Risk Assessment Form

(This is an active document and must be maintained)

UNIVERSITY OF CAMBRIDGE

Materials Science and Metallurgy

Date: 15th September 2017

Supervisor of Room/Area: **Prof. Ruth Cameron & Prof. Serena Best**

Room or area: **2_017 (CCMM Labs)**
(Describe location)

Name of Assessor(s): **Wayne Skelton-Hough**

Title of Activity / Experiment / Work Area:

Ovens, Vacuum Ovens and Furnaces

Description of Activity / Experiment / Work Area:

Ovens and furnaces are used to heat solid or liquid samples for various heat treatments (e.g. sintering) or to evaporate a solvent. Vacuum ovens are used to dry solid or liquid samples under vacuum with or without heat.

SECTION 1: Identify all significant hazards, who or what may be affected by each individual hazard and controls in place to reduce risk to a minimum.

Hazard Description	Hazard to whom or what	Controls in place to reduce risk to a minimum
Electrocution	Person carrying out the procedure	Inspect all electrical equipment and power cables before use and do not use any equipment that appears damaged. Ensure Portable electrical equipment carries an up to date PAT label before using it.
Burns or scalds from hot samples when removing from oven/furnace	All laboratory users	Use suitable heat resistant gloves to remove samples from oven/furnace. Allow samples to cool to room temperature on suitable heat-proof surface before further handling. Ensure cooling samples are labeled as 'hot' to alert other laboratory users.
Burns from hot oven/furnace chamber	All laboratory users	Do not open oven/furnace door until the temperature is less than 250°C. Do not put body parts into hot oven/furnace without suitable heat protection. Attach a warning sign to door whilst oven/furnace is cooling to alert the next user.

Hazard Description	Hazard to whom or what	Controls in place to reduce risk to a minimum
Fumes from volatile samples being released into the laboratory	All laboratory users	Heat treatment of any material likely to give off noxious vapours or substances must only be carried out in the tube furnace or vacuum ovens. Do not put samples into the no extracted ovens or furnaces that degrade at high temperatures. Alternative facilities set up for this type of heat treatment are available elsewhere in the department.
Spillages inside the oven/furnace	Person carrying out the procedure	Report any spillages of samples inside the oven/furnace. Clean up spillages according to the COSHH form. Do not put samples into the oven/furnace that melt or degrade at high temperature.

SECTION 2: Emergency Procedures

In case of scalding the affected area should be run under cold water for at least 15 mins until pain subsides. If symptoms continue, if the burn area is greater than 1% of the body surface (an area the size of the palm of the hand) or of the burn affects the face, hands, feet or genital area, medical attention must be sought.

If the operator or other laboratory user shows signs of exposure to fumes from a sample, remove to a well-ventilated area and consult the appropriate MSDS and/or COSHH assessment for appropriate emergency action.

In order to shut the equipment down in case of an emergency, switch oven/furnace off at main socket.

Signature of Assessor(s)		**Date:** 15/09/17
Signature of Supervisor		**Date:** 19/9/17

SECTION 3: Review - This assessment must be reviewed every 12 months or earlier if the basis of the original assessment is altered.

Review Date	Reviewed by (Signature)

Review Date	Reviewed by (Signature)

Change log

Change	Date	Updated by	Description
1	14/09/2017	W. Skelton-Hough	Document issued
2	15/09/2017	W. Skelton-Hough	Section 3 of risk assessment added back into document.