fume hood knobs (Information)F03 Fume hood needs inspection (Information)F04 Biological safety cabinet due for certification (Item of Concern)

F05 Fume hood/biological safety cabinet cluttered (Item of Concern)

F06 Dirty fume hood/biological safety cabinet (Item of Concern)

F07 Open containers in fume hood/biological safety cabinet (Item of Concern)

F08 Chemicals stored in fume hood/biological safety cabinet (Item of Concern)

F09 Loose paper in fume hood/biological safety cabinet (Item of Concern)

F10 Electrical strips in hood (Item of Concern)*F11* Obstructions block airflow in fume hood/biological safety cabinet (Deficiency)*F12* Bunsen burner in biological safety cabinet (Deficiency)

F13 Items on front grill of biological safety cabinet (Item of Concern)

7. Personal Protective equipment/Eyewash/

Showers (ANSI Standards, TDH HazCom Act): **G01** Obstruction blocking shower/eyewash (Deficiency)

G02 Inadequate eyewash (Item of Concern) *G03* Emergency shower/eyewash has not been tested (Information)

G04 Stagnant/dirty water in eyewash (Information)

G05 Improper work attire or personal protective equipment (Item of Concern)

8. Chemical Storage (NFPA Code, TDH HazCom Act):

H01 Chemicals stored above eye level (Item of Concern)

H02 Chemicals stored on bench-top (Item of Concern)

H03 Improper storage of flammables (Item of Concern)

H04 Chemicals stored on floor (Item of Concern) *H05* Improper accumulation of chemicals (Deficiency)

H06 Faulty containers (Item of Concern)
H07 Segregate chemicals (Deficiency)
H08 Flammables found in household
refrigerator/freezer or walk-in cooler (Deficiency)
H09 Improper storage of Perchloric acid
(Deficiency)

H10 Improper dating of chemicals (Item of Concern)

H11 Improper dating of chloroform (Deficiency) *H12* Improper dating of peroxide-forming or oxidizing chemicals (ethyl ether, THF, perchloric acid, cyclohexene, butadiene, isopropyl ether and dioxanes) (Deficiency)

H13 Improper venting of flammables cabinet (Deficiency)

H14 Duct on flammables cabinet made of non-approved material (Deficiency)

H15 Vents on flammables cabinet improperly installed (Item of Concern)

9. Waste Disposal (EPA/TCEQ Regulations):

101 Uncapped waste (Item of Concern)102 Old chemicals present (Deficiency)103 Improper disposal of metal sharps (Deficiency)

I04 Improper disposal of glass (Deficiency)*I05* Old lecture bottles present (Deficiency)*I06* Improperly labeled waste (Item of Concern)

10. Autoclave (TNRCC Regulations):

J01 Autoclaved waste present (Information) J02 Improper use of autoclave tape (Information) J03 Inadequate documentation of biohazardous waste sterilization (Deficiency) J04 Improper waste storage (Deficiency)

11. Cryogenic Cylinder Safety:

K01 Cryogenic cylinder is due for service (Item of Concern)

K02 Pressure relief valve on cryogenic cylinder has been removed or otherwise compromised (Deficiency)

K03 Blow-out disc on cryogenic cylinder has been removed or otherwise compromised (Deficiency)

12. Warning Signs/Labels (TDH HazCom Act):

L01 Improper labeling of secondary containers (Item of Concern)

L02 Missing or deteriorated label on primary container (Deficiency)

L03 Emergency contact information is not posted (Item of Concern)

- L04 Inadequate signage (Item of Concern)
- L05 Unlabeled microwave (Information)
- L06 Unlabeled freezer (Information)
- L07 Unlabeled refrigerator (Information)

13. Laser Safety

M01 LASER not registered (Item of Concern) **M02** No LASER eyewear (Item of Concern) **M03** No LASER training (Item of Concern)

KEY:

Deficiency: Significant hazard and/or in violation of safety codes List all:

Item of Concern: In conflict with TAMU safety manual and/or good lab practices List all:

Information: Can make the work area safer for lab personnel and emergency responders List all:

Other comments:

Date:				

Checklist for Lab Clean Up

□ No loose paper, aluminum foil, no uncapped sharps or trash in hoods

All waste capped and secondary containers properly labeled

□ No items hanging on fume hood knobs

Personal chemicals are segregated (health, oxidizer and reactives, general, acids and corrosives)

<u>All</u> flammables in flammable cabinets

Ensure no tripping hazards in work area (cords or other objects such as trashcans and bottles)

All solvents and chemicals properly stored away

Common areas clean (countertops, balances, etc.)

Eye was stations up to date on testing

 \Box Areas around instruments cleared of vials and trash

Doors between labs closed