



Chemistry Local Safety Team Meeting Minutes **APPROVED**

Name of Team: Chemistry Local Safety Team

Chair(s): Derek Gates & Monica Clarkson

Date: August 17, 2023

Time: 11:01 am

Location: Online Zoom Meeting

AGENDA:

<ol style="list-style-type: none"> 1. Roll Call 2. Approval of Previous LST Meeting Minutes 3. Additional Agenda Items & Approval of Agenda 4. Review Central Accident/Incident Reporting System (CAIRS) report of Accidents/Incidents <ul style="list-style-type: none"> • Monthly Incident List & Statistical Summary Report 5. Review Workplace Safety Inspections (including any changes to equipment, machinery or work processes that may affect the health or safety of workers) 	<ol style="list-style-type: none"> 6. Review Education and Training 7. Ongoing Business – Status of Action Items, Review of Previous Minutes 8. New and Other Business 9. Next Meeting 10. Meeting Adjournment
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1. ROLL CALL

Worker Representatives	Work Location	Present	Regrets	Absent
Guillaume Bussiere	Chemistry - Teaching Faculty	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Karen Button	Chemistry – M&P, Stores Manager	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ken MacFarlane	Chemistry - M&P, Director, Finance and Operations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mohamad Rezaei	Chemistry - M&P, Director, Technical Services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tori Christianson	Chemistry – CUPE 2950, Outreach and Communications	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Patrick Dever	Chemistry – Shops and Services Tech	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ben Herring	Chemistry – Research Tech	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jacqueline Higgins	Chemistry – Graduate Student	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cameron Zheng	Chemistry – Graduate Student	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Employer Representatives	Work Location	Present	Regrets	Absent
Derek Gates	Chemistry – Faculty, Co-Chair	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monica Clarkson	Chemistry - M&P, Co-Chair & Safety Program Officer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Resources/Guests	Work Location	Present	Regrets	Absent
Richard Wambolt	UBC Safety & Risk Services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. APPROVAL OF PREVIOUS LST MEETING MINUTES

(Statement to indicate minutes of previous meeting have been read & acknowledged and to record any corrections to it)

Are the minutes approved?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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3. ADDITIONAL AGENDA ITEMS & APPROVAL OF AGENDA

Is the agenda adopted? Additional CAIRS reports were added.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:

See attached incident report:

- Monthly Incident List & Statistical Summary Report (*make note of trends etc. For any general CAIRS information that requires discussion or action, please record under "New Business". Any incident specific items and follow up requests are to be listed below*)

(* See Legend at End for Priority and Status Codes)

Item # (Use CAIRS Incident ID #)	Priority	Date	Action Plan (Actions Taken/Need to be taken)	Assigned To	Follow up: Date Pending	Status
129681 / 129682	C	Jul 22, 2022	Grad student removed Pasteur pipette with phenylbis(trimethylsilyl)phosphine residues on it from glovebox and discarded it into plastic glass waste bucket with plastic bag liner. The plastic bag liner was ignited by chemical residues that remained in the pipette. <ul style="list-style-type: none"> Lengthy discussion regarding glass waste buckets; no recommendations established. DG conducted a straw poll of faculty at the Sep 29 Faculty Meeting. Faculty are in favour of metal glass waste containers. 	DG/MC	In Progress	IP



4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:						
			<ul style="list-style-type: none"> Response from the Waste Management team from Building Operations was received on Dec 19, 2022. They have discontinued the metal pails. If the department would like to purchase and re-stock the metals pails, the Waste Management team would service them as needed. Monica to check if there are still any discontinued pails available for use. Metal pails are currently still available to UBC Chem and are still being circulated. There is approximately a 50/50 ratio of metal to plastic pails, which are in circulation within the department. After further discussions with UBC Waste Management, they have agreed and confirmed that it is okay for us to label and use the existing metal pails with "UBC CHEM". Once the metal pails have been labelled, the waste management team will be trained to deliver the metal pails to the department. Signage with instructions will be posted in the glass waste room to encourage synthetic lab users to use the metal pails. Chem Tech Services have provided us with a stencil for this project. We will start the spray paint the metal pails in the coming weeks. <p>LST Comments: Spray painting has started and is in progress.</p>			
131343/131352 131357/131340 131356/131353 131351/131339		May 16, 2023	<p>4L Dichloromethane Spill at Chemistry Stores At approximately 15:55 pm, two customers arrived at Chemistry Stores (ChemStores) at B170 of the Chemistry Department to pick up their order (Planon order 201482.00). That order included two 4L bottles of ACS grade Dichloromethane CAS: 75-09-2 (DCM).</p> <p>Due to the stores closing in five minutes, storeperson helped customer collect items by gathering two of the</p>	MC/BH/KB/CZ	Complete	C

