CHEM	Violation Code	Description	<u>Deficiency</u>	Point <u>Value</u>	Ask <u>Order</u>
	CHEM1	Chematix barcode labels are not found on all primary chemical containers All chemical reagent bottles or chemicals directly purchased from a vendor must be entered into the Chematix inventory database and have a bar code label affixed. Please contact Duane Slack (Chem. Mgmt Information Specialist) @ 4-6128 for assistance. The chemical inventory reconciliation reporting periods are January 1 to mid-June and July 1 to mid-December.	⊴		13
	CHEM2	Chemicals are not segregated according to hazard class Chemicals need to be separated by hazard class types (flammables, pyrophorics, organic solvents, inorganic solvents, corrosives, acids, and bases, and oxidizers, etc. separated). A member of the Chemical Safety team, the Georgia Tech Laboratory Safety Manual, or Prudent Practices in the Laboratory: Handling and Disposal of Chemicals can be referenced for additional guidance.	Ø		14
	СНЕМ3	Acids are not segregated by type (inorganic and organic) Chemicals need to be separated by hazard class types (flammables, pyrophorics, organic solvents, inorganic solvents, corrosives, acids, and bases, and oxidizers, etc. separated). A member of the Chemical Safety team, the Georgia Tech Laboratory Safety Manual, or Prudent Practices in the Laboratory: Handling and Disposal of Chemicals can be referenced for additional guidance.			15
	CHEM4	Hazardous chemicals are stored higher than shoulder height EHS requires all hazardous liquids to be stored no higher than shoulder height. Solutions, mixtures, and other liquid chemicals stored on high shelves increases the chances that a spill or fallen containers can occur, putting yourself or other people at risk of exposure and/or injury.	☑		16
	CHEM5	Chemical containers found bulging/leaking/crystal-forming/cracked caps All chemical storage containers (reagent bottles, in-house containers, etc.) must be free of cracks, leaks, corrosion, or any other visible damage that might compromise the integrity of the container.	Ø		17
	CHEM6	Multiple open containers of same chemical Multiple open containers of the same chemical is viewed as "storage in lieu of disposal" and is EPA fineable. Exceptions to having more than one container of the same chemical open include different grades of the same chemical (difference in molarity, strength, etc.) or multiple owners of the same chemical.	Ø		18
	CHEM7	Secondary containment is not under hazardous liquids All hazardous liquids must be kept in some type of secondary containment. Hyperlinks where this can be purchased are in the body of the e-mail.	☑		19
	CYL1	Gas cylinders are not secured with chain or strap between middle and shoulder	\square		24

CHEM	Violation Code	Description	<u>Deficiency</u>	Point <u>Value</u>	Ask <u>Order</u>
	CYL1	Gas cylinder restraints (chain or straps) must be positioned between the center and the "shoulder" of the cylinder to prevent them from falling.			
	CYL2	Multiple gas cylinders secured with one restraint			25
		Gas cylinders are required to have no more than 2 cylinders per restraint.			
	CYL3	Gas cylinders without a regulator in place do not have safety caps			26
		All gas cylinders not hooked up to a regulator and in use must be capped. This is to prevent the head/neck from getting broken/cracked if the cylinder was to get knocked over.			
	CYL4	Toxic gases present in lab are not in gas cabinet or in Dangerous Gas Monitoring System	\square		27
		All toxic gases (NFPA Health Hazard Rating of 2 with poor warning properties, 3, or 4) must be kept inside of a gas cabinet and continuously monitored via dangerous gas monitoring equipment. Lecture bottles that can be kept in a fume hood are exempt from this requirement.			
	CYL5	Flammable gases (greater than 4% flammable) present in lab are not in Dangerous Gas Monitoring System	\square		28
		Flammable gases in a laboratory equipped with fire suppression sprinklers are required to have excess flow devices and stainless steel gas lines. Flammable gases in a laboratory that is not sprinkled must have excess flow devices installed, stainless steel gas lines, and must be continuously monitored via dangerous gas monitoring equipment. Compliance date for existing labs is 2015; labs under renovation must include the gas monitoring equipment during setup.			
	CYL6	Reserve gas cylinders are not limited to one per operation/process			29
		According to NFPA 45 (Fire Protection for Laboratories Using Chemicals) no more than 1 reserve cylinder is allowed for each type of process in the laboratory. Additional reserve cylinders must be kept at a location outside of the laboratory and/or outside of the building in a separate storage area. Stockpile of cylinders is not allowed under any circumstances in the laboratory.			
	ELEC1	Electrical panel obstructed			32
		According to NFPA 45 (Fire Protection for Laboratories Using Chemicals) there must be at least 3 feet of unobstructed access area around any electrical box or panel that serves as a means to cut the power to items in the room.			
	ELEC2	Permanent equipment powered by extension cords	\square		33
		Permanent equipment (in place = 6 months) has to be hard-wired permanently and is not allowed to be supported continuously with extension cords.			

