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Red Mesa Science & Refining

BAYMEDICA
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THCV HANDLING & STORAGE PRACTICE

Tetrahydrocannabivarin (THCV)

Due to its unique chemical properties, THCV requires specific handling protocols to preserve its stability, potency and appearance. This guide provides clear, step-by-step best practices for safely managing THCV from storage to final formulation.

1. Prevent Oxidation & Color Change

- Avoid oxygen exposure – THCV surface oxidizes quickly, turning deep purple, though potency remains unaffected unless ground into a powder (and left exposed to oxygen), as this process significantly increases surface area and oxidation.
- Use inert packaging – Store and ship in opaque, airtight containers purged with an inert gas such as nitrogen or argon.

2. Two Recommended Methods for Removing THCV from Vessel

Because THCV is a solid at room temperature and prone to surface oxidation, handling should minimize exposure to air and maximize process efficiency. Choose one of the two recommended methods below:

1. Heating Method (~65°C)

- THCV melts around 60–75°C and boils at approximately 220°C. (428°F) under atmospheric pressure. However, the Nalgene bottles will start to deform at 100°C (212°F). Do not exceed this temperature.
- Allow it to melt slowly until the THCV becomes a liquid.
- Once melted, unseal and pour directly into your formulation vessel.

Two options for heating:

1. Place the sealed THCV vessel in a warm water bath (not exceeding 95°C)
2. Place into a temperature-controlled oven. Recommend 65°C for your first melting.

Advantages: Minimizes surface exposure time; no mechanical handling is needed.

2. Freeze & Shatter Method

- Ensure that the THCV vessel is solid and in a frozen state. Place in a freezer (or on dry ice) for 30–60 minutes.
- After verifying it's solid, use a rubber mallet to strike the closed bottle, first toward the top of the bottle. Don't strike the cap itself, as it will crack and break. This will facilitate the breaking up of solid into THCV crystals.
- Open the vessel and quickly pour or scoop the pieces into the secondary container for formulation.
- Once THCV is shattered, the remaining should be placed in an oxygen-free environment with an inert gas (Argon, Nitrogen, etc) before sealing the container. The same applies to a secondary formulation vessel, unless it is incorporated into another oil or covered with another substance.

Advantages: No heating required; convenient for solid or powder-form applications; eliminates loss on vessel walls.

3. Smart Handling Techniques

- **Avoid grinding/powderization** – This minimizes the increased surface area and thus reduces the oxidation risk.
- **Work quickly** – Once THCV is exposed, incorporate it quickly into the product medium to homogenize and protect against air. When not working with THCV, place it in an inert gas environment.

4. Storage: Protect from Light & Heat

- Opaque containers – Shields THCV from light, which degrades cannabinoids.
- Cool environments – Ideally refrigerate or freeze; avoid temperatures above 65°C.
- Keep sealed until use – Minimize opening the container to reduce exposure to air/oxygen.

5. Optional Antioxidants

- Add food or pharma-grade antioxidants as befits the formulation, with caution. For instance, vitamin C may be appropriate for an edible, but one should avoid vitamin E acetate in vapes.

6. Post-Incorporation Stability

- Once THCV is incorporated into a formulation, its exposure to oxygen is minimized, significantly reducing the risk of oxidation or discoloration.

THCV Quick-Use Checklist:

TASK	ACTION
Shipment reception	Confirm inert-purged opaque container; document COA & packaging date.
Prep before handling	Freeze the vessel on ice or in a freezer for 30 minutes or more, or warm it using a warm water bath or a vacuum oven. Start around 65°C.
Safe transfer	Pour melted THCV or pour or scoop THCV into the formulation.
Post-use storage	Reseal vessel, purge headspace with inert gas, return to fridge/freeze.
Optional additive step	Add approved antioxidant if the product formulation warrants it.
After incorporation	Ensure thorough mixing; color change becomes minimal post-integration.

Key Reminders:

- Minimize oxygen exposure through handling time, grinding, and open containers
- Control the environment by using opaque containers and maintaining cool storage temperatures.
- Use inert gas purging during packaging, resealing, and storage.
- Incorporate promptly into the formulation to prevent degradation before the final product is manufactured.

Red Mesa Science & Refining®
4443 E. Commerce Dr.
St. George, UT 84790
435.677.6363
Info@RedMesaScience.com
www.RedMesaScience.com