EXTRACTOR SOLUTIONS

VACUUM OVEN SOP

Standard Operating Procedure

REMOVAL OF RESIDUAL SOLVENTS FROM A SAMPLE ~USING A VACUUM OVEN.

DISCLAIMER

For use by professionals only. By purchasing or operating any equipment in accordance with this operating procedure you, as the operator and consumer are assuming all risk and liability associated with operating equipment in accordance with this SOP.

WARNING: Failure to follow safety precautions of all equipment can result in hazardous consequences such as: Physical damage to yourself, others, surrounding property, etc. Material data safety sheets should be available in the laboratory on all chemicals used in this process.

The following personal protection equipment should be worn by all lab personnel during extraction and preparation:

Personal Protection equipment

- Splash goggles
- Lab coat
- Breathing mask
- Gloves

Equipment & Tools

- parchment paper or pyrex dish
- Vacuum oven

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SAFETY

SDS Sheets: Available in the laboratory on all chemicals used in this process.

Hazard Identification

• Preparation and Use: a. Vacuum oven will be used in conjunction with a vacuum pump and cold trap. a.i. Vacuum oven is designed for use with high purity oils that require dehydration.

a.ii. Removal of volatiles via vacuum oven can create hazards associated with the vacuum pump. A cold trap is always recommended to mitigate these risks. *** Many types of end products can be made with a vacuum oven. See Associated SOPs for Hot Tec Diamonds, Shatter Tec and Crumble Tec *** Dehydrating Cannabis Oils Under Vacuum Please note: Vacuum ovens are designed for dehydration of oil samples and not for recovery of volatiles. Use of a cold trap is intended to capture minimal quantities of volatiles that may escape the oil sample during dehydration. Before dehydrating any oil in the vacuum oven, care should be taken to ensure the oil has minimal volatile content and specifically does not contain any liquid solvent. Also note: Failure to remove combustible or flammable liquid solvents prior to dehydration may result in serious bodily injury as well as damage to the oil sample and the vacuum oven, cold trap, and vacuum pump.

1. Turn on your vacuum oven and set your desired operating temperature per your associated SOP.

2. Chill your cold trap to the desired operating temperature, either via chiller setting or dry ice slurry.

3. Turn on your vacuum pump and allow the entire system (oven, cold trap, pump) to operate under vacuum .

4. After your set temp has been achieved and your Priming Time has been met, close the vacuum valves in the following order:
a. Close the valve on the front of your vacuum oven.
b. Close the valve on the back of your oven/at your cold trap. (if applicable)
c. Close the valve on the vacuum line at the vacuum pump. (if applicable) d. Leave the vacuum pump running!

5. Using the inlet valve on your vacuum pump, pressurize the vacuum oven to atmospheric pressure. a. Always open this valve slowly, especially when the oven has samples inside. b. Use nitrogen/argon to pressurize your oven if you are operating in a clean room.

6. Confirm that the oven has reached atmospheric pressure by checking the vacuum gauge on the front of the oven, and then open the vacuum oven door. a. Never attempt to open the vacuum oven door until after the oven has reached atmospheric pressure! b. Failure to wait may result in damage to the oven door as well as bodily harm resulting from exposure to heat or harmful vapors.

7. Place your cannabis oil sample inside the oven in a container made of heat and chemical resistant material. a. Approved containers may include glass, stainless steel, or parchment paper. Check your product SOP for guidance.

8. Check the oven door gasket for integrity. Then close the oven door tightly.

9. Begin opening vacuum valves starting at the pump, working in a linear fashion towards the vacuum oven. (i.e. vacuum pump > cold trap > vacuum oven) a. Open the vacuum valve on the front of the oven very slowly while visually monitoring the oil sample. b. Violent reactions indicate the presence of high levels of volatile compounds. In the event that a reaction is too violent, the oil may evacuate the container it is in. Do not leave the oven unattended if a violent reaction is observed. c. To limit the reaction, use the vacuum valve to decrease the depth of vacuum. Less vacuum = less reaction.

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10. Monitor the sample until the vacuum oven and vacuum pump are reading the same level of vacuum depth. Once full vaccuum is achieved, turn off your vacuum pump and vacuum valves.

11. In the event that a reaction is so violent that the oil evacuates its container, immediately close the vacuum valve on the oven. a. After closing the vacuum valve on the oven, you may pressurize the oven to atmospheric pressure by opening in the inlet valve VERY SLOWLY. b. Do not attempt to open the vacuum oven until it has pressurized completely.

12. After the sample has discontinued any visual reactions per your product SOP, you may remove your oil sample and shut down your vacuum oven. a. Close all vacuum valves in a linear fashion, starting with the vacuum oven, ending with your vacuum pump. b. Pressure the oven to atmospheric pressure slowly, then open the vacuum oven door. c. Remove your oil sample only while wearing appropriate PPE.

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TIPS AND TRICKS

Impurities prevent the crystals from being able to form large structures. Run cold, Dewax and remediate your product to get the best results. Fast crystallization will generally give you smaller formations. Large formations can be made by slowly crashing out the THCa in solvent over the course of days or weeks. The hot tek SOP is only used for small formations. Covering the Pyrex dish with BPA/Phthalate free covering or lid will allow you to slow crystallization and give you bigger cleaner diamonds.