

NSLS OHSAS Job Risk Assessment

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Name(s) of Risk Team Members: J. Aloï, S. Bennett, W. Caliebe, G. Camarda, R. Greene, A. Lenhard and S. Wirick. Review team: Keith Klaus, Lori Stiegler, Tony Lenhard, Josh Allen	Point Value → Parameter ↓	1	2	3	4	5
Job Title: Work with laboratory chemicals Job Number or Job Identifier: LS-JRA-0020	Frequency (B)	≤once/year	≤once/month	≤once/week	≤once/shift	>once/shift
Job Description: Working with hazardous chemicals in the following hazard classes: Carcinogens, Highly Acute Toxin, Reproductive Toxins, Corrosives, Strong Oxidizers, Highly Reactive Materials, Peroxide forming chemicals, Pyrophoric Materials, Flammables/Combustible Materials and working with sharps Training and Procedure List (Optional): Laboratory Standard Approved by: Andrew Ackerman Date:07/10/09 Rev. #: 3 Revision Log	Severity (C)	First Aid Only	Medical Treatment	Lost Time	Partial Disability	Death or Permanent Disability
	Likelihood (D)	Extremely Unlikely <<1x/20yrs	Unlikely 1x/10-20yrs	Possible >1x/10-20yrs	Probable 1x/yr	Multiple >1x/yr
Stressors (if applicable, please list all):		Reason for Revision (if applicable):			Comments:	

Job Step / Task	Hazard	Before Controls					Initial Controls	After Initial Controls					Control(s) Added to Reduce Risk	After Additional Controls				
		Stressors Y/N	# of People A	Frequency B	Severity C	Likelihood D		Risk* AxBxCxD	# of People A	Frequency B	Severity C	Likelihood D		Risk* AxBxCxD	# of People A	Frequency B	Severity C	Likelihood D

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Storing containers of hazardous materials	SPILL: due to container failure may result in explosion or fire from flammable/combustible materials coming in contact with an ignition source or chemical reaction	N	1	4	4	5	80	Segregation of incompatibles, chemical storage cabinets, PPE, work planning/experimental review, ventilation, secondary containment, spill response, use of safer substitutes, Tier 1 inspections, container labeling, area posting, shelf-life monitoring, containers specific for the hazard and operation, training, applicable subject areas	1	4	3	2	24						
	SPILL: due to container failure may result in exposure to toxic materials or corrosive splash	N	1	4	4	5	80	chemical storage cabinets, work planning/experimental review, ventilation, secondary containment, use of safer substitutes, Tier 1 inspections, container labeling, area posting, shelf-life monitoring, containers specific for the hazard and operation, training, applicable subject areas, PPE	1	4	3	2	24						
	Reaction: Chemical reaction of hazardous materials stored in a refrigerator during a power failure	N	1	1	4	3	12	Emergency power generator, work planning/experimental review, use of safer substitutes, Tier 1 inspections, container labeling, area posting, shelf-life monitoring, containers specific for the hazard and operation, training, applicable subject areas, PPE, secondary containment	1	1	3	2	6						

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	Glass bottle breakage	N	1	4	3	3	36	Stored glass bottles larger than 1000 ml are not allowed unless specific permission is obtained from NSLS ESH staff.	1	4	2	3	24	Stored plastic bottles or glass bottles larger than 1000 ml with protective plastic sleeves are allowed.	1	4	1	2	8	67
Moving containers within the department	SPILL: due to dropping container may result in explosion or fire from flammable/combustible materials coming in contact with an ignition source	N	1	4	4	5	80	work planning/experimental review, spill response, Tier 1 inspections, container labeling, containers specific for the hazard and operation, training, applicable subject areas, secondary containment	1	4	3	3	36							
	SPILL: due to dropping container may result in exposure to toxic materials or corrosive splash	N	1	4	4	5	80	work planning/experimental review, PPE, spill response, Tier 1 inspections, container labeling, containers specific for the hazard and operation, training, applicable subject areas, secondary containment	1	4	3	3	36							
	Glass bottle breakage	N	1	4	3	3	36	Stored glass bottles larger than 1000 ml are not allowed unless specific permission is obtained from NSLS ESH staff.	1	4	2	3	24	Stored plastic bottles or glass bottles larger than 1000 ml with protective plastic sleeves are allowed.	1	4	1	2	8	67