**4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:**

			<p>items while the customers were picking the flammable solvents from the solvent shed outside the ChemStores loading bay. The storeperson took two 4L bottles of DCM and placed them on the floor in front of the main bench in front of aisle four. Upon re-entering the stores from the loading bay, the storeperson told the customers to pick up the bottles.</p> <p>The customer picked up one bottle of DCM and immediately slipped from their hand. It hit the floor and shattered.</p> <p>Upon witnessing the accident, the storeperson immediately told everyone in the ChemStores to vacate B170. At that point in time, the other people present in the ChemStores were: 4 customers total, 3 storepersons, stores manager, ThermoFisher Supply Center specialist. The customers did not react at first. The storeperson then placed on their respirator and walked over to the customers to order them to vacate the stores. Stores Manager also reiterated that everyone needed to leave. All of B170 (except for 2 storepersons and stores manager) was vacated in approximately 1 minute.</p> <p>Storeperson walked over to aisle 5 to pick up three spill pillows and gave them to the other storeperson. They then walked outside the ChemStores into the hallway to retrieve the spill cart.</p> <p>15:57pm Stores Manager called Safety Officer to advise what happened, directed to call 911. Exited Stores, remaining two storeperson also exited Stores. Storeperson left the spill cart unused in Stores and exited to the hallway. Safety Officer said they were going to call Campus Security. Campus Security was called at 15:58pm and was directed to notify SRS pager.</p>			
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**4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:**

			<p>15:58pm Stores Manager called 911 to report spill, request hazmat team. Call lasted 2 minutes.</p> <p>16:01pm Stores Manager called Safety Officer to update and walked to front of B wing to wait for fire response. Two storepersons were outside ChemStores controlling access.</p> <p>16:05pm Stores Manager called Director, Finance and Operations to advise about ongoing situation. Could hear sirens of approaching fire response during this call.</p> <p>Stores Manager met fire response on Main Mall, explained situation/what spilled and showed them to Stores via the outside path to shipping/receiving door. Met Safety Officer there, connected them/fire response. The exterior shipping/receiving door had been left open (with staff person standing outside to control access). Fire response took over scene and they controlled entry to building. No staff reentered B-wing 170. I explained to them where the broken bottle was, that the bottle had shattered and that everyone had been evacuated. They asked for spelling of chemical name, provided as dichloromethane and methylene chloride.</p> <p>Campus Security was also present.</p> <p>Two storepersons and myself stayed on scene with Safety Officer, Director, Finance and Operations and emergency responders. Glass was cleaned up by hazmat crew. They also collected the spill pillows and put them in a plastic bag, and placed them in the fume hood in B170D, the bag was left open to allow the solvent to evaporate. They also brought out boxes of stock that had been splashed by DCM. The boxes were put on the ground outside the shipping/receiving area. The contents were checked and the inner goods were not soaked or damaged, just the exterior cardboard boxes.</p>			
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**4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:**

		<p>Custodians were notified not to enter stores that evening or transit through the room. Notification by Stores Manager to custodian on 4th floor of A-wing, that person then notified the rest of the crew that worked in those two buildings not to enter Chem Stores or transit through to dumpsters/recycling outside. "Do Not Enter" signage was posted at both entry doors to Stores. It was also reported via a service request in Planon.</p> <p>Fire response/Hazmat crew gave all clear at 17:40pm. No staff reentered B170 until this point. They used a VOC detector and stated the ppm level in stores was 0ppm except at the localized area of the spill right at floor level where it measured 0.6ppm. Safety Officer, Director, Finance and Operations, storespersons and myself secured stock that had been removed from stores (unpacked bags/inner goods from cardboard boxes that were saturated – the goods were brought back into Stores, the boxes were left outside overnight). Storespersons and I collected personal belongings, locked up Stores/set alarm and left.</p> <p>Actions and Resolutions:</p> <ol style="list-style-type: none">(1) To update procedures and to provide training for staff for handling solvent bottles to emphasize that they should be placed in secondary containment.(2) Provide and train staff with emergency response procedures.(3) Train staff on spill response procedures for common solvents and other chemicals held in stores as well as other received chemicals.(4) Setup calendar reminders for yearly fit testing of respirators. Due date for next fit-test written on the respirator storage location. Reminder to staff of proper use			
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4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:						
			<p>for respirators. A few staff are not permitted to use their respirators until they have completed the fit-test recertification.</p> <p>(6) Send updated procedures to everyone once completed. Items 2 and 4 have been completed. RW to help Chem LST with spill response for Chem Stores Staff.</p> <p>A question was raised, “do lipped carts count as secondary containment? Lipped carts do not count as secondary containment.</p> <p>The draft of the Safe Transport of Hazardous Materials was discussed and minor edits were suggested. This will be further discussed and will be reviewed offline.</p> <p>LST Comments: All corrective action items have been completed. This incident is closed.</p>			
131573/131568	C	June 22, 2023	<p>KOH Spill</p> <p>Before: Last user of the sample container did not screw the lid on properly.</p> <p>During: Potassium hydroxide solution (1 M) slashed on the face of the employee when the container detached from the lid and fell.</p> <p>The lid from a plastic graduated sample container was not screwed on tightly and when the employee picked up the sample, it detached from the bottom, fell on the counter and splashed at the employee in the face on their right cheek. The container originally had less than 100 mL of potassium hydroxide solution. Safety glasses were worn and no solution made it into the employee’s eyes. Also noting none of the solution entered the worker’s mouth.</p> <p>Immediately After: Face and eyes were washed at the eye wash station for 10 min. First aid was called the next day to do a follow up check.</p>	MC/MS/RW	Complete	C



