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_014 (CCMM Labs)**
(Describe location)

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

Title of Activity / Experiment / Work Area:

Use of the Pascall Engineering ball mill to mill non-hazardous samples

Description of Activity / Experiment / Work Area:

Samples placed in a ceramic milling container with a number of ceramic balls. The container is then tightly sealed and placed on a set or rollers where the container is rotated about its longitudinal access. The rotation motion causes the ceramic balls inside the container to tumble around breaking up the samples also enclosed. The speed and duration of rotation can be varied to change the processed powder's charactaristics.

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	Visually inspect all electrical cables and equipment before use. Do not switch on the ball mill if there is any evidence of damage to the cabling or equipment. Check for PAT sticker.
Slip hazard	User and other lab users	When loading/unloading the ball mill, make sure that any spills are cleaned up immediately following the procedure in the appropriate COSHH form and/or MSDS. DO NOT use the ceramic posts to wet grind any samples as the ceramic pots are not watertight.
Sharps-risk	Person carrying out the operation.	If the ceramic container should break during grinding, carefully collect up broken fragments, wrap in hand towel and tape and dispose of in the general laboratory waste bins.

Hazard Description	Hazard to whom or what	Controls in place to reduce risk to a minimum
Trap body parts	Person carrying out the operation.	The ball mill is protected by a safety circuit which automatically cuts the power to the ball mill motor when the doors to the ball mill are opened. DO NOT attempt to bypass this safety feature. Ensure that rollers have completely stopped turning before placing hand inside ball mill.
Unknown chemicals	Person carrying out the operation.	Clean up any spilled chemicals immediately. Always wear disposable gloves, secured lab coat and safety glasses when working in the lab.
Powder inhalation	Person carrying out the operation.	Allow contents in ceramic milling container to settle before opening container. Exercise care when opening the container after milling.

SECTION 2: Emergency Procedures

If the operator sustains a cut, clean with a non-alcohol wipe and if required seek medical attention.

Clean up all spills immediately, solid or liquid.

In case of a small electrical fire, use a CO_2 or powder extinguisher.**DO NOT** attempt to tackle any fire if doing so would put you at risk; for larger flames, activate the fire alarm and evacuate the premises.

Signature of Assessor(s)	Wayne Lilley	**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)

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Change log

Change	Date	Updated by	Description
1	13/04/2016	W. Skelton-Hough	Document issued.
2	02/06/2017	W. Skelton-Hough	Reference to using a dust mask remover. Risk assessment title added to document footer.
3	15/09/2017	W. Skelton-Hough	Section 3 added back in to the risk assessment.