OUEM	Violation Code	Description	Deficiency	Point Value	Ask Order
CHEM	<u>violation oode</u>	Description	<u>Beneficiney</u>	<u>value</u>	<u>Order</u>
	ELEC3	Extension cords (on temporary equipment) are not adequately grounded/rated			34
		Extension cords used on temporary equipment need to be a large enough gauge to handle the electrical load demanded by the equipment it is serving. The cord must also be grounded via 2-prong polarized plugs or 3 prong-plugs.			
	ELEC4	Outlets near sink are not GFCI-equipped	\square		35
		NFPA electrical code states that sinks within 6 feet of a sink must have ground-fault circuit interrupters installed to reduce electrocution hazards exacerbated by proximity to a water source.			
	ELEC5	Electrical cords frayed and/or damaged	\square		36
		Electrical cords must be free of damage in order to decrease the risk of electrocution and/or fire.			
	ELEC6	Equipment is not grounded via 3-prong plugs or polarized 2-prong plugs	\square		37
		All electrical equipment must be properly grounded with 3-prong or 2-prong polarized plugs to reduce the risk of electrocution and/or fire.	•		
	ELEC7	High-voltage equipment is not labeled, grounded, and/or insulated	\square		38
		High voltage equipment (>600 volts) must be appropriately marked, insulated, and grounded to reduce the risk of hazard imposed on individuals using this equipment.			
	EMER1	Eyewash is not available within 10 second access and/or is not of hands-free design	\square		39
		Eyewash units (and safety showers) must be available within 10 seconds of anywhere in the laboratory and must remain unblocked by equipment, furniture, or any other obstruction(s) at ALL times.			
	EMER2	Eyewash obstructed	$\overline{\mathbf{Q}}$		40
		Eyewash units (and safety showers) must be available within 10 seconds of anywhere in the laboratory and must remain unblocked by equipment, furniture, or any other obstruction(s) at ALL times.			
	EMER3	Record does not indicate eyewash has been checked weekly	\square		41
		Lab personnel are required to conduct a weekly test of drained eyewash stations. This involves flushing the line for about ten seconds to prevent the accumulation of any rust or other sediments in the water lines; this also ensures that it stays in working condition. Please sign off on the attached tag upon checking.			

CHEM	Violation Code	Description	<u>Deficiency</u>	Point <u>Value</u>	Ask <u>Order</u>
	EMER4	Safety shower is not available within 10 second access and/or is not of hands-free design	Ø		42
		Safety showers (and eyewash units) must be available within 10 seconds of anywhere in the laboratory and must remain unblocked by equipment, furniture, or any other obstruction(s) at ALL times.			
	EMER5	Safety shower obstructed	\square		43
		Safety showers (and eyewash units) must be available within 10 seconds of anywhere in the laboratory and must remain unblocked by equipment, furniture, or any other obstruction(s) at ALL times.			
	EMER6	Record does not indicate safety shower has been checked within last 12 months			44
		Georgia Tech Facilities are tasked with performing annual working checks on the shower and/or eyewash units that are not drained. The Facilities group for your area will be notified to check this as soon as possible.			
	EMER7	Inappropriate fire extinguisher			45
		There are various types of extinguishing media (ABC, CO2, Metal X, Clean Agent, etc.) that are appropriate for extinguishing fires in the laboratory while best protecting equipment and mediating the fire hazard. EHS will report this to the Fire Safety Office and will ensure that the correct type is installed in your lab.			
	EMER8	Record does not indicate fire extinguisher has been hydrostatically tested and/or no monthly visual inspection			46
		Lab personnel are required to perform monthly visual inspections of their fire extinguisher and sign off on the attached tag. This visual inspection entails a) making sure it is present, in its correct place, b) inspecting the hose/cylinder for cracks or any visible damage, c) ensuring the pin is in place, and d) checking the gauge indicator (ABC extinguisher) to make sure it is in the "green" area (good level of charge, not over or under). Fire extinguishers are required to be hydrostatically tested every (5 or 12 years, depending on the type of extinguisher and the chemical or substance it uses); should this found to be out-of-date, please contact EHS so the contractor can take care of this.			
	EMER9	Fire extinguisher is not visible or accessible			47
		Fire extinguishers should be stored in plain view and readily accessible to all, preferably located near the entrance to the room.			
	EMR10	Spill kit is not present in lab and/or appropriate and/or accessible			48
		All laboratories using chemicals of any kind are required to obtain an appropriate spill kit and clearly mark its location in the lab; hyperlinks for purchase options are included in the body of the e-mail report.			
	EMR11	All exit doors are not clear and/or unobstructed	\square		49

