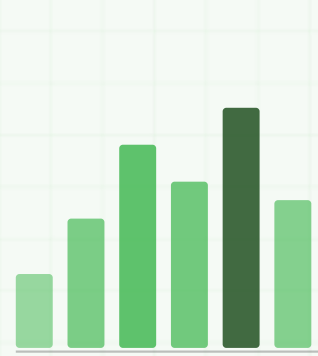
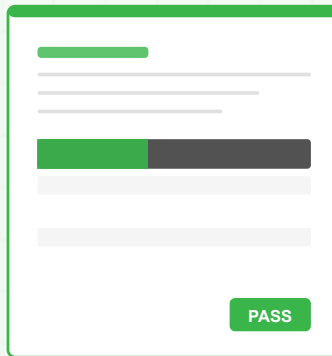


# HOW TO READ & INTERPRET A CERTIFICATE OF ANALYSIS

A practical guide for licensed cannabis producers to understand, verify, and act on lab results with confidence.

GrowerIQ.ca



**"A Certificate of Analysis is your product's scientific report card — and one of the most scrutinized documents in your operation."**

## SECTION 1

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# WHAT IS A COA?

A Certificate of Analysis (COA) is an official document issued by an accredited third-party laboratory that certifies the chemical composition and safety of a cannabis batch. It serves as both a compliance document and a quality assurance tool.

In Canada, licensed producers are required under the *Cannabis Regulations* to test products for potency, microbial contaminants, heavy metals, pesticides, residual solvents (for extracts), and other parameters before releasing product to market.

## WHO ISSUES A COA?

COAs must be issued by ISO 17025-accredited laboratories approved by Health Canada. Always verify accreditation before accepting a lab's results as compliance-valid.

# ANATOMY OF A COA

## 2.1 HEADER INFORMATION

Every COA should include identifying information at the top. Verify these match your internal records exactly:

FIELD	WHAT IT MEANS	WHAT TO CHECK
<b>Sample ID / Lab ID</b>	The lab's internal tracking number	Cross-reference with your submission paperwork
<b>Client / LP Name</b>	Your licensed producer name	Must match your Health Canada licence
<b>Lot / Batch Number</b>	Your internal batch identifier	Must match seed-to-sale records exactly
<b>Sample Type</b>	Dried flower, oil, extract, etc.	Confirm it matches what you submitted
<b>Date Sampled</b>	When the sample was collected	Relevant for stability / shelf-life
<b>Date Reported</b>	When the COA was issued	Ensure it's within acceptable turnaround

### ⚠ WATCH OUT

Batch number mismatches between the COA and your seed-to-sale platform are a common compliance finding. Always reconcile before releasing product.

## 2.2 POTENCY / CANNABINOID PROFILE

CANNABINOID	ABBREVIATION	NOTES
Tetrahydrocannabinolic Acid	THCA	Non-psychoactive precursor; converts to THC when heated
Delta-9-THC	THC	Primary psychoactive compound; tightly regulated
Total THC	—	$THCA \times 0.877 + THC$ (used for regulatory limits)
Cannabidiolic Acid	CBDA	Precursor to CBD
Cannabidiol	CBD	Primary non-psychoactive therapeutic compound
Total CBD	—	$CBDA \times 0.877 + CBD$
Cannabinol	CBN	Degradation product of THC; indicates age or heat exposure
Cannabigerol	CBG	Precursor cannabinoid; increasingly valued in product lines

### THE TOTAL THC FORMULA

Total THC = (THCA × 0.877) + THC. The 0.877 factor accounts for mass lost during decarboxylation. This is the number Health Canada uses for potency claims and limits — not the raw THCA figure.

## 2.3 MICROBIAL TESTING

TEST	ACCEPTABLE LIMIT (HEALTH CANADA)
Total Aerobic Count (TAC)	≤ 10 <sup>5</sup> CFU/g (dried flower)
Total Yeast & Mold (TYMC)	≤ 10 <sup>3</sup> CFU/g
E. coli	Absent / < 10 CFU/g
Salmonella spp.	Absent in 10g
Bile-tolerant gram-negative bacteria	≤ 10 <sup>3</sup> CFU/g

## 2.4 HEAVY METALS

METAL	LIMIT (ORAL, HEALTH CANADA)
Lead (Pb)	≤ 0.5 ppm
Arsenic (As)	≤ 0.2 ppm
Cadmium (Cd)	≤ 0.2 ppm
Mercury (Hg)	≤ 0.1 ppm

## 2.5 PESTICIDE RESIDUES

Health Canada maintains an approved list of pest control products for cannabis. Any pesticide residue above the Maximum Residue Limit (MRL) results in a failed COA. Results are typically expressed in ppm or ppb — a passing result shows "ND" (Not Detected), "<LOQ", or a value below the MRL.

## 2.6 RESIDUAL SOLVENTS (EXTRACTS ONLY)

For cannabis oils and extracts, labs test for residual processing solvents such as ethanol, butane, and propane. Limits are set by Health Canada and must be met before any concentrate can be sold.

## UNDERSTANDING PASS / FAIL

Most COAs include a clear Pass/Fail summary per test category. However, don't just look at the summary — review the raw numbers too.

- A result close to the limit today may exceed it on a retest if there's sample variability.
- Some labs round results in ways that produce a technical pass but warrant closer review.
- Trend data across batches is far more valuable than any single COA.

### ⚠ ACTION REQUIRED ON A FAIL

A failed COA triggers mandatory reporting obligations. Product must be quarantined immediately. Do not release, transfer, or destroy without following your recall/deviation SOP and notifying Health Canada as required.

## VERIFYING LAB ACCREDITATION

Before accepting any COA as compliance-valid, confirm:

- The lab holds a current ISO/IEC 17025 accreditation certificate
- The lab appears on Health Canada's list of approved cannabis testing labs
- The accreditation scope covers the specific tests you need
- There are no outstanding compliance actions or suspensions against the lab

## SECTION 5

# COA REVIEW CHECKLIST

Use this checklist every time a COA is received before filing or releasing product:

- Batch/lot number matches internal records and seed-to-sale platform

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- Sample type matches submitted product

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- Lab is ISO 17025 accredited and Health Canada approved

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- Date sampled and date reported are both present and logical

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- All required test panels are present (potency, microbials, metals, pesticides)

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- Total THC calculated correctly ( $\text{THCA} \times 0.877 + \text{THC}$ )

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- All results show Pass or values below regulatory limits

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- No "ND" results flagged for analytes that should be present

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- COA is signed/authorized by a qualified lab representative

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- COA filed in batch record with unique document control number

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## SECTION 6

# USING COA DATA STRATEGICALLY

Beyond compliance, COA data is a goldmine for continuous improvement. Consider tracking potency trends by cultivar and room, microbial trends over time, batch-to-batch consistency, and lab turnaround time as an operational KPI.

### GROWERIQ TIP

Centralizing your COAs in a cannabis operations platform lets you overlay lab data against environmental records (VPD, humidity, temperature) to identify what's driving your best — and worst — batches.



## Cannabis Operations Software · GrowerIQ.ca

This guide is for informational purposes. Always consult Health Canada regulations and your Quality Assurance Person (QAP) for compliance decisions.