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● What's the deal with oxalic acid?

**Oxalic acid** is a natural compound in many leafy greens (spinach, beet greens, chard, and to a lesser degree, kale).

It can bind to minerals like calcium and iron, forming **oxalates** — which slightly reduces how much your body absorbs and, in some people, can contribute to kidney stone formation.

**Spinach and beet greens** are high-oxalate. **Kale is actually moderate to low** in comparison.

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● Do you **have to** steam kale for smoothies?

**Not really, for most people.**

Here's why:

**Kale's oxalic acid content is much lower than spinach's.**

A typical handful in a smoothie won't overload your oxalate intake if your overall diet is varied and you stay hydrated.

Lightly steaming *does* reduce oxalates a bit — but you can also balance them by pairing kale with calcium-rich foods (like your chia, tofu, or soy milk!). The calcium binds to oxalates in the gut and helps carry them out harmlessly.

So if you're healthy and don't have a history of kidney stones, raw kale in your smoothie is generally fine *and very common*.

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● How much kale is reasonable?

~1 cup (~30–40 g) raw kale in a smoothie is a typical portion — gives you fiber, vitamin K, folate, and carotenoids with only moderate oxalate load.

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🟢 If you **prefer** to steam

A quick *blanch* — pour boiling water over the leaves, wait 1–2 minutes, drain — is usually enough.

This reduces oxalates and makes kale a bit gentler on digestion.

Then cool or freeze for easy smoothie use.

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✅ Key takeaway

✓ **Raw kale is totally fine for most people in normal amounts.**

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Here's how that quick blanch works, step by step:

✅ **How to blanch kale for smoothies:**

- 1 Bring a pot of water to a boil (or just boil water in a kettle).
- 2 Place your washed, chopped kale leaves in a heatproof bowl or pot.
- 3 Pour the boiling water over the kale until it's fully submerged.
- 4 Let the kale *sit in the hot water* for **1–2 minutes** — this softens the leaves and reduces some oxalic acid.
- 5 Drain immediately and, if you like, rinse with cold water (or dunk in an ice bath) to stop the cooking.
- 6 Pat dry or squeeze out excess water.

👉 After that, you can use it right away, or portion and freeze for easy smoothie toss-ins.

Practical tip

If you want extra convenience:

Wash & chop fresh kale,

Lightly blanch if you like,

Freeze it in portions → ready to toss straight into the blender.