



Standard Investigation Report

Incident ID: 129569 (Supervisor Report)

Incident Information

Incident Details, Description and Sequence of Events		
Incident Title: Chemical leak in lab		
Date: Jun 29, 2022	Time: 4:45 PM	Building: BIO - Biological Sciences Building
Description of Incident Location (please do not include personal information such as names, gender pronouns and medical information): Biological Sciences Room 3013 in the teaching collection room and the main teaching lab area		
Accident Type: Spills or Gas Leaks	Injury Type: No Injuries	
Describe fully what happened before, during, and after the incident (please do not include personal information such as names, gender pronouns and medical information): I received a call from our Technician that our Custodian called them to report a liquid on the floor of Rm 3013. They could smell fumes. I was told that the custodian asked a lecturer from across the hall and they said it smelled like formalin, so they closed the door and the lecturer asked the custodians to leave the spill alone and leave the area. The custodian texted a short video to show the Technician the location of the liquid. From the video/photo It was hard to tell the source of the leak except that it was clear and must have been from a specimen container in the inner room. The fluid could have been ethanol-based or formalin based or other but we could not tell for sure from the video and it was not safe for anyone to go into the room to look more closely. The fluid had spread and it was hard to estimate a volume. I was working from home that day and did not feel well and estimated that I could arrive in an hour. Fortunately the Technician had already contacted the lab technician for our course, but they had already left for the day. Our more senior technician/Safety committee member was doing microscopy and wasn't available. The Technician contacted our Department Health and Safety Chair and our Department Administrator. In the meantime I rushed to the building and retrieved the spill cart from the second floor. Fortunately the custodian had kindly blocked the door to the lab with a wet floor sign to prevent anyone else from entering. I found the two custodians who assured me that they felt fine and were okay (I asked about their eyes and breathing, etc.) They had already reported to their own supervisor. I waited in my office / in the hallway and did not enter the lab. Our Health and Safety Chair arrived and donned PPE including a respirator and was able to clean the spill; I provided access to the room with my key but waited in the hall. The leak was from a very large preserved cat in a glass display case (professionally-prepared; likely the storage fluid was formalin based). This specimen was part of the teaching collection for many years/decades. The seal must have broken down over time. About ¾ of the fluid leaked out. The leak spread across the floor of the teaching		



collection room and the main classroom. The Safety officer took photos to record the extent of the spill. I have asked the custodians and the lab technician to stay out of the room while the fumes air out; I will do a surface clean with warm soapy water and monitor for any accumulation of fluid from under the shelving (the shelving is not movable). I will not permit TAs or students to enter the room until I am sure there are no more fumes. At the time of this spill we had just completed a lab safety inspection and the safety committee members who did the report were working with me to investigate how to label the storage liquids in the old specimen jars. I discussed with the Safety Chair some options (dispose of the other five similar specimens? Place them in a container that would keep any leaks isolated? keep one specimen but replace the formalin with a non-toxic alternative?).

Accident Investigation

Task Related Causes

No "Task" Causes

Environment Related Causes

No "Environment" causes

Equipment Related Causes

Other (specify below)	
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Other equipment causes:
Silicon in glass aquaria is aging and therefore likely to leak

Organizational Related Root Causes

No "Organizational" related causes

Human Related Root Causes

No "Human" related causes

Root cause

Incorporating the above factors, determine and describe the root cause of the incident or accident:
The tank was stored on a shelf that has not been touched since it was placed there at least 1 year ago. It is stored in an environmentally stable room. There was no work done near it nor was it ever used. The root cause was that the silicone from the glass aquaria must have started breaking down and caused the leak. Inspecting the aquaria, there doesn't seem to be any cracks in the glass so the only way liquid would have leaked out would be in between the glass where the silicone is supposed to seal the aquaria.

Persons who carried out or participated in the investigation

Employer representative name:
Charissa Fung

Job title:	
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Lecturer	
Worker Representative Name: Patrick Tamkee	
Job title: Aquatics facility technician	

Corrective Actions

Corrective Action to prevent recurrence of similar incidents (1)		
Corrective Action Identified: Complete the chemical safety course.		
Assigned to (name): Charissa Fung	Job title: Lecturer	
Final Actions Taken: Course completed		
Date to be Completed: 2022-09-30	Date Completed:	

Corrective Action to prevent recurrence of similar incidents (2)		
Corrective Action Identified: Spill kit and PPE specific for the chemicals found in the lab should be readily available. Spill kit to include squeegee, dust pan, funnel and a receptacle to hold liquid.		
Assigned to (name): Charissa Fung	Job title: Lecturer	
Final Actions Taken: Spill kit readily available		
Date to be Completed: 2022-09-30	Date Completed: 2022-09-30	

Corrective Action to prevent recurrence of similar incidents (3)		
Corrective Action Identified: SOP for clean up in preserved specimens store room (also include at what point 911 is called). -including the contact chain when a spill occurs SOP for what to do if a preserved specimen is dropped or leaks during a class. SOPs and spill kit should be kept outside of specimen room for easy access.		
Assigned to (name): Charissa Fung	Job title: Lecturer	
Final Actions Taken: SOP completed and posted in lab.		
Date to be Completed: 2023-11-01	Date Completed: 2022-09-30	



Corrective Action to prevent recurrence of similar incidents (4)

Corrective Action Identified: Catch trays for preserved samples that are contained in non-seamless containers i.e. siliconed glass tank compared to a seamless jar. Go through all samples preserved in toxic materials and decide if it's something they really want to keep and dispose of any that is no longer needed. Go through all samples and identify what they are preserved in and label on container so that people know in case it spills.		
Assigned to (name): Charissa Fung	Job title: Lecturer	
Final Actions Taken: Catch trays are now in place.		
Date to be Completed: 2022-09-30	Date Completed:	

JOHSC/LST Additional Action to prevent recurrence of similar incidents (1)

Item: -chemical safety -spill kit -SOPs -emergency contact		
JOHSC/LST Member Assigned (Name): Patrick Tamkee	JOHSC or LST Membership (JOHS Committee or Local Safety Team you are following from): Zoology LST	
Final Actions Taken:		
Date to be Completed: 2022-09-30	Date Completed: 2023-11-01	