Table F-2: Laboratory Hazard Risk Assessment Matrix

Laboratory Information
Laboratory Director / Principal Investigator: **Location:**

Hazard and Exposure Category	How could you be exposed to this hazard?	Given the exposure, what is negative outcome?	Severity of Consequences		Probability of Occurrence		Risk Rating (CV*OV)
			What is the expected harm?	(CV) Value (1,5,10,20)	Existing Control Measure In Place	(OV) Value (0,1,2,3,4)	
Training and Documentation							
Personnel are appropriately trained (hazard communication, waste handling, process and chemical specific hazards and risks and mitigation, emergency procedures)				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Personnel are aware of all activities in the lab and associated hazards and risks				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Average experience of lab personnel				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
SDSs and other hazard documentation are available as appropriate				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Hazard communication program is in place				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Process-specific risk assessment has been conducted for all processes and processes optimized				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Process-specific risk assessments are reviewed periodically				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Average value of process-specific risk assessment for all processes				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0

Hazard and Exposure Category	How could you be exposed to this hazard?	Given the exposure, what is negative outcome?	Severity of Consequences		Probability of Occurrence		Risk Rating (CV*OV)
			What is the expected harm?	(CV) Value (1,5,10,20)	Existing Control Measure In Place	(OV) Value (0,1,2,3,4)	
Spill and Emergency Planning							
Emergency response equipment is available and appropriate (spill kits, showers, etc.)				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Means of egress				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Appropriate emergency response materials available and accessible				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
What is the worst thing that could happen in the lab?				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Personal Protection Clothing, Equipment and Engineering Controls							
Skin / Hand Hazards				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Eye / Face Hazards				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Respiratory Hazards				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Eye Hazards				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Cut or Puncture Hazards from Sharp Objects				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Chemical Safety							
Hazard level of materials stored in lab				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Amount of hazardous materials stored in lab				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0

Hazard and Exposure Category	How could you be exposed to this hazard?	Given the exposure, what is negative outcome?	Severity of Consequences		Probability of Occurrence		Risk Rating (CV*OV)
			What is the expected harm?	(CV) Value (1,5,10,20)	Existing Control Measure In Place	(OV) Value (0,1,2,3,4)	
Adequate space and proper types of storage for materials				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Condition of containers and contents				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Appropriate material segregation				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Appropriate security measures are in place				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Current Comprehensive Inventory				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Containers are appropriately labeled				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Biological Safety							
Hazard level of materials stored in lab				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Amount of hazardous materials stored in lab				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Adequate space and proper types of storage for materials				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Condition of containers and contents				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Appropriate material segregation				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Appropriate security measures are in place				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0

Hazard and Exposure Category	How could you be exposed to this hazard?	Given the exposure, what is negative outcome?	Severity of Consequences		Probability of Occurrence		Risk Rating (CV*OV)
			What is the expected harm?	(CV) Value (1,5,10,20)	Existing Control Measure In Place	(OV) Value (0,1,2,3,4)	
Current Comprehensive Inventory				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Containers are appropriately labeled				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Radiation Safety							
Hazard level of materials stored in lab				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Amount of hazardous materials stored in lab				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Adequate space and proper types of storage for materials				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Condition of containers and contents				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Appropriate material segregation				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Appropriate security measures are in place				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Current Comprehensive Inventory				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Containers are appropriately labeled				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Compressed and Cryogenic Gas Safety							
Hazard level of materials stored in lab				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Amount of hazardous materials stored in lab				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0

Hazard and Exposure Category	How could you be exposed to this hazard?	Given the exposure, what is negative outcome?	Severity of Consequences		Probability of Occurrence		Risk Rating (CV*OV)
			What is the expected harm?	(CV) Value (1,5,10,20)	Existing Control Measure In Place	(OV) Value (0,1,2,3,4)	
Adequate space and proper types of storage for materials				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Condition of containers and contents				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Appropriate material segregation				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Appropriate security measures are in place				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Current Comprehensive Inventory				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Containers are appropriately labeled				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Equipment and Physical Hazards Safety							
Sharps Hazards				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Trip hazards				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Electrical hazards				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Temperature extreme hazards				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Pressure Extreme Hazards				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Moving Parts Hazards				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0

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			What is the expected harm?	(CV) Value (1,5,10,20)	Existing Control Measure In Place	(OV) Value (0,1,2,3,4)	
General Laboratory Safety							
Facilities are adequate for types and quantities of chemicals present				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Facilities are adequate for types and quantities of processes occurring in the lab				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
Waste Management							
All waste is stored and segregated appropriately				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
All waste is appropriately labeled				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
All waste is removed on a regular basis				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0
All waste containers and contents are in good condition				No=1 Minor=5 Mod=10 High=20		N/A=0 Rare=1 Poss=2 Likely=3 Certain=4	0