4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:					
			<p>The spill was cleaned up using the CHEM-SWP-001 Acidic Basic Spill Clean Up guidelines.</p> <p>During investigation: Although the worker indicated they were okay and had no skin irritation, the worker was recommended to contact a physician as indicated in the SDS.</p> <p>It was noted that gloves, long pants and appropriate footwear were being worn. However, a lab coat was not being worn.</p> <p>Actions and Resolutions:</p> <ul style="list-style-type: none">(1) Remind all workers and students to hold the sample containers by the base and not at the lid.(2) Send emergency response procedures for chemical exposure and acidic and basic spill to all workers and students.(3) Remind workers that UBC First Aid should be called immediately after an incident.(4) Update the SOP to include that lab coats must be worn for this particular task. Notify all workers of the updated change. <p>The lab is currently set up as a hybrid space with engineering on one side of the lab and the chemicals located on the other side. It was requested by the LST to review the PPE requirements for the entire lab. MC and RW to schedule a site visit.</p> <p>All corrective action items have been completed.</p> <p>LST Comments:</p> <p>MC and RW evaluated the space and discussed the PPE requirements for tasks done within the lab. The lab users demonstrated that they were able to manage the different</p>		



4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:						
			<p>PPE requirements with training, signage, maps, and space boundaries. It was also determined that in some areas, such as the workshop area, the minimum UBC Chem PPE requirements are not recommended. Unless there are any changes to the lab and the tasks being done, the lab can continue to keep their current PPE requirements as is. This incident can be closed.</p>			
131636/131638	C	July 5, 2023	<p>Back Strain Student Worker emailed Thursday July 6th to report a sore back from working in Chemistry Stores on Wednesday July 5th. The student worker reported that they had woken up on Friday June 30th with back strain, which occurred from home activities. They worked a 3-hour shift on June 30th and experienced no additional strain. They returned to work again on July 5 for a 3-hour shift. During this shift, they removed a box located on a higher shelf, which weighed about 40 lbs and may have aggravated the back pain to return. The incident was first reported by the student worker on July 6th to their supervisor.</p> <p>Actions and Resolutions: (1) Notify worker to communicate to their supervisor of any circumstances that may aggravate a pre-existing condition so accommodations can be made.</p>	MC/CZ/KB	In progress	IP



4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:

			<p>(2) Remind worker that they must report all first aid incidents to UBC First Aid in the event of an incident.</p> <p>(3) Review and provide training to worker for lifting overhead.</p> <p>(4) Remove any heavy items that are being stored up high. Items 1 and 2 have been completed.</p> <p>LST Comments: All corrective action items except for item 3 have been completed.</p>			
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4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:						
131691/131698	C	July 14, 2023	<p>Release of Heavy Metal and Acidic Waste A bottle of waste Raney Ni in acid was not completely reacted and the glass bottle was stored in the acid cabinet (under the fume hood) for the CHBE level 2 fume hood shutdown. The glass bottle was completely sealed and built-up pressure and burst. Two employees found the spill, neutralized with base and used the spill kit to clean up the neutralized material.</p> <p>Additional comments from investigation: The Raney nickel waste was being collected over a long period by various users. The waste was not being quenched immediately, so the users were not aware of who left the waste. In addition, the current researchers were unaware of the amount of Raney nickel included in the waste. Quenching an unknown amount of any material can be very dangerous. Also, in preparations for a scheduled fume hood shut down, the lab users decided to quench the existing Raney nickel waste. They did not have proper quench procedures available to them and they were not trained. The researchers were also unaware of the amount of Raney nickel that was inside the waste. They started to quench the unknown amount of Raney nickel two days before the shutdown. They assumed that the quench process was completed, so they closed the lid of the glass waste container and placed it in directly below the fume hood inside of the chemical storage cabinet. When the lab users arrived a couple days after. They noticed that the glass waste container, which contained the Raney nickel waste was broken with its contents spill inside the cabinet of the chemical storage cabinet. They tested the pH of the spill and neutralized it with materials from</p>	MC/CZ	In Progress	IP

**4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:**

			<p>the spill kit. They used a brush and dust pan to collect the neutralized waste.</p> <p>The spill kit did not have spill procedures nor did it include pH paper.</p> <p>Actions and Resolutions:</p> <p>(1) Create a SWP detailing the proper quenching procedure for Raney Ni and include detailed spill clean-up procedures. SWP should include proper training, handling, storage, and quench procedures for Raney Ni and its disposal.</p> <ul style="list-style-type: none">• Do not store Raney nickel waste for long periods of time. As soon as it is possible the waste must be properly quenched and properly disposed of. If you cannot immediately quench and dispose of the Raney nickel waste the waste must be properly labeled with the chemical name and contents, contact name, contact information, hazardous statement, and date.• During the quenching process, remove any flammables from quenching space.• During the quenching process, unplug/de-energize equipment next to reaction site. <p>(2) Purchase cut proof gloves.</p> <p>(3) Add pH paper and spill procedures to the spill kit</p> <p>(4) Provide researchers information about the lab exit protocols for when someone is leaving the lab and will not be returning.</p> <p>It was emphasized that waste disposal and training should be a part of the procedures. In addition, there are other methods to achieve hydrogenation and it was suggested to the research group to use Raney Co, which is less reactive</p>			
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4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:

