

## **Bakewell Pottery Studio - Risk Assessment February 2020**

### **Introduction**

As with all hazards the risks are mitigated by;

- Training and awareness  
Health and safety videos will be produced  
As part of the application form users of the pottery will sign to say that they have viewed and understand these  
Key staff will attend a first aid at work course
  
- Provision of suitable PPE  
A Standard (commercially provided) First Aid station will be provided – no charge will be made – it will include;
  - Eye wash
  - Dust Masks
  - Gloves (latex free)
  - Accident book
  
- COSHH datasheets will be kept for each commercially substance provided by the pottery

The management if the Studio are responsible for the evaluation and mitigation of any hazard and take appropriate measures prevent and deal with any harm



Hazard	Who could be harmed	Probability	Control/prevention measures
<p><b><u>Operation of the Kiln</u></b>  <u>Description</u>  A pottery kiln reaches a temperature of around 1260°C – it takes around 10 hours to heat up and then cools naturally over another 10 hours  During the first part of the firing (to around 900°C) fumes are produced from the organic matter in the clay body.  During normal operation the fumes are vented to the outside via a fan at the bottom of the kiln  And general heat is vented via a separate fan to the outside</p>	<p>See below</p>	<p>See below</p>	<p>One control measure mitigates several hazards</p> <ul style="list-style-type: none"> <li>• Power supply to the kiln will be installed and maintained by qualified electricians</li> <li>• The kiln will be in a fire proof enclosure (material refractory 1100°C) – floor, top and 3 sides</li> <li>• One side of the enclosure will be metal mesh  In the case of a power cut the kiln will be hot and cool naturally – the open side will allow for an air flow and prevent the enclosure from overheating</li> <li>• Power cables to the fans (normal 13A) will be inspected for damage regularly</li> <li>• The external fan vent and external vent will slope up allowing hot air to flow out in the case of a power loss</li> <li>• The kiln enclosure will be locked when in operation</li> <li>• Only authorised people will be allowed access to the kiln enclosure and control box</li> <li>• No combustible material (eg wood, plastic, paper etc) will be used or stored within the kiln enclosure. Signage will be affixed to the enclosure to this effect</li> <li>• The normal ceiling tiles are of a fire-resistant material preventing the possibility of low temperature melting/fire</li> </ul>
<p>Kiln – Fire Risk  Can be caused by:</p> <ul style="list-style-type: none"> <li>• Total power loss</li> <li>• Loss of power/burn out of the motors of the fan</li> </ul>	<p>Uses of the Pottery Studio  Other tenants of the building (general fire)</p>	<p>Remote</p>	<ul style="list-style-type: none"> <li>• Initial tests will be carried out and the results recorded to determine the results of power loss or loss of fan <ul style="list-style-type: none"> <li>○ How hot does the general temperature reach</li> <li>○ How long does the kiln take to cool with if the fans cease to operate and what is the maximum temperature of the room</li> <li>○ What heat is transmitted through the refractory flooring – ie max temp of the studio floor</li> </ul> Subject to the results of the above tests other measures can be implemented to mitigate any hazards</li> </ul>

<p>Kiln – Harm to the individual</p> <ul style="list-style-type: none"> <li>• Burns to the hand or body</li> <li>• Electric shock</li> <li>• Inhalation of fumes</li> <li>• Irritation to eyes from fumes</li> </ul>	Users of the Pottery Studio	Possible	<ul style="list-style-type: none"> <li>• See above</li> </ul>
<p>Kiln – Exploding pottery</p> <p>If the clay pots are not completely dry and/or if the clay body is too thick the water within the clay cannot get causing the pot explodes.</p> <p>The hazard is damage to other pots in the kiln or to the kiln itself.</p> <p>Any such explosion is contained within the kiln and there is a very low risk of harm to individuals</p>	Users of the Pottery Studio	Probable	<ul style="list-style-type: none"> <li>• Education and awareness training</li> <li>• Ensure that the pots are “bone dry” before firing</li> <li>• Ensure the walls of pots are not too thick</li> <li>• Inspection of pots before being placed in the kiln</li> </ul>
<p>Kiln – Heating Element Burnout</p> <p>Overtime the vapours from glazes attack the heating elements and can cause corrosion leading to individual elements burning out.</p> <p>This will cause sparking and potential damage to other pots in the kiln</p> <p>It is contained within the kiln and there is a very low risk of harm to individuals</p>	Uses of the Pottery Studio	Probable	<ul style="list-style-type: none"> <li>• Regular inspection (at least every month) of the kiln elements</li> <li>• Inside of kiln to be kept clean and free from debris by vacuuming as necessary</li> <li>• Replacement of elements that took to be failing</li> </ul>
<p>Kiln – external fumes/heat</p> <p>Fumes and heat are vented to the outside</p> <p>The hazard is from fumes, heat and dust</p>	Members of the public Contractors using ladders to work close to the vents	Remote	<ul style="list-style-type: none"> <li>• The pottery studio is on the first floor and any fumes and dust is quickly dissipated.</li> <li>• Signage on outside of vent to make contractors aware of the potential risk</li> <li>• Kiln will not operate if there are external contractors working outside</li> </ul>

