

Seed Oils Deep Dive: Are They Really That Bad for You?

Seed oils (canola, sunflower, safflower, soybean) are not inherently harmful when consumed in modest amounts. They are mostly unsaturated fats, which can help lower LDL cholesterol when they replace saturated fats like butter, lard, or beef tallow. **The real issues are how they're processed, how much is consumed, and the dietary context.**

Concerns about seed oils usually center on:

- **Ultra-processed foods:** Refined seed oils are cheap, neutral in taste, and stable—so they show up in snacks, fried foods, and baked goods. The problem is the overall nutritional profile of ultra-processed foods, not the oils alone.
- **Processing method:** Cold-pressed or expeller-pressed oils preserve antioxidants and quality. Highly refined oils lose beneficial compounds and may degrade under heat. Chemical solvent extraction is common and not ideal, but residues are tightly regulated for safety.
- **Heat stability:** Reused deep-frying oils can form harmful compounds.
- **Omega balance:** Too much omega-6 relative to omega-3 may promote inflammation, but this depends on the whole diet.
- **Trans fats:** Older industrial processing (partial hydrogenation) created harmful trans fats—now mostly banned. However, small amounts can also form naturally in ruminant fats and in any oil or animal fat that's repeatedly reheated for frying, including beef tallow, lard, or butter.





Processing Note: The Bigger Picture

Many seed oils are extracted using **hexane**, a petroleum-based solvent. While residues in the final oils are regulated and found at trace levels (typically below 1 mg/kg in the EU), the process reflects the complexity of industrial food production. After extraction, the seed hulls and defatted meal—often sprayed or treated with hexane during processing—are commonly fed to livestock. In short, even if residues are minimal in the final oils, the chemical solvent used in extraction enters the feed chain and circles back into the food system. This illustrates how tightly interconnected and industrialized our food supply has become: byproducts of seed processing feed livestock, which in turn feed people. Bottom line: even if individual residues are minimal, **the larger food system is broken**—built on overprocessing, chemical shortcuts, and excessive reliance on refined ingredients.

Olive oil & extraction

Extra-virgin olive oil (EVOO) is pressed mechanically (no chemical solvents), which preserves polyphenols and antioxidants that support heart health. Expeller-pressed seed oils are also mechanically extracted and generally retain more beneficial compounds than highly refined oils.



Endothelial function (post-meal blood-vessel response)

Several studies show that large, high-fat meals can transiently impair endothelial function (the ability of blood vessels to dilate), regardless of whether the fat is animal- or plant-based. The effect appears driven by total fat load, meal composition, and thermal degradation products from overheated fats—rather than one specific oil. In other words: dose and cooking method matter. Emphasizing minimally processed fats, gentle cooking methods, and overall plant-forward patterns supports vascular health.

Calories and fiber

Whether animals or plants, all fats/oils are calorically dense (approx. 120 cal. per Tbsp) and contain no fiber. By contrast, whole food plant sources (avocados, olives, nuts, seeds) retain fiber, water and micronutrients, making them more filling and nutritionally beneficial.

Why the Controversy?

This is a highly charged issue, with strong voices on all sides. Some claim seed oils are harmful, while others see them as entirely safe. The truth is more nuanced. We'll do our best here to explain what the science shows and where the real concerns lie.

Science: Current evidence does not support the idea that seed oils are inherently toxic. In fact, replacing saturated fats with unsaturated oils has been shown to reduce heart disease risk. The bigger risks come from excessive use, ultra-processed foods, and repeated high-heat cooking—not from small amounts used in a balanced diet.



Bottom line: Seed oils are not ideal when overused, but they are not inherently dangerous. Small to moderate amounts, especially from minimally refined oils, can fit into a healthy diet. Focus on whole-food fat sources like nuts, seeds, avocado, and soy, and minimize reliance on ultra-processed foods.

References & Further Reading

- Harvard T.H. Chan School of Public Health: Fats and Cholesterol (<https://www.hsph.harvard.edu/nutritionsource/fats/>)
- American Heart Association: Dietary Fats (<https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/fats>)
- The Guardian: What is the truth about seed oils? (<https://www.theguardian.com/science/2025/mar/29/rfk-jr-says-the-y-are-poisoning-us-influencers-call-them-unnatural-but-what-is-the-truth-about-seed-oils>)
- • NIH: Flow-Mediated Dilation and Endothelial Function (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6313445/>)