			<p>and much easier to handle and dispose of. It was also noted that venting caps that are available.</p> <p>LST Comments: Items 1 and 4 have been completed. This incident is in progress.</p>			
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4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:						
131749/121750	C	July 27, 2023	<p>Trifluoroacetic acid (TFA) skin contact</p> <p>The injured student was performing a peptide cleavage reaction in the fume hood. This requires the use of concentrated trifluoroacetic acid (TFA). The student had clamped a glass column with fritted disk (approx. 20-30 mL) to a stand in the fume hood and was getting ready to rinse the sides of the column with TFA using a glass Pasteur pipette. Before beginning the rinse, they accidentally pressed the bulb of the pipette and approximately 1 mL of TFA squirted onto the student's shirt. The pipette was being held towards the student's direction and not the column. The sash of the fume hood was close to the required mark. The student was not wearing goggles nor a lab coat at the time of the incident. Nitrile gloves and long pants were being worn. The student was previously trained, was following previously established procedures, and has been doing this task regularly for over a year.</p> <p>After the skin contact, the student asked another student present in the lab for help. This student guided the injured party to a drench hose which was located directly behind the fume hood and began rinsing the affected areas for 5 minutes. The student was able to remove the drench hose from the holder and use it directly on their body. After 5 minutes the water from the drench hose started to warm up, which caused the chemical burn to feel worse. At this time, the Chemistry Safety Program Officer was contacted. The Safety Officer recommended that the injured party use the emergency shower for a minimum of 15 minutes, while they contacted UBC First Aid and notified the SRS pager. The student went to the other eyewash/shower station located within the same room but declined to use it. The student used the showers on the lower level of Chem D, at</p>	MC/CZ/KM	In Progress	IP

**4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:**

		<p>which time they realized they had additional chemical contact on their left leg. All affected areas were rinsed for a minimum of 15 minutes. After the area was rinsed, the student was driven to the UBC hospital by UBC First Aid/Campus Security at around 10:30a. The injured party saw a doctor at the hospital.</p> <p>Actions and Resolutions:</p> <p>(1) Review the existing SWP procedures and update deficiencies. Include items listed below.</p> <ul style="list-style-type: none">• Pasteur pipette should be pointed away from the user• All required appropriate PPE should be worn at all times in a lab• Make sure the fume hood sash is at the appropriate level and to use a shield if the sash is unable to protect the user from being sprayed• To add a comment that holding the column at the time of the rinse is not recommended. <p>(2) To remind and train workers to wear the appropriate PPE required for the task.</p> <p>(3) Once procedures have been updated provide training to the research group.</p> <p>(4) To provide research group with proper emergency procedures for chemical exposure and to highlight that UBC First Aid must be called for emergency response.</p> <p>(5) Submit a service request to BO for the plumbers to temper the drench hose station to meet the required temperature range 15 to 30 degrees Celsius.</p> <p>(6) Notify and train students and workers that in the event that clothing is contaminated with a hazardous material, all clothing must be removed and an emergency shower must be used to wash all affected areas appropriately. The SDS will state how long the affected areas should be washed.</p>			
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4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:

			<p>LST Comments: Items 4 and 5 have been completed. All other items are in progress.</p> <p>This incident was recently discussed at the August FOS JOHSC meeting. It was suggested that the Chem LST discuss the lack of PPE being worn by the individual while working in the lab. In addition, it was suggested that the Chem LST discuss ways to encourage individuals to remove contaminated clothing that has been exposed with chemicals and to use the emergency shower located within the lab. It was suggested to install permanent shower curtains.</p> <p>DG to discuss at the next faculty meeting.</p>			
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4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:						
131806/131813	C	Aug 15, 2023	<p>Electric Shock</p> <p>A student worker was performing routine cleaning of glassware and metal tools, such as spatulas, scoopulas and cannulas. While cleaning a thin and long metal cannula (roughly 45 cm long with 2 blunted ends) with methanol (MeOH), the student drained the MeOH contained in the cannula into their liquid organic waste container. Once most of the MeOH had been drained from the cannula the student grabbed the cannula with their left hand, while holding the bottle of MeOH in their right hand, and pulled the cannula away to place it on the drying rack directly outside of the fume hood. While transferring the cannula, the opposing end touched the opening of an electrical socket located outside on the left side of the fume hood. This resulted in the cannula heating up extremely quickly, giving off a lot of sparks from the current. The sparks ignited the remaining MeOH on the cannula (roughly 1 mL) and the residual droplets on the bottom of the fume hood. In response, the student threw the cannula to the side and removed any combustibles away from the burning MeOH. The MeOH completed burning within 15-20 seconds and the laboratory student safety officer came over to the student to assess the incident. The student sustained minor surface burns on 3 fingers on their left hand from the heat passing through the cannula. The Kimberly Clark purple nitrile gloves the student was wearing were singed as well. The student was wearing long pants, closed-toed shoes, lab coat (100% cotton) and was wearing large personal prescription glasses. They were not wearing any over the glasses safety glasses. The student was not working alone and there were no distractions from their surroundings (no music, no electronics).</p>	MC/CZ	Complete	C



