HAZARD REGISTER MANUAL

The Hazard Register is a tool that helps department directors/chairs/heads evaluate, prioritize, and monitor the overall management of hazards and risks that exist within a unit under their control. It provides a snapshot of current hazards and details critical information about each hazard including the risk level, controls currently in place, and future actions to reduce risk.

Accessing the Hazard Register template

The Hazard Register template and all other tools required to carry out a risk assessment can be accessed anytime on the Safety Office's Risk Assessment Program page.

Storing the Hazard Register

Once completed, Hazard Registers are stored on the Risk Assessment SharePoint site.

What hazards need to go on the Hazard Register?

Identified hazards that cannot be fixed immediately, that are constantly present or recur should be included on the hazard register. "Day-to-Day" hazards, or those that are not normally present and/or can be fixed immediately are not required to be placed on the hazard register.

For example, if an extension cord is left lying on the floor, someone can easily pick up this cord and put it away. However, if there are multiple cords strewn across the floor that are used to power equipment throughout a lab in a permanent fashion, these should be identified on the Hazard Register as a tripping hazard.

GETTING STARTED

1. Download the Hazard Register template from the Risk Assessment webpage or open your current Register.
2. When you open the Hazard Register template, notice there are multiple tabs along the bottom of the window. Take a couple minutes and click through the different tabs to get familiar with their content.

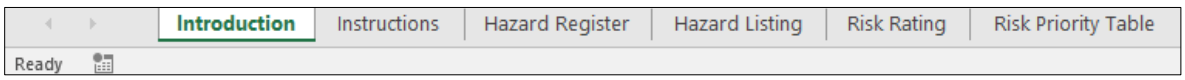

Figure 1:The different tabs of the Hazard Register

   The "Instructions" tab is one of the more important tabs. It provides detailed guidance on how to complete the register.

3. When you are ready to proceed, go to the Hazard Register tab.

Figure 2: The Hazard Register Tab

The first thing you will notice is that rows 5 to 17 have been pre-populated by the Safety Office to cover the administrative hazards common to all departments. For those rows, you only need to review and make changes where necessary to ensure that it matches the activities, processes, and hazards in your specific department. For now, leave those rows as is and proceed to the next step. You can review these rows later once you become familiar with the set up of the sheet and how data is entered.

4. When you first open the Hazard Register tab, refer to rows 1 to 3. These rows contain identifying information, such as who is involved in filling out the Register and who will authorize it on completion. This information is department specific.

5. Next is entering data into the columns. Row 4 is the header row for the main table. You'll note that each header cell contains a dropdown icon. Clicking the arrow in the header row (see Figure 3) allows users to filter the selections to display selected data. This becomes useful when the Register becomes filled with data. Figure 3 below illustrates the pop-up window that is displayed when the down arrow is clicked.

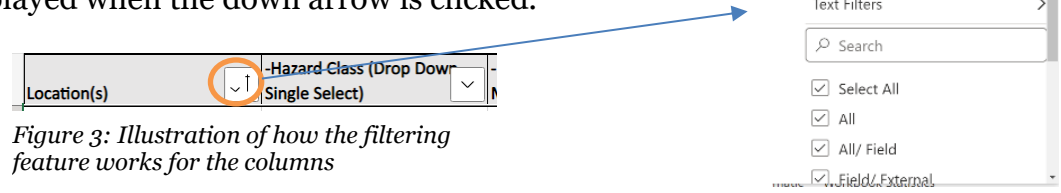

Figure 3: Illustration of how the filtering feature works for the columns

You'll also note that the headers in B4, C4, and E4 say "Drop Down" in the title. This means that data permitted in this group is limited to a pre-determined list of values. Cell B4 also indicates "Single Select". This means only one entry can be listed for each cell in this column. The dropdown in column B is illustrated in Figure 4.

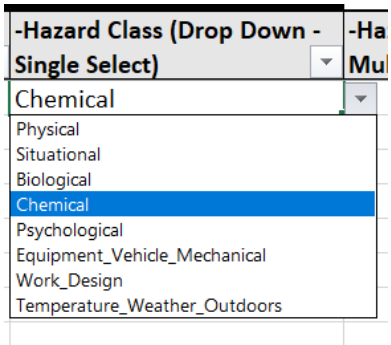

Figure 4: Illustration of how the single select box works in Column C

Columns C and E are “Multi-Select”. This means multiple data selections can be entered into these columns. The choices shown in column C depends on the selection made in column B. This is illustrated in Figure 5. The image on the left illustrates the choices available if the Hazard Class “Chemical” is chosen. The image on the right shows the choices available if the Hazard Class “Psychological” is chosen.

