

NSLS OHSAS Job Risk Assessment

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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	Risk* AxBxCxD
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	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																		
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					

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