4. REVIEW CAIRS REPORT OF ACCIDENTS/INCIDENTS:

			<p>The supervisor and department safety officer were notified. UBC First Aid was called within 10 minutes and responded to the call 10 minutes later. The student declined first aid treatment. Campus Security was called and asked to notify UBC SRS of the nature of the incident.</p> <p>Actions and Resolutions:</p> <ul style="list-style-type: none">(1) Remind workers to remove any housekeeping issues by clearing the area they are working in and to be aware of their spatial surroundings before starting work.(2) Send worker emergency response procedures.(3) Remind worker to wear over the glasses safety glasses or to wear eyeglass shields in addition to their personal prescription glasses. <p>LST Comments:</p> <p>All corrective action items have been completed. This incident can be closed.</p>			
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5. REVIEW OF WORKPLACE SAFETY INSPECTIONS (including any changes to equipment, machinery or work processes that may affect the health or safety of workers)					
<i>Attach inspection checklist(s) and report(s) to these meeting minutes and use this table to record discussion and new recommendation(s)</i>					
Item # (Use Inspection #)	Priority	Discussion/Comments/Recommendations	Assigned To	Follow up: Date Pending	Status
Sep 2018	C	Demo Lab Areas <ul style="list-style-type: none"> BH will oversee day-to-day processes KM/HW cleaned-up benchtop areas on Mar 10; sorted out chemicals for disposal on Mar 16 and plan to attend for further clean-up/disposal processing on Mar 25 in the Demo Room Jose has a TA organizing the Demo Kits <ul style="list-style-type: none"> Lab Tech & TA working on Demo Kits Inspection of the demo areas have been completed. All items listed above are on hold or in progress as follow up items. LST Comments: No updates at this time.	BH/KM	On hold	IP
			KM	In Progress	IP
Mar/Apr 2023	C	Chem D & E Research Spaces All designated research labs and research related office spaces within Chem D & E block have been inspected in March and April 2023. <ul style="list-style-type: none"> The items that were noted in the Lab Safety Inspections were mainly low risk items such as updating outdated signage and providing misplaced signage for chemical fridges. A couple higher risk items were also noted, including a compressed gas cylinder that was being stored on a cylinder cart and peroxide-forming chemicals were not being signed, dated or tested. The higher risk items were addressed immediately with lab visits from MC. A compressed gas cylinder holder was installed within 24 hours and training was provided to lab personnel about proper labelling, storage, and testing of peroxide-forming chemicals. LST Comments: All corrective actions have been completed. This item can be closed.	MC	Complete	C



5. REVIEW OF WORKPLACE SAFETY INSPECTIONS (including any changes to equipment, machinery or work processes that may affect the health or safety of workers)					
May 2023	C	Chem Shops and Service Spaces Chem shops and service spaces (E214, E215, E313, D112, D124, D116, D118, D120, D128, & B460) were inspected this May. <ul style="list-style-type: none"> The noted deficiencies included, labels/signage were missing and items were being stored on the floor. 65-70% of the deficiencies have been completed all other items are in progress. LST Comments: No updates at this time.	MR	In Progress	IP
July 2023	C	Chem A Research Labs All research spaces within Chem A were inspected in July. <ul style="list-style-type: none"> A lot of deficiencies were noted and are in progress. LST Comments: All deficiencies are in progress. MC to work with PIs and LSRs to help with improvements.	MC	In Progress	IP

* *GI- General Inspection*
LI - Lab Inspection
S&SI Shops & Services Inspections



6. EDUCATION AND TRAINING					
(General discussion, RMS Courses, external training opportunities etc. For all actionable items please list below)					
Item #	Priority	Discussion/Comments/Recommendations	Assigned To	Follow up: Date Pending	Status
N/A	E	The UBC CHEM Fire Extinguisher training for the new fall semester has been scheduled for August, September and October. Please contact safety@chem.ubc.ca to sign up.	MC	N/A	N/A

