

A certificate of analysis (COA) can look like a page of abbreviations, decimal points, and tiny print. But if you're checking a hemp product's THC content, you don't need to understand every lab method. Start with three things: the **delta-9 and THCA values**, the **total THC line item**, and how much product is in the container.

Those details matter because the federal definition of hemp is shifting toward a total-THC calculation that includes THCA. A product that appears low in delta-9 alone may have a higher total once THCA is converted into its delta-9 equivalent. New federal limits also focus on THC per container, not just per serving.

This guide covers the COA basics, the 0.877 conversion factor, the difference between serving and container math, and the announced November 12 and December 11, 2026 milestones. Regulations and implementation can change, so use this as a reading guide—not a substitute for current legal advice or a state-specific compliance check.

Start with the COA basics

A COA is a lab report for a particular sample. It commonly reports cannabinoid levels and may include testing for contaminants such as pesticides, heavy metals, residual solvents, or microbes. Third-party lab testing can help verify what's in a product, but the report is only useful if it matches the product and batch you have in hand.

Before reading the cannabinoid numbers, check the report's identifying details:

- **Product and sample name:** Does it match the product you're considering?
- **Batch or lot number:** Does it match the package?
- **Sample and report dates:** Is the report for this batch, rather than an older one?
- **Lab identity:** Is the laboratory named, with contact or accreditation information?
- **Units and basis:** Are results shown as a percentage, milligrams per gram, milligrams per serving, or milligrams per package?

A COA for a different lot does not verify your package. Likewise, a report that lists delta-9 THC but omits THCA may not tell the whole story when total THC is the relevant measure.

Delta-9 THC and THCA: why both values matter

Delta-9 THC is the cannabinoid most people mean when they say "THC." **THCA** is its acidic precursor in the plant. Heat can convert THCA into delta-9 THC, a process called decarboxylation. Because the two molecules have different molecular weights, one milligram of THCA does not become one milligram of delta-9 THC.

For a common total-THC calculation, THCA is multiplied by **0.877**, then added to delta-9 THC:

$$\text{Total THC} = \text{delta-9 THC} + (\text{THCA} \times 0.877)$$

The factor accounts for the mass lost as THCA converts to delta-9 THC. It's a conversion, not a claim that every product will deliver exactly that amount of THC in real-world use. Lab methods, product type, and applicable rules can affect how results are reported or interpreted.

A quick math example

Suppose a COA reports 0.20 mg delta-9 THC and 1.00 mg THCA per serving:



- THCA contribution: $1.00 \text{ mg} \times 0.877 = 0.877 \text{ mg}$
- Total THC: $0.20 \text{ mg} + 0.877 \text{ mg} = \mathbf{1.077 \text{ mg per serving}}$

Looking only at the delta-9 result would show 0.20 mg. Including THCA produces a total-THC estimate of about 1.08 mg per serving. That's why the **delta-9 and THCA values** should be checked together, even when a report also provides a total.

Find the total THC line item—and check its units

Some reports have a row labeled "Total THC," "Total Δ9-THC," or similar. Others list delta-9 THC and THCA separately without giving a combined number. Don't assume every lab uses identical labels or calculations. Read the report's notes, units, and test method, and ask the brand or lab to explain any unclear entry.

What the COA shows What to check Common reading mistake Delta-9 THC Amount and unit: per gram, serving, or package? Treating it as the only relevant THC value THCA Amount and whether the report's total calculation includes it Ignoring it because it is not listed as delta-9 THC Total THC Whether the lab explains the calculation and reporting basis Assuming the number is per container when it is per gram Serving size and servings per container Whether the package has multiple servings Comparing a per-serving value with a per-container limit

If a report gives results as a percentage, you may need the product's weight to convert the result to milligrams. For example, 1% by weight equals 10 mg per gram. A 2-gram item at 1% would contain about 20 mg of that measured substance, assuming the percentage and product weight refer to the same basis. When the units or basis are unclear, don't guess—ask for clarification.

Per serving is not per container

A serving is the amount a label suggests using at one time. A container is the whole package. A bottle, jar, or pouch may contain many servings, so multiplying the per-serving amount by the number of servings can produce a much larger per-container total.



