



INSTRUCTIONS

NANOSTABILIZER®-LSO

USER GUIDE:

WITH LSP-600 PROCESSOR IN THE BATCH CONFIGURATION



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MATERIALS NEEDED:

- LSP-600 ultrasonic processor configured in the batch mode (see LSP-600 User Manual for details);
- Digital scale, ice/water bath, 1 micron capsule filter with integrated syringe;
- Tall 250 ml beaker (process beaker), magnetic stirrer with hotplate, stir-bars, dark-glass storage container (finished product container);
- NanoStabilizer®-LSO, cannabis extract* (e.g., isolate, distillate, full-spectrum oil, etc.), distilled water.

INSTRUCTIONS FOR MAKING 200 ml OF NANOEMULSION:

The instructions below detail the method for preparing 200 ml (200 g) of nanoemulsion with the cannabis extract concentration of **20 mg/ml**. If a different concentration is desired**, use the table below and substitute the bolded numbers in the instructions with the numbers in the colored boxes.

Cannabis extract* concentration in nanoemulsion**	10 mg/ml	20 mg/ml	30 mg/ml	40 mg/ml	50 mg/ml
Cannabis extract* (g)	2	4	6	8	10
NanoStabilizer®-LSO (g)	8	16	24	32	40
Distilled water (g)	190	180	170	160	150
Total (g)	200	200	200	200	200
Number of 10 mg of cannabis extract* doses per 200 ml/200 g of nanoemulsion	200	400	600	800	1,000

* If your cannabis extract is solid or very viscous at room temperature (e.g., CBD isolate, Delta 8 THC), it may be necessary to dissolve a small amount of carrier oil in it (e.g., 1 part of MCT oil to 3–4 parts of extract by weight) before processing. Heating to approximately 70 °C (158 °F) may be required to fully dissolve the carrier oil in the extract. We do not recommend processing extracts with high wax contents as some of the wax may remain untreated, separate from the nanoemulsion, and interfere with filtration.

Note: Diluting your cannabis extract in a carrier oil will decrease the concentration of cannabinoids in the extract and the resulting nanoemulsion. After the dilution is made, the carrier oil should be considered as part of your cannabis extract.

** If your intention is to convert this nanoemulsion into a water-soluble powder, we recommend that you stay with the 20 mg/ml concentration, as detailed in this guide. We also recommend that you dry/powderize the nanoemulsion within 48 hours of producing it.

1

Mixing your cannabis extract with NanoStabilizer®-LSO and water:

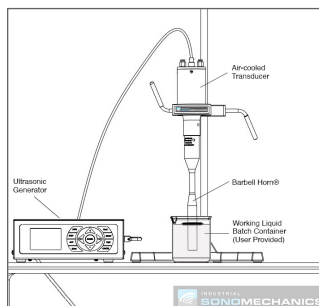
- a. Place the process beaker with a stir bar on the digital scale and carefully dispense **4 g** of your cannabis extract* onto the bottom of the beaker.
- b. Tare the digital scale and accurately dispense **16 g** of NanoStabilizer®-LSO into the process beaker.
- c. Tare the digital scale and dispense **180 g** of distilled water into the process beaker.
- d. Place the process beaker on the magnetic stirrer/hot plate, turn on the stirrer (at a low speed) and turn on the heater. Bring the contents to approximately 65 °C (149 °F). Continue to stir (increasing the speed as needed) and supply the heat until the ingredients appear thoroughly mixed.

2

Ultrasonic processing:

In this step, ultrasonic processing will commence. Refer to LSP-600 User Manual for operating instructions.

- a. Assemble the LSP-600 ultrasonic processor in the batch mode (see LSP-600 User Manual and schematic on the right for details).
- b. Place the process beaker in the ice/water bath (not shown). The diameter of the bath should be at least 2 times that of the process beaker. You must be able to keep the processed liquid temperature below 70 °C (158 °F). The water level in the bath should be sufficient to cover the contents of the process beaker, but not so high that the ice/water could spill into the process beaker.
- c. Immerse the FBH-type Barbell Horn® into the liquid in the process beaker by about 5 cm. Make sure that there is a distance of at least 3 cm from the bottom of the horn to the bottom of the beaker.
- d. Set the ultrasonic amplitude to 80 % (see LSP-600 User Manual for details). Note that this setting can be adjusted up or down to optimize the results.
- e. Set the generator to run for 15 minutes (see LSP-600 User Manual for details) and activate ultrasound. Replenish the ice in the ice/water bath as needed.



- f. After ultrasound automatically deactivates, move the ice/water bath with the process beaker to the magnetic stirrer/hot plate. Turn on the stirrer.
- g. Leave the processed liquid stirring on the magnetic stirrer in the ice/water bath for 5 more minutes.

Filtration:

3 In this step, you will use the capsule filter assembly with integrated syringe to remove any particulate contamination from your nanoemulsion as you collect it in the finished product container.

PARTS NEEDED:



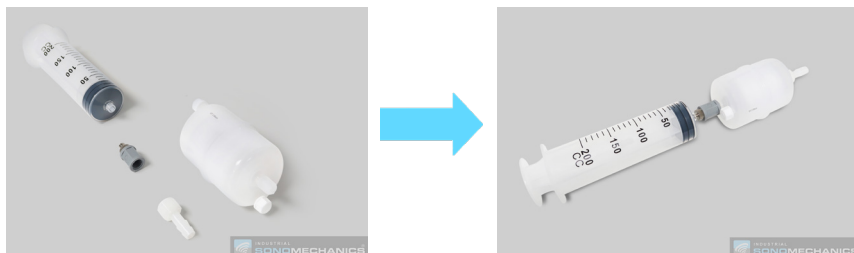
1. 1 micron capsule filter

2. 200 cc syringe

3. Luer lock adapter

4. Barbed adapter

- a. Assemble items **1 - 4** as shown in the pictures below.



- b. Filter the nanoemulsion by using the 200 cc syringe to pass it through the 1 micron filter into the presterilized finished product container.
- c. Store the finished product container with the filtered nanoemulsion in a cool and dark place.
- d. Flush the filter with distilled water gently in both directions until the water runs clean.

To re-order NanoStabilizer®-LSO and replacement filter assemblies, please use the link or scan QR code below to visit our online store.

<https://sonomechanics.myshopify.com>





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