

Document # xxxx	<b>24 hour Thca Sugar Tek (Apothecary36)</b>	<b>Company Name/Logo</b>
Revision Date: 4/4/21		Page 1 of 4

Document Control - Document Revision & Approval History					
Revision	Pages	Prepared By	Reviewed By	Approved By	Date

Purpose	The purpose of this procedure is to provide detailed instructions for 24 hour THCa crystallization from an initial extraction with hydrocarbons.
---------	--

Definitions	Term	Definition
	PPE	Personal Protection Equipment (PPE) Items worn to protect employees from exposure to hazardous materials and prevention of injury.

References	Document Number	Document Title

### Safety

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

PPE: The following should be worn by all lab personnel during Hazard material handling

- a. Splash goggle
- b. Lab coat
- c. Gloves
- d. Respirator

### Hazard Identification

Preparation and Use:

- a. This process will use a hydrocarbon solvent (100% N butane and 100% propane). The process is to be done in an engineer reviewed and certified closed loop system. This process is to be done in a space that adheres to NFPA and local fire regulations. Always use a gas detection system. Ventilation systems should have a backup generator on standby should the power go out. All electrical and other ignition sources should be outside of the hazardous area and plumbed in from the ceiling.
  - i. Concentration- Use 100% N Butane Solvent and 100% Propane Solvent (Insert product name and purchase location).

Document # xxxx	<b>24 hour Thca Sugar Tek (Apothecary36)</b>	<b>Company Name/Logo</b>
Revision Date: 4/4/21		Page 2 of 4

- ii. Quantity- 10 parts Butane solvent : 1 part flower Followed by 1 part Propane solvent.
- iii. Frequency- An initial volume of solvent is used, recovered and a second micro volume is added to the product after recovery.
- iv. Location- Extraction occurs in a Closed Loop hydrocarbon extractor.
- b. W1 Acid Activated Bentonite Clay is dried at 65 C before use. An initial baking at 0 psi will prevent water from violently boiling out of the clay under vac. It is essential to clean and dry the Vacuum oven before baking the powder. The clay will soak up water, terpenes and solvent if the oven is not clean.
  - i. Concentration- Use 100% W1 bentonite clay (**Insert product name and purchase location**).
  - ii. Quantity- Amount needed will vary depending on the quality of the biomass. A dehydrated clay will be more efficient . A clay that has soaked up moisture will be less effective in color remediation.
  - iii. Frequency- An initial volume of clay is used
  - iv. Location- w1 bentonite clay should be handled in a contained area to minimize clouds of powder contamination. Ideally the same room that biomass is packed into columns or outside in open air. W1 bentonite clay should be dried in a vacuum oven.
- c. Dry Ice is used to bring solutions and solvents to a desirable temperature with great efficiency. CO2 gas can cause asphyxiation. Dry ice inside of a closed column can create pressures that will burst clamps and even thin walled pipes. Never place dry is in the material column. Do not touch dry ice with bare hands.
  - i. Concentration- Use dry ice pellets (**Insert product name and purchase location**).
  - ii. Quantity- about 100 lbs per day on average
  - iii. Frequency- Dry Ice is to be replenished as needed each run.
  - iv. Location- Use dry ice in a ventilated area.
- d. See Butane and Propane SDS for detailed risks.
- e. See Acetone SDS for detailed risks

#### Procedure

1. Dehydrate w1 clay and assemble the system. Use material socks for biomass loading and unloading.
2. a. Chill material column (**Dry ice Sleeve, Acetone**)
  - b. Chill CRC column (**Dry ice Sleeve, Acetone**)

Document # xxxx	<b>24 hour Thca Sugar Tek (Apothecary36)</b>	Company Name/Logo
Revision Date: 4/4/21		Page 3 of 4

- c. Chill injection coil (**Dry ice, Acetone**)
- 3. Pull a vacuum from the bottom to the top. For example, collection chamber > pass through column > crc column> material column> injection coil
- 4. Once system reaches temperature (**-50°C or colder, from outside of jackets**) and vacuum reaches (**-30 mmHg**) prime the crc column with n butane to wet the clays. To do this you must bypass the material column with a tee and a valve.
- 5. Open liquid valve from solvent tank to injection coil. Very slowly crack open the valve to the material column. This will allow for more time for the solvent to flow through the coil and prevent the dry ice and acetone from boiling all over the coil
- 6. a. Open valve from crc to pass through column.
  - b. Open valve from pass through column to collection chamber.
  - c. Open valve from material column to crc
- 7. Turn on recovery pump
- 8. Use a sightglass to determine when you have passed thca solution through crc and in to collection chamber
- 9. Once a noticeable volume of thca solution is visible, close the solvent tank liquid injection valve.
- 10. Now, at the top of the material column, inject a small volume of propane gas. The purpose is to provide a small vapor push without the need to vent any gas like nitrogen.
- 11. Fill collection chamber with 60% volume butane thca solution. Close the valve to the pass through column when collection chamber is at 60% fill volume and place in a hot water bath. Recover majority of solvent (**80%**) at 45 C. Pull collection chamber off hot water bath and allow more solution to flow in from pass through column. Repeat until no more liquid will flow into collection.
- 12. Finish recovery of the residual butane without the use of the hot water bath to preserve the quality of the extract. Bring collection chamber to a maximum of 0 psi at a maximum of 15 C
- 13. Open collection chamber and transfer into a Pyrex dish for whipping
- 14. Whip gently for no more than 1 minute and place in a vacuum oven at 95-99 f

Document # xxxx	<b>24 hour Thca Sugar Tek (Apothecary36)</b>	Company Name/Logo
Revision Date: 4/4/21		Page 4 of 4

15. After 1 hour in the vac oven whip again for maximum 1 minute. Place back in oven. Wait 4 hours

16. The solution should be showing signs of nucleation. If the solution is crystal clear, repeat step 15 until some nucleation. If nucleation is visible, scrape into wide mouth mason jar or diamond miner.

17. Take note of the volume of oil. Add 50 ml of distilled n butane to every 200 ml of oil and seal the jar / diamond miner.

18. Place the jar or diamond miner in the oven at 80 f or 27 C

19. Your solution should form thca sugars by the end of the day ☺

#### Training

All personnel shall read and fully adhere to this SOP when extracting for THCa crystal production, and should be trained hands on with this extraction and crystallization procedure.

“I have read and understand this SOP. I agree to fully adhere to its requirements”

Last	First	Employee ID	Signature	Date