7. ONGOING BUSINESS – Status of Action Items (includes review of previous meeting minutes)					
Original Item #	Priority	Action Plan (Actions Taken/Need to be taken)	Assigned To	Follow up: Date Pending	Status
Ongoing	E	Prepare meeting minutes and to post approved minutes to UBC Chemistry Safety website and upload a copy to the FOS JOHSC site.	MC	Ongoing	N/A
2020	C	Develop review process for SWPs before being posted onto Safety webpage; <ul style="list-style-type: none"> • SWP to have Risk Assessment information incorporated • Include resources about compatibility and storage of chemicals • The Chem LST has a student worker available this summer to help draft SWPs for the department. DG to provide a list of priority SWPs that should be drafted. • The student worker has drafted an SWP for handling alkyl lithium compounds, which are in the first stages of development. They will be contacting DG soon for next steps. • It was requested for the student worker to draft an SOP for needle and syringe use. LST Comments: In progress.	DG	Ongoing	IP



7. ONGOING BUSINESS – Status of Action Items (includes review of previous meeting minutes)					
Dec 2021	C	<p>Earthquake Securing straps for large Dewars; and, Lab installations for Compressed Gas Cylinder tie-downs</p> <ul style="list-style-type: none">• TM advised that Bldg E completed as at Sept 15/22;• Due to new equipment installation in C224 they will be installing the straps there next; and• TM is reviewing Bldg D – Knuckle compile list and that will be next• A proposal for securing compressed gas cylinders for D240 has been established. If approved, the upgrades will occur by the end of February.• Parts have been ordered for the items remaining in Chem D's knuckle.• Buildings Chem B and E have been completed.• The outstanding items for Chem D's knuckle are now completed, which completes the Chem D building. Chem C224 is in progress. The next steps are to start working on Chem A.• Buildings Chem C and D have been completed. Inspections of Chem A have begun and are currently in progress. <p>LST Comments: In progress.</p>	MR	In Progress	IP
Feb 2021	C	<p>LN2 Safety Training – TM working on setting this up as an actual course with a quiz and certificate</p> <ul style="list-style-type: none">• TM is working on the processes required for this course <p>LST Comments: This item has been referred forward.</p>	MR	Referred Forward	RF



Nov 9, 2022	C	<p>Two staff raised concerns regarding the use of dichloromethane (DCM) in the open lab. One experiment in first year and two experiments (3 lab sessions) in 2nd year.</p> <ul style="list-style-type: none">• First year labs have been moved off of the bench and into the fume hoods going forward.• Air changeovers were discussed for each lab. Preliminary calculations were also presented. MC to request for SRS to double check the proposed calculations.• MC and KM to discuss this concern with the course lab director to see what changes can be made to the experiments that use DCM outside of the fume hood.• We are discussing all of the available options with teaching faculty and staff.• The CHEM LST, has discussed, reviewed and considered best practices of the DCM exposure concerns. This has also been discussed with the Head. Going forward, the Chemistry teaching labs will no longer be permitted to use DCM on the bench top. If possible, experiments should be moved into a fume hood. If one must use DCM on the bench top the vessel must be capped or closed at all times. With the help of the course instructors, we are identifying which labs have been affected. In this process, we are also identifying what other chemicals are being used on the bench top and will be helping with risk assessments.• In addition to the evaluation of the use of halogenated solvents on the bench top, the Chem LST has been asked to evaluate diethyl ether, ethyl acetate, acetone and toluene use. The Chem LST with help of teaching faculty and staff are reviewing each of the specific labs and providing assistance with risk assessments to reduce exposure.• For one of the experiments the 3rd and 4th year analytical labs have stopped using chloroform on the bench top and have switch to DCM. The amount of DCM used is in trace amounts and is below the allowable limit. In addition, the Mass Spectrometry (MS) experiment does use halogenated reagents in a trace amount, which is loaded in a fume hood and then transferred into the MS directly. Also, please note this item was discussed at the faculty meeting on March 23, 2023. Updates on halogenated solvents were discussed.	KM/MC/ DG/BH	In Progress	IP
23 Page					



7. ONGOING BUSINESS – Status of Action Items (includes review of previous meeting minutes)				
		<ul style="list-style-type: none">Using halogenated solvents on the bench top is not acceptable. Due to the limited number of fume hoods in the teaching facilities modifications have been made for lab experiments to continue. In particular, adjustments to the second-year organic labs have been made to ensure that there are no halogenated solvents being used on the bench top, unless they are closed/capped. <p>LST Comments: No updates at this time.</p>		