Quick comparison

Imagine a bottle has 30 servings, with 0.10 mg total THC per serving:

- Per serving: 0.10 mg
- Per container: $0.10 \text{ mg} \times 30 = \mathbf{3 \text{ mg}}$

The per-serving number may look small, but the package total is 3 mg. If a rule sets a cap per container, the serving number alone does not answer whether the product meets that limit.

This is one reason a per-container cap can be stricter than a per-serving standard. It limits the total amount in the entire package, regardless of whether the manufacturer divides it into a few servings or many. A product cannot necessarily avoid a package cap by printing a smaller serving size.

What the federal shift means for total THC

The federal hemp definition is shifting from a focus many shoppers associate with delta-9 alone toward a measure that includes total THC, including THCA. Under the amended federal framework described for implementation in 2026, the limit for certain finished hemp-derived cannabinoid products is expressed as **0.4 mg of total THC per container**. That is a package-level figure—not 0.4 mg per serving.

For scale, if a container has 10 servings, a hypothetical 0.4 mg-per-container ceiling would average 0.04 mg per serving if divided evenly. But averaging does not change the rule's unit: the relevant comparison is the total in the container. Product scope, statutory definitions, and how a particular product is classified all matter, so don't apply the number mechanically to every item marketed as hemp.

Federal law is only part of the picture. States may set different or additional restrictions, and product categories can be treated differently. A brand or retailer saying "legal in all 50 states" is not a substitute for checking current rules where the product is sold.

Why people mention November 12 and December 11, 2026

The dates are easy to blur together, so keep them separate in your notes. The federal hemp-definition change is scheduled to take effect on **November 12, 2026**. A second date, **December 11, 2026**, is also cited in rollout

discussions. These dates should not be casually treated as interchangeable—or as proof that every product gets a 30-day grace period.

Date How to think about it What not to assume November 12, 2026 Scheduled federal effective date for the revised hemp framework That all state requirements change on the same day December 11, 2026 A separate rollout or implementation milestone cited in discussions That it automatically creates a nationwide enforcement holiday

Before publishing a compliance claim or making a stocking decision, verify what December 11 applies to in the current statute, agency guidance, or state rules. A second date on a calendar is not, by itself, a legal safe harbor. Retailers should document the source and date of any guidance they rely on, because implementation details can be clarified or revised.

How to check a product's COA in practice

1. **Match the package to the report.** Confirm the product name and batch or lot number.
2. **Check report dates.** A test from an old batch is not proof about a new batch.
3. **Find both values.** Look for delta-9 THC and THCA, not just one cannabinoid line.
4. **Read the units.** Identify whether results are per gram, per serving, or per container.
5. **Calculate when necessary.** Use $\text{delta-9} + (\text{THCA} \times 0.877)$ when that conversion is applicable.
6. **Multiply to the package level.** If the result is per serving, multiply by servings per container.
7. **Check the relevant rule.** Confirm the federal and state requirements for that product type and date.

Brands such as Joy Organics may provide product testing information for shoppers to review. Regardless of brand, use the same checklist: current batch, understandable units, complete cannabinoid results, and a report you can actually match to the package. A QR code is helpful only if it opens the right report.

Label phrases that can confuse people

Keep <https://www.usaenlinea.com/the-hemp-law-changing-this-fall-and-what-it-means-for-whats-on-the-shelf/> an eye out for claims that sound conclusive but leave out important details. “THC-free” should be supported by an appropriate, batch-matched COA and a clear explanation of what “free” means—such as non-detectable under a stated test method and limit of detection. “Made with hemp” does not tell you the total THC amount. And “under 0.3% delta-9” may not answer a question about total THC, package contents, or current product-specific rules.

A COA is a tool, not a blanket guarantee of safety, legality, or effectiveness. It reports findings for a tested sample under particular lab conditions. Read the numbers, confirm the batch, and ask questions when the report leaves out THCA, hides the units, or uses a total-THC label without explaining its basis.

The simple takeaway

To read total THC without a chemistry degree, find delta-9 THC and THCA, check the units, and use the 0.877 factor when a total-THC calculation calls for it. Then distinguish the amount per serving from the amount in the entire container. With the federal shift toward total THC and a per-container cap, that last step can change the answer. Keep the November 12 and December 11, 2026 milestones distinct, verify the current rules, and never rely on an old or mismatched COA.