

NC Job Risk Assessment

Name(s) of Risk Team Members: L. Davis, D. Elling, S. Hoey, W. Litzke, A. Piper	Point Value → Parameter ↓	1	2	3	4	5
	Frequency (B)	≤once/year	≤once/month	≤once/week	≤once/shift	>once/shift
Job Title: Thermal Synthesis, oven and furnace operation Job Number or Job Identifier: NC-JRA-002	Severity (C)	First Aid Only	Medical Treatment	Lost Time	Partial Disability	Death or Permanent Disability
Job Description: Work with ovens, furnaces, reactors, dryers, and other thermal equipment.	Likelihood (D)	Extremely Unlikely	Unlikely	Possible	Probable	Multiple
Training and Procedure List (Optional): As per ESR and SAF's						
Approved By: S. Hoey 12/24/07 Rev. #: 0						
Stressors (if applicable, please list all):		Reason for Revision (if applicable):			Comments:	

Job Step / Task	Hazard	Control(s)	Before Additional Controls					Control(s) Added to Reduce Risk	After Additional Controls					% Risk Reduction	
			Stressors Y/N	# of People A	Frequency B	Severity C	Likelihood D		Risk* AxBxCxD	Stressors Y/N	# of People A	Frequency B	Severity C		Likelihood D
Use of hazardous chemicals, as samples in equipment or in cleaning	Exposure to vapors, mists, fumes, or liquids. See Working with Chemicals NC-JRA-003	Vented equipment used for highly toxic gases; PPE (safety glasses, gloves, etc.)	N	1	5	2	3	30							

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Use of compressed gas cylinders for sample flow or as a reaction gas.	See "Compressed Gas Work" NC-JRA-004	General compressed gas work, PPE	Y	1	3	2	3	18							
Use of pressure devices	Uncontrolled release of pressure	Pressure vessel design and certification, shielding, training, ESH Committee Review	N	1	4	2	2	16							
Operating ovens, furnaces, and other thermal equipment, RF, microwave, propane fueled	Burns from contact & RF	Work area conditions, design, insulation, tools and tongs, PPE: aprons, safety glasses, and gloves.	N	1	4	2	3	24							
	Electrical shock from faulty equipment	Tier 1 Inspection of equipment; equipment design, disconnect power when servicing, insulation, tools and tongs, PPE: aprons, safety glasses, and gloves. EEI inspections	N	1	4	3	2	24							
	Reflex "jerk" injury from burn or shock	Equipment design, insulation, tools and tongs, PPE: aprons, safety glasses, and gloves.	N	1	4	2	2	16							
Attaching or modifying wiring, thermocouples,	Burns from contact	Equipment cooled prior to work, gloves, insulation, PPE	N	1	1	3	2	6							

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sensors or control circuits to furnaces	Electrical shock	Disconnecting power prior to servicing; training, insulation, tools and tongs, PPE: safety glasses, gloves.	N	1	1	3	2	6							
	Reflex "jerk" injury from burn or shock	Equipment design, insulation, tools and tongs, PPE: aprons, safety glasses, gloves.	N	1	1	2	2	4							
Use of an unshielded heat source, torch, fuel-gas system for soldering, welding or other operation	Burns from contact	Work area conditions, burning permits design, insulation, tools and tongs, PPE: aprons, safety glasses, gloves.	N	1	3	3	2	18							
	Fire due to ignition of surrounding materials or clothing	Area inspections and preparation, Tier 1, training, fire retardant clothing, fire watch	N	1	3	2	2	12							
Removing samples or equipment that has been heated	Release of hazardous chemicals	Vented equipment used for highly toxic gases; PPE.	N	1	5	2	2	20							
	Burns, Breaking of the equipment by rapid pressure or temperature change	Insulation, allowing item to cool prior to handling; tools and tongs, PPE: aprons, safety glasses, gloves.	N	1	5	2	2	20							
Further Description of Controls Added to Reduce Risk:															
*Risk:	0 to 20 Negligible	21 to 40 Acceptable	41 to 60 Moderate					61 to 80 Substantial			81 or greater Intolerable				