CHEM	Violation Code	Description	<u>Deficiency</u>	Point <u>Value</u>	Ask <u>Order</u>
	EMR11				
		NFPA 45 (Standard on Fire Protection for Laboratories Using Chemicals) states that all exit doors remain clear and unobstructed so as to allow means for entry and exit.			
	EMR12	Hand washing facilities/sinks are not available and/or not working			50
		Hand washing facilities/sinks are required in all wet bench laboratories.			
	EMR13	Hand towels and/or soap are not present in lab			51
		Soap and paper towels are required for use in all wet-bench laboratories. If custodial personnel are not allowed in the lab, then lab personnel are responsible for ensuring hand soap and towels are present.			
	FIRE1	Flammables are not stored in flammable safety cabinet when not in use	\square		20
		Flammable materials must be stored in a Flammable Safety Cabinet when not in use.			
	FIRE2	Flammable materials are not limited to 10 gal/100 sq ft of compartment			21
		NFPA requires flammable materials to be limited to 10 gal/100 sq. ft. of compartment in laboratories. EHS will assist in suggesting means of corrective action.			
	FIRE3	Flammables are stored in non flammable-safe/explosion proof refrigerator/freezer	\square		22
		Flammable safe/explosion-proof refrigeration units are required for the storage of any flammable material.			
	FIRE4	Items stored on shelves higher than 19 inches below the ceiling			23
		Combustible items (boxes, paper products, electrical devices) must be kept at a clearance of 19" below the ceiling in sprinkled laboratories to allow the sprinklers an adequate, unobstructed pathway in the event of a fire.			
	HOUS1	Aisles clutterd/obstructed	\square		9
		All main egress aisle ways must be cleared and unobstructed for access in or out of the room. NFPA requires aisles have 48" clearance and side aisles must maintain a clearance of 44".			
	HOUS2	Trip hazards present in lab	\square		10
		Hoses, cords, wires, etc. may pose as trip hazards throughout the lab if found on lab floor. These and any other obstructions need to be removed from the floor or covered over with cord ramps/covers. Hyperlinks are included in the body of the email for purchase			

CHEM	Violation Code	Description	<u>Deficiency</u>	Point <u>Value</u>	Ask <u>Order</u>
	HOUS2	options.			
	HOUS3	Food/drink/dishes evident of consumption found in the lab No food or drink is allowed in any wet bench laboratory here at Georgia Tech, in the interest of good chemical hygiene, as well as in the interest of contaminating samples or products used/made in the lab. All food/drinks must be consumed outside of the laboratory.	Ø		11
	HOUS4	Benchtops are cluttered with dirty glassware/unused equipment/samples Benchtops are expected to be kept reasonably clear of excess clutter/glassware/other items to reduce accidental spills and breakages due to overcrowding.	Ø		12
	IGN1	Ignition sources present in the lab (and are not lifted 24" from floor) Training Issue: All electrical equipment may act as an ignition source and must be either stored off the floor 24" or for large items that cannot be moved must become a part of the lab orientation and training, whereby all occupants of the lab are trained to recognize the associated hazards of water leaks and solvent spills near this equipment.	☑		30
	IGN2	Ignition sources are not segregated from flammables/combustibles Flammable materials should be kept separated by spatial segregation or physical barriers from sources of ignition (electrical, mechanical, etc.) that could cause a fire.	☑		31
	INSP1	Documentation of weekly self lab inspection is not present in lab All labs are required to conduct weekly self lab inspections and provide documentation of such.	Ø		70
	LASR1	Class IIIb and IV lasers are present in lab Class IIIb and IV lasers must be registered with the Georgia Department of Health and must comply with the American National Standard Institute (ANSI) Standard for Safe Use of Lasers (Z136.1). Please contact Georgia Tech Laser Safety Officer, Gary Spichiger @ 4-3605 for more information.			66
	LASR2	Other items present that need to be referred to other EHS specialties - Biosafety, Radiation Safety, Fire Safety, Hazardous Materials, General Safety If anything was noted that needs to be brought to the attention of the EHS Fire, Biological, Radiological, General, or Hazardous Materials group it will be noted here and a copy of the report will be forwarded to the appropriate persons.			67
Dogo 6	PIO	Emergency notification is not posted outside door with PI/lab manager name and phone number			1