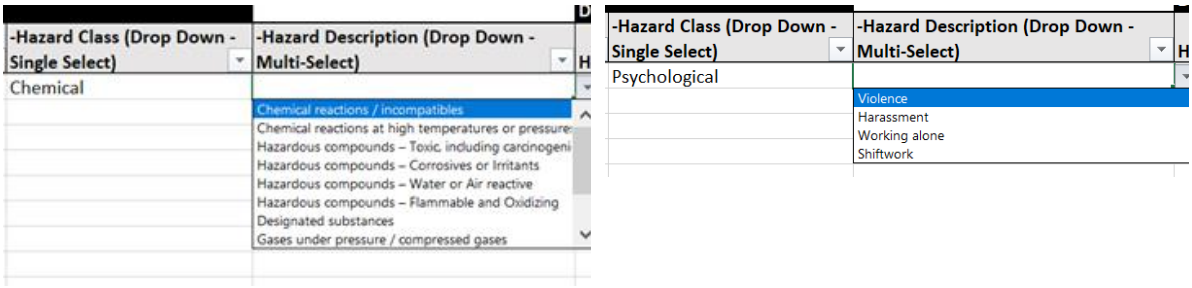

Figure 5: Illustrates how Hazard Class impacts Hazard Description options

Note the difference between filters and the drop-down choices. Arrows for the drop-down choices do not show up until the user clicks in the cell. This arrow is located in the cell itself, on the bottom right side of the cell. The filter arrow is in the header row and remains visible the whole time. See Figure 6 below.

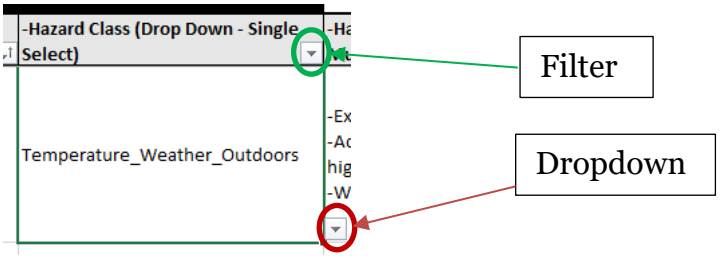

Figure 6: Difference between the dropdown listing arrow and the column filter arrow

ENTERING DATA

This section covers how data should be entered into the Register.

1. Summarize the hazards in the department:
    a. Print out a list of the hazard categories by printing the “Hazard Listing” tab. The Hazard Listing tab is where the hazard class is determined. Hazard classes are highlighted in green and hazard descriptions are listed below the classes (see Figure 7). Hazards are categorized into the following classes:
        - Physical
        - Biological
        - Equipment / Vehicle / Mechanical
        - Situational
        - Chemical
        - Work design
        - Temperature / Weather / Outdoors
        - Psychological
        - Other

