Sonicator (ultrasound)

Sonicator

- Use sound energy to agitate samples
- Speed dissolution
- Rise the temperature
- Remove dissolved gases

- Think about your experiments and label it well for the next users
- Wear safety eye glass and gloves all the time
- Wear lab coat when necessary

Ultrasound

- Above the upper limit of human hearing
- Long, high intensity ultrasound
- Disturbance in tissue

- Try to avoid long high intensity exposure to ultrasound…
Vapor in open area

- Leak from oven or sonicator
- Evaporated from the balance when weighing samples
- From the dip coating instruments and left-over uncapped beakers
- Oxygen from the plasma cleaner

- Toxic by vapor inhalation
- Corrosive on contact
- Flammable
- Heat rising from the oven

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Ethanol</th>
<th>Acetone</th>
<th>Diethyl ether</th>
<th>Methanol</th>
<th>Paraffin oil</th>
<th>Toluene</th>
<th>Carbon disulfide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>12.8°C (55°F)</td>
<td>-17°C (1°F)</td>
<td>-45°C (-49°F)</td>
<td>11°C (52°F)</td>
<td>38–72°C (100–162°F)</td>
<td>4°C (39.2°F)</td>
<td>-30°C (-22°F)</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>365°C (689°F)</td>
<td>465°C (869°F)</td>
<td>170°C (338°F)</td>
<td>464°C (867°F)</td>
<td>220°C (428°F)</td>
<td>480°C (832°F)</td>
<td>90°C (194°F)</td>
</tr>
</tbody>
</table>

- Use the fumehood or glove box when necessary
- Seal the container properly or empty it asap
- Label it and warn people around when using evaporated solvents