Georgia Institute of Technology

		9)	Point	Ask	
CHEM	Violation Code	Description	<u>Deficiency</u>	<u>Value</u>	<u>Order</u>
		All GT laboratories must have emergency contact information posted on the outside of the door to provide first responders with the names and telephone numbers of lab personnel who can answer questions about the equipment, chemicals, or other hazards present in the lab. Telephone numbers must include day and night numbers.			
	PPE1	Lab personnel are wearing inappropriate lab attire	$\overline{\mathbf{Q}}$		52
		Close-toed shoes, long pants, and tops that cover the torso are required in all GT laboratories.			
	PPE2	Safety glasses/goggles are not being worn in lab	$\overline{\mathbf{Z}}$		53
		Safety glasses must be donned at doorway when entering these types of labs. Face shields are required over safety glasses in labs with equipment operating at greater than or equal to 30 psi.			
	PPE3	Gloves are not being used while working with chemicals and/or inappropriate type	\square		54
		Nitrile gloves are the recommended all-purpose gloves; solvents are readily absorbed through latex gloves.			
	PPE4	Lab coats are not available/appropriate and/or are not being used	\square		55
		Lab coats are required when working in wet-bench laboratories (lab coats made of 100% cotton are required in labs with open flames; flame-retardant lab coats are required in labs using pyrophorics)			
	RESP1	Respirators present in lab that are not consistent with those enrolled in GT Respiratory Protection Program	\square		56
		Respirators may not be used in Georgia Tech laboratories without prior approval of GT EHS. The procedure for determining whether or not a respirator is necessary is: 1) hazard assessment to include sampling of airborne contaminants, 2) medical clearance of the user, 3) fit-testing of the user, and 4) training of the user. Please contact Perry Craine @ 404-516-3984 for more information on the Respiratory Protection Program.			
	RTK1	Updated Chematix inventory is not posted			7
		GT labs must have a copy of their updated Chematix inventory posted somewhere on or near the door in a clearly visible location. This is so emergency responders or anyone else not familiar with the laboratory can be informed of the chemicals present.			
	RTK2	MSDS information is not posted in lab	\square		8
		MSDS information for each chemical in your laboratory is required; the MSDS information must be posted somewhere in the laboratory (preferably on the door, or somewhere in close proximity) identifying places that lab occupants can find pertinent MSDS information. The attachment included entitled "MSDS may be found" can be posted. Paper copies in binders or folders are also acceptable.			