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Measuring chemicals-pipeting, preparing sample cells, etc.	SPILL: due to dropping container may result in explosion or fire from flammable/combustible materials coming in contact with an ignition source	N	1	4	4	5	80	spill pads, work planning/experimental review, PPE, use of small volumes, fume hood, secondary containment, spill response, use of safer substitutes, Tier 1 inspections, container labeling, area posting, containers specific for the hazard and operation, applicable subject areas	1	4	3	3	36						
	SPILL: due to dropping container may result in exposure to toxic materials or corrosive splash	N	1	4	4	5	80	spill pads, work planning/experimental review, PPE, use of small volumes, fume hood, secondary containment, spill response, use of safer substitutes, Tier 1 inspections, container labeling, area posting, containers specific for the hazard and operation, applicable subject areas	1	4	3	3	36						
	GENERAL USE: Exposure to toxic materials including inhalation, absorption, ingestion and injection	N	1	4	4	5	80	work planning/experimental review, PPE, use of small volumes, fume hood, use of safer substitutes, container labeling, area posting, applicable subject areas, area and/or personnel monitoring	1	4	2	3	24						

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Mixing and reacting hazardous materials	SPILL: due to dropping container may result in explosion or fire from flammable/combustible materials coming in contact with an ignition source	N	1	4	4	5	80	spill pads, work planning/experimental review, PPE, use of small volumes, fume hood, secondary containment, spill response, use of safer substitutes, Tier 1 inspections, container labeling, area posting, containers specific for the hazard and operation, applicable subject areas, secondary containment	1	4	3	3	36						
	SPILL: due to dropping container may result in exposure to toxic materials or corrosive splash	N	1	4	4	5	80	spill pads, work planning/experimental review, PPE, use of small volumes, fume hood, secondary containment, spill response, use of safer substitutes, Tier 1 inspections, container labeling, area posting, containers specific for the hazard and operation, applicable subject areas	1	4	3	3	36						
	General Use: Exposure to toxic materials including inhalation, absorption, ingestion and injection	N	1	4	4	5	80	work planning/experimental review, PPE, use of small volumes, fume hood, use of safer substitutes, container labeling, area posting, applicable subject areas, area and/or personnel monitoring	1	4	2	3	24						

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	Exothermic reaction	N	1	4	4	5	80	work planning/experimental review, PPE, use of small volumes, use of safer substitutes, container labeling, area posting, reactions vessels specific for the hazard, applicable subject areas	1	4	4	3	48							
Working with peroxide forming compounds	Rupture of container, exposure to vapors, explosion	N	1	2	4	5	40	Periodic testing as per SBMS, CMS, work planning/experimental review, PPE, use of small volumes, secondary containment, spill response, use of safer substitutes, Tier 1 inspections, container labeling, containers specific for the hazard and operation, applicable subject areas	1	2	4	2	16							
Working with pyrophoric compounds	Rupture of container, exposure to vapors, dust, mists, fire resulting from loss of inerting atmosphere	N	1	2	4	5	40	Applicable subject areas, work planning/experimental review, PPE, use of small volumes, secondary containment, spill response, use of safer substitutes, Tier 1 inspections, container labeling, containers specific for the hazard and operation	1	2	3	3	18							

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Working with sensitizers, acute toxins, carcinogens & reproductive toxins	Exposure to vapors, dust, mists, fumes, fire	N	1	3	4	5	60	Applicable subject areas, work planning/experimental review, PPE, area monitoring, personnel monitoring, use of small volumes, secondary containment, spill response, use of safer substitutes, Tier 1 inspections, container labeling, area posting, containers specific for the hazard and operation, fume hood	1	3	4	3	36						
Working with flammables and combustible materials	Exposure to vapors, dust, mists, fumes, fire	N	1	3	4	5	60	Applicable subject areas, work planning/experimental review, PPE, area monitoring, personnel monitoring, use of small volumes, secondary containment, spill response, use of safer substitutes, Tier 1 inspections, container labeling, area posting, containers specific for the hazard and operation, fume hood	1	3	3	3	27						

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Working with corrosives, strong oxidizers, highly reactive materials	Exposure to vapors, dust, mists, fumes, fire	N	1	3	4	5	60	applicable subject areas, work planning/experimental review, PPE, area monitoring, personnel monitoring, use of small volumes, secondary containment, spill response, use of safer substitutes, Tier 1 inspections, container labeling, area posting, containers specific for the hazard and operation, fume hood, Administrative control restricting corrosive use to certain labs and requiring lab doors to be open for access to safety showers.	1	3	3	3	27						
Use of sharps	Cuts, puncture wounds, exposure to infectious and hazardous materials	N	1	4	2	3	24	Sharp containers, area posting, tier I, applicable subject areas, work planning/experimental review	1	4	2	2	16						
Material handling - manual	See LS-JRA-0018																		
Material handling - mechanical	See LS-JRA-0019																		

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Transporting of chemicals	See LS-JRA-0022																				
*Risk:	0 to 20 Negligible	21 to 40 Acceptable					41-60 Moderate					61 to 80 Substantial					81 or greater Intolerable				