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| Standard Operating Procedure for:**Using Carbolite ashing furnace** | PPE required: |
| This SOP the use of the Carbolite 1000-1200ºC ashing furnace. When operating furnaces PPE is required including laboratory coat, safety glasses and nitrile gloves. For higher temperatures thermally insulating gloves are required.**Never put flammable or volatile materials in the furnace.** Never put measuring glassware in the furnace (e.g. volumetric flasks and measuring cylinders). |
| **Before use**1. **TURN ON THE EXTRACTION HOOD**!
2. Ensure that the temperature of the oven does not exceed the melting or boiling point of any materials to be placed in the oven.
	1. Polystyrene melting point = 70 ºC
	2. Polypropylene melting point = 130 ºC
	3. Aluminum = 660 ºC
3. If there is any concern of your sample producing toxic emissions or unpleasant smells please consult a technician. **Never put flammable materials in ovens/furnaces.**

**Adding items to furnace**1. Make sure you are **wearing** **protective** **heat proof gloves** when adding items to furnace
2. Ensure door is firmly shut when items in furnace.
3. **Write on door label:**
	1. **Start and finish date,,**
	2. **Full name,**
	3. **Temperature,**
	4. **Whether other users can use the furnace at the same time,**
	5. **Any other important sample information for users (e.g. toxicity).**
4. Check on sample after around 30mins to ensure no unpleasant emissions are being released and that samples are not burning.

**Removing items from furnace**1. When removing hot items from the furnace ensure you use the **protective heat resistant gloves** provided.
2. For higher temperatures please use heat resistant mats to avoid damaging work surfaces.
3. **If your samples are in the oven past the date on the front they may be disposed of without warning.**

**Furnace controller**To set a simple ramp, hold and cool please follow the instructions below. For more complex programs please speak to a technician.1. Put the furnace into “**Hold mode**”
2. Press the **Page key** once so it reads *SP°C* then use arrow keys to set the **Set Point**.
3. Press the **Page key** again so it reads *SPrr* then use arrow keys to set the **Ramp Rate** (normally 10 max. 20oC/min.).
4. Press the **Page key** again so it reads *t1* then use arrow keys to set the **Dwell time**
5. Press the **Page key** again so it reads *HOLD* then press the **Timer Key** to start the program.

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|  | Hold modePage key |  Arrow keysTimer key |

 | **Hazard symbols:**See individual users risk assessment |
| **Significant hazards:*** High temperatures
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| **Hazard phrases (H):**See individual users risk assessment |
| **Can it be done out of hours?**The ovens and furnaces can be used out of hours. |
| **This SOP is not relevant in the following circumstances:**1. SOP does not cover specific experimental risk these must be covered by user’s assessments
2. Any other situation where the procedure may result in harm to yourself or others.
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