

**SP037.1**  
**Updated 12/27/2021**

## **Operation of the RotoVap**

### **Materials and Reagents**

1. Yamato Rotary Evaporator (note 1).
2. Round Bottom Flask (250 ml, 500 ml, or 1 L)
3. 1 – 2 Green taper clamps (VWR 21734-862)
4. 1 L Glass beaker

### **Protocol**

1. \_\_\_\_ Place sample in a Pyrex round bottom flask of appropriate size (note 2).
2. \_\_\_\_ At the RotoVap, turn on the water bath heat to 50°C.
3. \_\_\_\_ Turn the water on to cool the condenser.
4. \_\_\_\_ Turn on vacuum.
5. \_\_\_\_ Place round bottom flask onto RotoVap and secure by turning the vacuum release valve such that the holes are offset. Increase vacuum if necessary. A taper clamp can be used to ensure the flask will not fall in case of vacuum loss.
6. \_\_\_\_ Lower the flask into the heated water bath (note 3).
7. \_\_\_\_ Begin rotation of flask (note 4).
8. \_\_\_\_ Watch sample for a few minutes to ensure it does not bubble over into the bump trap (note 5).
9. \_\_\_\_ Once solvent is completely evaporated, remove sample flask and any waste from condenser trap. Empty waste from the trap into a glass beaker for disposal (note 6).
10. \_\_\_\_ Turn off vacuum, water, rotation, and water bath.

### **Notes**

1. The rotovap is located in the fume hood in D136.
2. Sample should be suspended in organic solvents (most commonly: chloroform, methanol, acetone etc.). Total volume of sample in the flask should not exceed 1/2 of the max volume of the flask.
3. To lower the flask into the water bath, loosen the quick action jack handle and raise it until the flask is submerged such that the volume to be dried is below the water bath level. Once in position, tighten the jack handle.
4. The RotoVap turns on when the dial on the front of the machine is turned passed the setting of zero. This setting controls the speed of rotation. A setting of 3 is usually sufficient.
5. With the vacuum and the temperature of the water bath, it is common for there to be bubbling of the solvent. If there is too much bubbling, and the sample begins to escape the flask, carefully reduce the vacuum until bubbling is controlled.
6. The waste beaker in the chemical fume hood will enable the solvent to evaporate. Alternatively, the waste can be transferred to a glass cylinder for measurement, then transferred to a hazardous waste accumulation bottle. Use glass funnels as necessary to assist in transfer. Make sure to clearly label the beaker with its contents, date and responsible user.