<p><b><u>Electric Shock</u></b>  A number of (13A – normal sockets) electric devices are used in the Pottery Studio these include</p> <ul style="list-style-type: none"> <li>• Potters Wheels</li> <li>• Hot air dryers</li> <li>• Blungers (stirrers for mixing glazes)</li> </ul>	<p>Users of the Pottery Studio</p>	<p>Possible</p>	<p>All equipment provided by Bakewell Pottery for use in the studio will be;</p> <ul style="list-style-type: none"> <li>• CE Rated</li> <li>• PAC Tested</li> <li>• Not overloaded with respect to the cable/socket rating (13A)</li> <li>• Be connected to the 13A Mains socket via RCD devices</li> <li>• All unused mains sockets will have a blanking plate</li> <li>• It is a CE requirement that kilns must have a system that cuts the electricity supply to the heating elements if the kiln lid/door is opened this is installed on the kiln</li> <li>• Equipment and cables will be inspected for damage on a monthly basis</li> </ul>
<p><b><u>Dust Inhalation</u></b>  Clay, glazes and oxides are a very fine powder suspended in water. They are not poisonous or carcinogen but can cause silicosis and other respiratory problems if inhaled over time. In normal use they are mixed with water are not in the air.  The hazard is caused when;</p> <ul style="list-style-type: none"> <li>• Spills dry out</li> <li>• Mixing fresh glazes/oxides</li> </ul>	<p>Users of the Pottery Studio</p>	<p>Possible</p>	<p>Spills</p> <ul style="list-style-type: none"> <li>• Mops and cleaning cloths will be provided to clean up spills as soon as possible and before the spill dries out and becomes a hazard</li> </ul> <p>Mixing</p> <ul style="list-style-type: none"> <li>• Dust masks will be provided</li> <li>• A fume cabinet will be provided for mixing the dry powders venting to the outside</li> </ul>
<p><b><u>Plaster of Paris</u></b>  Is used to create moulds for slip casting. In addition to a dust hazard (above) it is exothermic (produces heat when setting) and sets quickly.  There have been incidents where a student got her hands trapped in the quick set and received 3<sup>rd</sup> degree burns to the hands.</p>	<p>Users of the Pottery Studio</p>	<p>Possible</p>	<ul style="list-style-type: none"> <li>• Awareness training</li> <li>• Close supervision of using plaster of paris</li> </ul>