July 2023	C	<p>PPE Requirements in Chem Stores</p> <p>It was confirmed through UBC SRS that there are no regulatory requirements for wearing PPE in Chem Stores for shopping. Depending on the task being done, staff are required to wear basic PPE and any additional PPE as required. It is recommended that at minimum everyone should wear safety glasses (new suggestion), lab coat (new suggestion), long pants and fully foot encompassing liquid-resistant shoes, especially in areas where solvents/chemicals are located (Solvent Shed & Chemical Room). The existing requirement of Safe Transport of Hazardous Materials at a minimum requires individuals to wear eye protection, long pants, and closed-toed shoes during transport of hazardous materials.</p> <p>DG to discuss this at next faculty meeting.</p> <p>It was discussed that while shopping in Chem Stores, customers should wear safety glasses, a lab coat, long pants and fully foot encompassing liquid-resistant shoes. However, this request could be hard for staff to enforce since a lot of customers do not come to buy hazardous materials. Instead, some customers come to buy gloves or pick up non-hazardous items. In addition, there are common areas of Chem Stores where individuals transporting hazardous materials would be in very close proximity to other individuals (staff, visitors, other customers, etc.). In these cases, it would be recommended that everyone should wear all the suggested PPE, rather than trying to decipher if an individual has come to pick up a hazardous material or not. Also, in the event of a hazardous spill or incident, individuals would have a barrier of protection.</p> <p>LST Comments:</p> <p>In addition to the current requirements of wearing closed-toed shoes and long pants, anyone entering Chem Stores will be required to wear eye protection effective immediately. Spare safety glasses will be provided. An email will be sent to notify the department. An audit to assess PPE requirements for all service areas are in progress. This item remains in progress.</p>	N/A	N/A	IP
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7. ONGOING BUSINESS – Status of Action Items (includes review of previous meeting minutes)					
July 2023		<p>Earbuds and headphone Use</p> <p>There was an incident on campus where an individual was calling for help for over 8 minutes. Unfortunately, the other individuals in the lab could not hear the call for help because they were wearing headphones/earbuds that restricted them for hearing anything else. The individual was very distressed at the time. At UBC Chem, depending on the supervisor, there are both the “no earbud/headphones policy” or the “only one earbud policy”. Wearing headphones or both earbuds at a time are not allowed. The Chem LST will review this policy. DG to discuss this at the next faculty meeting.</p> <p>LST Comments: No updates at this time.</p>	N/A	N/A	IP
May 2023	E	<p>Preventative Maintenance – Fume Hood Sash/Cable Audit</p> <p>A mandatory fume hood sash/cable audit is currently being done by Building Operations (BO). The audit started at the beginning of May and will be continuing until the end of the summer. A level 1 shut down is required for the audit. If BOs find any deficiencies during their audit, they will contact us at a later time, and provide us with further instructions.</p> <p>The audits for buildings A, D and E have started and are in progress. Buildings D and E have been completed.</p> <p>LST Comments: Building A audits are still in progress. Repairs to replace cables in one of the fume hoods in Chem A has been completed. This is expected to be completed in the first week of September.</p>	MC	In progress	IP



7. ONGOING BUSINESS – Status of Action Items (includes review of previous meeting minutes)					
July 2023	C	<p>UBC Chem Safe Transport of Hazardous Materials</p> <p>It was recommended that the UBC Chem Safe Transport of Hazardous Materials SWP be updated. A draft of the SWP was sent to the Chem LST in July.</p> <p>The SWP was discussed and minor edits were suggested. For now, this item will be discussed offline.</p> <p>LST Comments: In progress.</p>	MC	In progress	IP

8. NEW & OTHER BUSINESS					
<ul style="list-style-type: none"> General discussion items (list actionable items below) 					
Item #	Priority	Discussion and/or Action Items	Assigned To	Date to be Completed	Status
N/A	E	<p>CHEM LST Member Updates and Concerns</p> <p>Are there any safety concerns or updates that were not discussed?</p> <p>LST Comments:</p> <p>DG – Nothing to report. MC – Communication was recently sent to the department regarding thermal heat stress. KM – Nothing to report. MR – Nothing to report. KB – Nothing to report. GB – Tabled.</p>	N/A	N/A	N/A



8. NEW & OTHER BUSINESS					
		<p>BH – Nothing to report. TC – Nothing to report. PD – Nothing to report. CZ – Nothing to report. JH – Nothing to report. RW – Nothing to report.</p>			
N/A	E	<p>SRS Updates</p> <p>Recommended items to discuss at JOHSC/LST Meeting</p> <p>Safety Day Voting for Awards and Registration The Safety Day award nominations have closed and we have compiled all of the nominations for this year! Please click the voting link to review each nomination and vote for 2 JOHSCs and 2 LSTs to win the Safety Achievement Award. The deadline to vote is <u>Friday September 1, 2023</u>.</p> <p>Safety Day is more than 2/3 full! Thank you to those who have already registered. For those who haven't, visit the website to find out more about the day and how to register: https://safetycommittees.ubc.ca/safety-day-2023/.</p> <p>Weather and Thermal Stress Safety UBC has taken steps to plan for extreme heat events. Given the recent high temperatures, we wanted to highlight the resources and information to help you and your loved ones stay cool and safe. The following air-conditioned UBC buildings are open to the public:</p> <ul style="list-style-type: none"> • Irving K. Barber Learning Centre (Monday-Sunday, 6:00 a.m. to 12:00 a.m.) • Koerner Library (Monday-Thursday, 7:30 a.m. to 8:00 p.m.; Friday, 7:30 a.m. to 5:00 p.m.; Saturday and Sunday, closed) <p>Visit the Weather and Thermal Stress Safety page for the most updated information about UBC's on-campus cooling centres.</p>	SRS Updates	N/A	N/A

**Informational Items****LST Training**

New dates have been released for LST training. You can register [here](#).

