

NTNU	Hazardous activity identification process	Prepared by	Number	Date	
		HSE section	HMSRV2601	22.03.2011	
HSE		Approved by	Page	Replaces	
		The Rector		01.12.2006	

Unit: *(Institute)***IMA****Date:**

15.01.2020

Line manager:**Tor Grande****Participants in the identification process (incl. function):***(supervisor, student, co-supervisor, others)*

Merete Tangstad, Nicholas Smith, Eva Rise and Tommy Pedersen

Short description of the main activity/main process:

The risk assesment comprises resistivity measurements of different carbon materials in the IF75 induction furnace reacting with SiO-gas. Measurements will be carried out at Department of materials science and engineering in the laboratoy in room M-118. Carbon materials will be cruched, sheeved and filled into graphite crucibles. Silicon/silicon carbide and silica particles will be added for generation of SiO-gas. The graphite crucible is then placed in the induction furnace for heating, while measurements of resistivity are taken. When the desired temperature is reahed the furnace is turned off and the crucible is set to cooling.

Is the project work purely theoretical? (YES/NO)

NO

*Answer "YES" implies that supervisor is assured that no activities requiring risk assessment are involved in the work . If YES, skip rest of the form.***Is the project work safe to perform outside normal work hours (8-17)? (YES/NO)** NO*Responsible supervisor:* Merete Tangstad*Student:* Tommy Pedersen

ID nr.	Activity/process	Responsible person	Existing documentation	Existing safety measures	Laws, regulations etc.	Comment
1	Preparation of materials	Tommy Pedersen		Safety equipment such as fireproofe cloting, dust mask and safety glases available		
2	Use of rectifier	Tommy Pedersen		Training performed by experienced equipment operator		

3	Use of IF75	Tommy Pedersen		Training performed by experienced equipment operator. Use fireproof clothing, gloves and heat shield		
5	Sample preparation with epoxy	Tommy Pedersen		Safety equipment such as laboratory clothing and safety glasses available. Use of ventilation cabinet.		
6						

NTNU	Risk assessment	Prepared by	Nummer	Date	
		HSE section	HMSRV2603	04.02.2011	
HMS /KS		Approved by	Page	Replaces	
		The Rector		09.02.2010	

Unit: *(Institute)***IMA****Date:**15.01.2020**Line manager:**Tor Grande**Participants in the identification process (incl. function):***(supervisor, student, co-supervisor, others)*Merete Tangstad, Nicholas Smith, Eva Rise and Tommy Pedersen**Risk assessment of:**

The risk assesment comprises resistivity measurements of different carbon materials in the IF75 induction furnace reacting with SiO-gas. Measurements will be carried out at Department of materials science and engineering in the laboratoy in room M-118. Carbon materials will be cruched, sheeved and filled into graphite crucibles. Silicon/silicon carbide and silica particles will be added for generation of SiO-gas. The graphite crucible is then placed in the induction furnace for heating, while measurements of resistivity are taken. When the desired temperature is reahed the furnace is turned off and the crucible is set to cooling.

Signatures:*Responsible supervisor:* Merete Tangstad*Student:* Tommy Pedersen

ID nr.	Activity from the identification process form	Potential undesirable incident/strain	Likeli-hood:	Consequence:				Risk value (human)	Comments/status Suggested measures
			(1-5)	Human (A-E)	Enviroment (A-E)	Economy/material (A-E)			
1	Preparation of materials	Inhalation of dust particles	3	B	A	A		B3	Use dust masks available in the lab
2	Preparation of materials	Dust particles in eyes	3	B	A	A		B3	Use safety glases in the lab
3	Preparation of materials	Injuries during hand crushing of material	4	B	A	A		B4	Use safety cloths and gloves.

4	Use of rectifier	Electrical shock if conducting components are touched	1	C	A	B		C2	Training in use of equipment by experienced operator. Check insulation on wires and connectors
5	Use of IF75	Burn injuries by touching hot components during unloading furnace	2	B	A	A		B2	Training in use of equipment by experienced operator and use fire resistant cloths
6	Use of IF75	Exposure to CO	3	B	A	A		B3	Continuously use of local exhaust ventilation and have available CO detectors
7	Use of IF75	Exposure to open flames from crucible	3	B	A	A		B3	Continuously use of heat shield and fireproofe clothing when working near the hot crucible
8	Use of IF75	Loss of cooling water	2	B	A	C		B2	Shut of furnace and leave the lab.
9	Use of IF75	Loss of ventilation	3	A	A	A		A3	Shut of furnace and leave the lab.
10	Use of IF75	Loss of power	3	A	A	A		A3	