<p><b><u>Sharps</u></b>  A number of sharp tools are used in the studio  These include</p> <ul style="list-style-type: none"> <li>• Craft knives</li> <li>• Metal kidneys</li> <li>• Broken pots/tiles (glaze is a form of glass and, like glass, is very sharp when broken)</li> </ul> <p>The hazard is cuts to the body especially the hands</p>	Users of the Pottery Studio	Probable	<ul style="list-style-type: none"> <li>• Awareness training</li> <li>• First aid station provided and kept stocked</li> <li>• A separate sharps container will be provided</li> </ul>
<p><b><u>Potters wheels</u></b>  Can rotate at a high-speed catch on rings/jewellery/long hair causing bruising/fractures</p> <p>Sitting down at the potter's wheel can cause spinal/back problems</p>	Users of the Pottery Studio	Possible	<ul style="list-style-type: none"> <li>• Users will be encouraged to remove any hand jewellery</li> <li>• Long hair to be tied back</li> <li>• Leg extensions to the potter's wheels are available to allow use of the wheel standing up for those with back problems</li> </ul>
<p><b><u>Injury from heavy weights</u></b></p> <ul style="list-style-type: none"> <li>• Moving bags of clay weigh 12½ kg</li> <li>• Moving desks around</li> </ul>	Users of the Pottery Studio	Possible	<ul style="list-style-type: none"> <li>• Education in the awareness of the risk</li> <li>• Signs to indicate weight and, if in doubt, to seek assistance</li> <li>• Castor wheels on desks and tables</li> <li>• Ramp for the single step in the Studio</li> </ul>
<p><b><u>Trips/Falls</u></b></p>	Users of the Pottery Studio	Possible	<ul style="list-style-type: none"> <li>• Walkways to be kept clear of obstructions</li> <li>• A ramp will be provided for the single step inside the Studio</li> <li>• Any cables across walkways to be enclosed in covers</li> <li>• Any damage to the flooring to be made good as soon as possible</li> </ul>
<p><b><u>Personal Equipment/Materials</u></b>  Users of the pottery may wish to use their own equipment and materials  The hazard is that the equipment and materials may not be suitable or safe and pose a hazard to the individual and other users of the Studio</p>	Users of the Pottery Studio	Probable	<ul style="list-style-type: none"> <li>• Awareness training</li> <li>• Inspection and prior approval of any personal equipment/material to be used</li> </ul>

<p><b><u>Dust Ingestion</u></b> Clay and glaze dust contaminating Food and Drink</p>	Users of the Pottery Studio	Possible	<ul style="list-style-type: none"> <li>• Education of the risks</li> <li>• Discourage eating and drinking in the Studio</li> </ul>
<p><b><u>Skin Irritation</u></b> Some skin conditions can be irritated by immersion in glazes</p>	Users of the Pottery Studio	Remote	<ul style="list-style-type: none"> <li>• Latex free gloves will be available</li> </ul>
<p><b><u>Dust in eyes</u></b> From dry clay, glaze or oxide</p>	Users of the Pottery Studio	Possible	<ul style="list-style-type: none"> <li>• Eye wash station will be provided</li> </ul>
<p><b><u>Heavy Metal Poisoning</u></b> Historically glazes have contained heavy metals especially lead and cadmium which pose a sever risk of poisoning if ingested</p>	Users of the Pottery Studio	Remote	<ul style="list-style-type: none"> <li>• All glazes and oxides provided by the studio will be from certified food save providers</li> </ul>
<p><b><u>Food poisoning</u></b> Ingestion of clay/glaze/oxides when eating or drinking in the studio</p>	Users of the Pottery Studio	Possible	<ul style="list-style-type: none"> <li>• Users will be made aware of the risks of eating and drinking in the studio</li> <li>• If Bakewell Pottery is offering courses where lunch is provided the Pottery will use cafes/restaurants in town</li> </ul>
<p><b><u>Blocked water pipes</u></b> Clay blocking the sink's waste pipe resulting in a build up of stagnant water and subsequent bacteria</p>	Users of the Pottery Studio	Probable	<ul style="list-style-type: none"> <li>• Clay traps will be provided for each sink and emptied regularly</li> </ul>
<p><b><u>Bacteria in air conditioning units</u></b></p>	Users of the Pottery Studio	Possible	<ul style="list-style-type: none"> <li>• Air conditioning will be annually serviced by a qualified operator</li> </ul>
<p><b><u>General Fire</u></b></p>	Users of the Pottery Studio	Possible	<ul style="list-style-type: none"> <li>• Foam fire extinguishers are provided and serviced yearly</li> <li>• Derbyshire Fire and Rescue will be contacted to advise once all the equipment is in place</li> </ul>

<p><b><u>Asbestos</u></b> The roof of the Studio is made of an asbestos containing material – a severe hazard to health</p>	<p>Users of the Pottery Studio</p>	<p>Remote</p>	<ul style="list-style-type: none"><li>• An asbestos survey has been carried out by the landlord -the advice being that the asbestos be left in place and not disturbed</li><li>• User of the pottery to be made aware of the presence of asbestos and not to fix/drill/disturb the material</li><li>• Any drilling fixing of equipment will be avoided and, if absolutely necessary, be carried out by an asbestos qualified company</li></ul>
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