LST Training	
Part 2a	Part 2b
August 16th 11:00am – 12:30pm	August 18th 1:00pm – 2:30pm

WorkSafeBC Inspection Reports (IR)

There were three WorkSafeBC Inspection Reports received since the last co-chair email. As always, the “WSBC IR Summary” attachment provides a brief summary for the inspection report and some discussion points to consider.

1) JULY 6, 2023 – IR# 202316973065A**Description:**

This Inspection Report documents the receipt and acceptance of the employer's full Incident Investigation Report (EIIR), relating to an incident which occurred on May 29, 2023 when during an inspection with a prevention officer, the emergency mechanism on the door for a freezer did not open when the employer and the officer tried to activate it. In addition, upon review of the employer's safety data sheets (SDS), a supplier SDS for more than five hazardous products were 3 years old, and the employer has not obtained from the supplier an up-to-date supplier SDS in respect to each hazardous product in the workplace.

JOHSC/LST General Learnings/Discussion Points:

- It is important to keep track of expiry dates on the SDSs present in the work place. The date could be incorporated as an additional column in the chemical inventory.



8. NEW & OTHER BUSINESS				
		<ul style="list-style-type: none">Establish processes to update SDSs as they come close to the expiry date. These processes could be part of the bi-annual or annual inventory audits. Steps to consider include:<ul style="list-style-type: none">Search on the supplier website for an SDS that has a more recent date (issue date or reviewed date)If a newer SDS is not found on the supplier website, contact the supplier to request and updated SDS.Keep a copy of the SDS for your recordsPlease visit the SRS website if you need more details on Chemical Acquisition, Inventory, Storage, Transport & Disposal <p>2) JULY 13, 2023 – IR # 202317748071A</p> <p>Description:</p> <ul style="list-style-type: none">On July 13, 2023, A small container labelled “waste” was moved from a controlled environment (glove box under argon atmosphere) into a fume hood.Upon opening the container, the contents started warming up followed by a fire and an explosion.The fume hood was significantly damaged by the explosion but the lowered sash protected the user from injury. Minutes after the explosion the glass of the sash shattered.There were zero (0) orders issued to the University. <p>JOHSC/LST General Learnings/Discussion Points:</p> <ul style="list-style-type: none">Handling the waste produced in an experiment is part of the experiment itself and has to be carefully considered.Waste containers must be labeled with enough information for safe handling. Deactivation of particularly hazardous waste has to be done according to a safe work procedure (SWP) written by the lab and all workers must be adequately trained in and follow the procedures.Labs need to assess what is the appropriate emergency equipment (e.g. fire extinguisher, spill kit, sensor) needed in their lab according to the		



8. NEW & OTHER BUSINESS					
		<p>types of hazardous substances handled. For example, work with pyrophoric metals requires a class D fire extinguisher, work with hydrofluoric acid requires the lab to have calcium gluconate (not expired) and a spill kit that does not contain silica-based absorbent.</p> <p>3) JULY 21, 2023 – IR# 202316973084A</p> <p>Description:</p> <ul style="list-style-type: none">• On June 19, 2023, a worker who was involved in an incident while riding a motorized scooter and sustained injuries. The worker was transported by first responders to a nearby hospital for medical treatment.• This incident was immediately reported to WorkSafeBC.• There were zero (0) orders issued to the University. <p>JOHSC/LST General Learnings/Discussion Points:</p> <ul style="list-style-type: none">• As a reminder, an incident believed to have resulted in a serious injury, such as life-threatening conditions, as well as incidents that had the potential for causing serious injury (near miss) must be reported immediately to Campus Security at 604-822-2222 as part of the incident response following the necessary emergency responses.• Information regarding what to do in the event of a serious incidents or possible serious incident can be found on the SRS Website.• Encourage everyone to report incidents and near misses into CAIRS within 48 hours of the occurrence so that a preliminary investigation can be completed within 48 hours as required by section 71 of the Workers Compensation Act• Reminder that incident investigations must be completed within 30 days, with description, unsafe conditions, contributors, causes, corrective actions, and worker rep participation.			



9. NEXT MEETING	
Date:	September 21, 2023
Time:	11:00 am
Location:	Online Zoom Meeting

10. MEETING ADJOURNED	
Time:	11:38 am

LEGEND

PRIORITY:		STATUS:	
A	High Risk, Immediate Response within 1-2 days: Potential for causing loss of life, body part and/or extensive loss of structure, equipment or material.	N	New
B	Moderate Risk, response as soon as possible within 1 week: Potential for causing a serious injury, illness or property damage.	R	Repeat
C	Low Risk, response as soon as possible; Next regular inspection or further investigation required: Probable potential for causing a non-disabling injury or non-disruptive property damage.	C	Complete
D	Reminders	IP	In Progress
E	Information	RF	Referred forward

Send a copy of the meeting minutes to the JOHSC. Highlight important items that must be reviewed/discussed at next JOHSC meeting.

Monthly Distribution and Posting of Approved Meeting Minutes (Required):

- All LST members
- Appropriate JOHSC