CHEM	Violation Code	Description	<u>Deficiency</u>	Point <u>Value</u>	Ask <u>Order</u>
	SEC1	Entry into lab is not limited/restricted	\square		6
		Lab doors should be kept locked at all times, particularly when the lab is unoccupied. If the lab is unlocked during occupancy, lab personnel should inquire about any unknown person's presence in the lab.			
	SHARP	Sharps/broken glass containers are not available as appropriate	\square		65
		Sharps (needles, scalpels, razor blades, etc.) must be disposed of in appropriate sharps container; plastic containers are appropriate for sharp metal. Cardboard boxes are appropriate for broken glass/glassware. Bottles should always go into the glass waste uncapped.			
	SIGN1	GT Laboratory Emergency Procedures is not posted	\square		2
		All GT laboratories must have the EHS-issued Emergency Procedures protocol posted on or somewhere near the telephone or the door of the lab highlighting the correct steps to take in case of an emergency; an attachment is included entitled "Emergency Procedures" in the body of this email to post.			
	SIGN2	"No food/No flammables" sign is not posted on refrigerator/freezer/microwave			3
		"No Food/No Flammables" signage must be displayed on all lab microwaves and refrigerators designating this equipment for laboratory/chemical use only. "No Food/No Flammables" signage is attached in the body of the e-mail.			
	SIGN3	Biohazard warning label is not posted on refrigerators, freezers, and/or storage units housing biological materials.			4
		Biohazard warning labels must be posted on all refrigerators, freezers, and storage units housing biological materials.			
	SIGN4	RTK/NFPA compliant hazard class labels are not on in-house made, secondary, or extended-use containers	\square		5
		All secondary chemical containers, including in-house made solutions/mixtures in use for longer than 1 shift/1 day, must have RTK/NFPA hazard class information on them. Hyperlinks are included in the body of the email for purchase options.			
	TRNG1	Training documentation for all group members is not present in lab	\square		68
		Lab groups are required to keep a copy of training records in the lab to demonstrate that lab personnel have received the appropriate training. This includes, but is not limited to, Right-to-Know, Basic Lab Safety, and Waste Handling. Specific training records may include Biological Safety/Bloodborne Pathogens, Hazardous Materials Shipping training, and Radiation/Laser Safety training.			
	TRNG2	Process specific training documentation is not present in lab	\square		69

CHEM	Violation Code	<u>Description</u>	<u>Deficiency</u>	Point <u>Value</u>	Ask <u>Order</u>
	TRNG2	Lab groups are required to keep a copy of training records in the lab to demonstrate that lab personnel have received the appropriate training. This includes, but is not limited to, Right-to-Know, Basic Lab Safety, and Waste Handling. Specific training records may include Biological Safety/Bloodborne Pathogens, Hazardous Materials Shipping training, and Radiation/Laser Safety training.			
	VENT1	Fume hood(s) have not been checked by GT EHS/SafetyPlus within last 6 months Fume hood performance is checked semi-annually; a record of this is available in the form of a green tag affixed to the fume hood. If the fume hood in your laboratory has not been checked within the last 6 months, EHS will return to check fume hood performance.			57
	VENT2	Fume hood(s) not operating between 80 and 120 lft/min according to controller If fume hood is not performing within these parameters, EHS will issue a work request to the proper Facilities group to ensure that this is addressed. EHS will then return to re-certify hood once the work is completed.			58
	VENT3	Fume hood sash(es) not closed/lowered when not in use When a fume hood is not in use, the sash must be closed or lowered to a) help protect lab users from unforeseen accidents such as explosions and b) save on the amount of energy consumed by the fume hood.	☑		59
	WAST1	Waste is not stored in easily accessible location EPA requirement. Waste must be stored in the area/surrounding areas in which it was generated. Designated 90-day storage areas are exempt from this requirement.			60
	WAST2	Waste is not properly labeled with description of contents/fill-start date/owner's name EPA requirement. All chemical waste containers must be clearly labeled with owner's name, chemical name, and approximate percentage of constituents from the time the bottle is started. Also, fill-start date needs to be included. Labels for waste can also be generated from Chematix. Waste pick-ups can be scheduled via Chematix or by calling Ed Pozniak (Hazardous Materials Manager) @ 4-6224.	☑		61
	WAST3	Waste is not in compatible container(s) EPA requirement. Waste must be kept in compatible containers so as to prevent degradation. Examples include: no acid in metal containers, no hydrofluoric acid in glass containers, no mercury in aluminum containers, etc.	☑		62
	WAST4	Waste containers are not kept closed when not in use EPA requirement. Unless physically standing in front of the container adding waste, the container must be kept closed.	Ø		63

04	/n	2	12	U	1	3

CHEM	Violation Code Description		<u>Deficiency</u>	<u>Value</u>	<u>Order</u>
	WAST5	Waste containers are not kept in secondary containment			64
		EPA requirement. All chemical bottles/containers must be kept in secondary containment except when waste is being added. Hyperlinks for purchase options are in the body of the e-mail.			