Physical		Biological		Equipment / Vehicle / Mechanical	
Electrical - arc flash / high voltage	☐	Human tissues, cells, blood or bodily fluids	☐	In running nip hazards / pinch points / caught by / struck by / entanglement	☐
Electrical – unprotected / unguarded electrical equipment	☐	Animal tissues, cells, blood or bodily fluids	☐	Motor vehicle – damage / crash	☐
Radiofrequency/microwave/infrared radiation	☐	Biological waste (including human / animal wastes)	☐	Moving parts	☐
Ultraviolet radiation (UV)	☐	Fungi / moulds	☐	Unguarded equipment	☐
Lasers – burn hazard / eye damage	☐	Bacteria and viruses	☐	Lifting devices	☐
Noise (discomfort)	☐	Insect / animal bites or exposures	☐		☐
Vibration	☐	Sharps	☐		☐
Situational Hazards		**Chemical**		**Work Design**	
Access / ingress / egress limited	☐	Chemical reactions / incompatibles	☐	Lighting – contrast, too bright, not enough, etc...	☐
Activities that generate emissions (fumes, dusts, vapours)	☐	Chemical reactions at high temperatures or pressures	☐	Improper workflow (excessive travel, excessive handling, excessive transfers, etc...)	☐
Hazardous material spills (Biological / Chemical / Other)	☐	Hazardous compounds – toxic, including carcinogenic / teratogenic / mutagenic	☐	Ergonomic – high force, lifting, high repetition	☐
Overhead hazards – wires / high voltage devices	☐	Hazardous compounds – corrosive and pyrophoric	☐	Ergonomic - awkward movements, extremes in range of motion, awkward postures	☐
Overhead hazards – falling or dropping hazard	☐	Hazardous compounds – flammable, volatile, oxidizing	☐	**Temperature / Weather / Outdoors**	
Fast moving equipment	☐	Designated substances	☐	Extremes in heat or cold	☐
Fatigue	☐	Gases under pressure / compressed gases	☐	Adverse weather – rain / flooding, high winds, lightening	☐
Fire and / or explosion	☐	Cryogenic liquids	☐	Work in or on water (oceans, lakes, rivers, etc...)	☐
Sharp edges	☐	Powder handling / synthesizing	☐	Pressures (diving / altitude)	☐
Surfaces – wet / uneven / loose / slippery / cluttered	☐	Nanomaterial handling / synthesis	☐	Working in remote locations	☐
Working at heights	☐	**Psychological Hazards**		**Other**	
Working in restricted / confined spaces	☐	Violence / harassment	☐		☐
Work offsite / Fieldwork	☐	Working alone	☐		☐
Work pace	☐	Shiftwork	☐		☐

Figure 7: Hazard classes

b. Perform a walk-around in the department and use the printed hazard categories sheet to categorize the hazards you find.

c. Optional and recommended step - Survey the supervisors in each departmental space to ensure you have captured all hazards.

2. Insert the hazard name in Column D - How Exposed. This is where you want to describe how a worker is exposed to a hazard and what the hazard is.

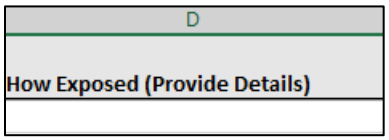

Figure 8:Entering the hazard name

3. Now that you know how workers are exposed to the hazard, you need to determine the hazard class. Determining the hazard class helps determine the controls that should be in place. To determine the hazard class, navigate to the Hazard Listing tab in the Hazard Register.

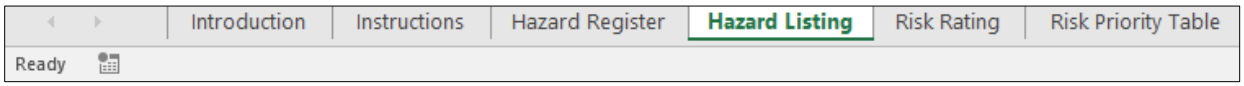

Figure 9: Navigating to the Hazard Listing tab

4. Now that we have determined the hazard class and the hazard description, we need to add those details to the Hazard Register. Column B – Hazard Class functions as a drop-down menu. Click the drop-down arrow (see below) and select the hazard class from the list.

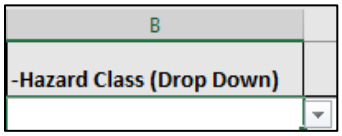

Figure 10: Column B - Hazard Class

5. Once the hazard class is chosen, fill in Column C – Hazard Description**.** This column is also a drop-down menu with options based on the hazard class you chose. As we determined earlier, the hazard description is working at heights.

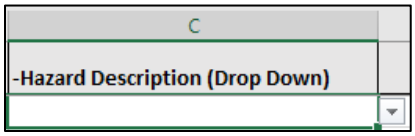

Figure 11: Column C - Hazard Description

6. Now that the hazard has been identified, the focus shifts to controlling it. Are there any controls currently in place? Refer to the hierarchy of controls and determine whether they follow the hierarchy and seem effective. If so, record them in either

Column E – Risk Control Measures Currently in Place or Column F – Other Risk Control Measures Currently in Place.

Column E is a drop-down list and Column F is where you can list any control measure not available in Column E. Open the list and explore the different control measure options available.

E	F
-Risk Control Measures Currently in Place (Drop Down)	Other Risk Controls Currently in Place

Figure 12: Risk Control Measures in Place column

7. The next step is to evaluate the current level of risk and assign a risk level. Using the risk matrix under the Risk Rating tab, determine the risk severity/consequence that would occur if a worker were exposed to the hazard. Then determine the likelihood of an incident happening.

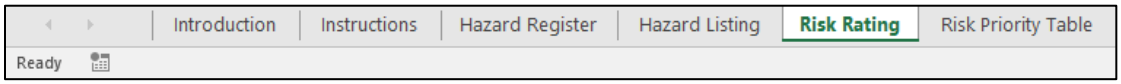

Figure 13: Risk Rating tab

When you click the Risk Rating tab, you should see the table pictured below.

	RISK SEVERITY/CONSEQUENCE			
LIKELIHOOD OF INJURY	**CRITICAL** *(severe injury or fatality - >2 weeks lost time, major property damage)*	**MAJOR** *(injury resulting in at least one day lost time, moderate property damage)*	**MINOR** *(medical aid only, minor property damage)*	**NEGLIGIBLE** *(first aid treatment, minimal threat)*
VERY LIKELY *(likely to occur in a short period of time, expected to occur frequently)*	**High**	**High**	**Medium**	**Medium**
LIKELY *(quite likely to occur in time)*	**High**	**Medium**	**Medium**	**Low**
UNLIKELY *(not likely to occur, but possible)*	**Medium**	**Medium**	**Low**	**Very low**
VERY UNLIKELY *(Not likely to occur, even over time)*	**Medium**	**Low**	**Very low**	**Very low**

Figure 14: Risk Matrix

8. Add the assigned risk level to the Hazard Register in Column G – Current Risk Level. Consider the following points as you work with the Risk Rating Table to assign a risk rating to this hazard:
    - How severe might the harm be?
    - How often are people exposed to the hazard? How many? For how long?
    - What controls are currently in place and how effective are they?
    - What changes could affect the level of risk? (E.g., new process or equipment)
    - Could people's behavior increase risk? (E.g., fatigue, rushing, distractions)
9. Once the risk level has been determined, open the Risk Priority Table tab in the Hazard Register and you should see the table pictured below. This table helps determine how urgently the risk needs to be controlled.

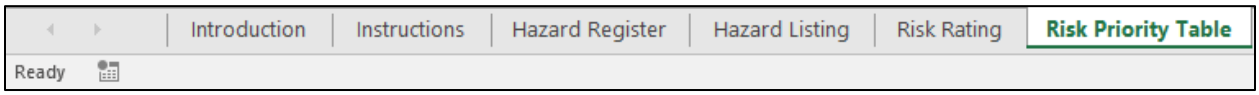

Figure 15: Risk Priority Table tab

Risk priority	Definitions of priority	Time frame
High	Situation critical, stop work immediately or consider cessation of work process. Must be fixed today, consider short term and/or long term actions.	**Now**
Medium	Is very important, must be fixed urgently, consider short term and/or long term actions.	**1 – 3 weeks**
Low	Is still important but can be dealt with through scheduled maintenance or similar type programming. However, if solution is quick and easy then fix it today.	**1 - 3 Months**
Very low	Review and/or manage by routine processes	**Not applicable**

Figure 16: Risk Priority Table

10. If a significant hazard is identified and cannot be fixed immediately and safely by a competent person, the work/activity must be stopped and immediate action taken to correct the hazards.
11. Now that the risk level and risk priority have been determined, consider what additional controls might be required to reduce the residual risk to a level that is low/very low. Record these additional controls in Column H – Further Risk Reduction Needed.

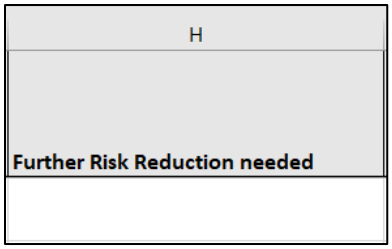

Figure 17: Further Risk Reduction Needed column

Note: The Safety Office has established several programs which outline specific procedures that must be followed to ensure compliance with the University of Waterloo policies and governmental regulations. Please refer to the appropriate programs where applicable.

12. Simple controls should be implemented immediately. However, more complex controls should be actioned by appropriate individuals. This can be done using Column I – Implementation by Whom and Column J – Date of Planned Implementation.

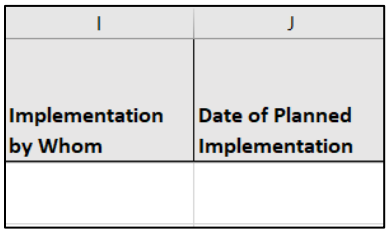

Figure 18: Implementation by Whom column and Date of Planned Implementation column