

MY JOURNEY TO NATURAL FINISHES

Photo: Emma Sievers



Jim Sannerud

Photos by M. Baxley/Bear Witness Media, except where otherwise noted.

Wouldn't it be better if you could trust that a finishing product was truly safe to use from start to finish, not just after it is fully cured? Firsthand experience opened my eyes to a harsh reality: The marketing labels on commercially available finishes—*natural, safe for the environment, green*—are not to be taken at face value and often untrue. In this article, I'll share the journey that led me to this perspective, the research I've done, and how my wife Mary and I carefully choose safe and natural products in both our woodworking business, Sannerud Studios, and in our daily lives.

Firsthand experience

When I began working in cabinet shops in the 1980s, safe practices concerning chemical exposure were far from what

they are today. Back then, we sprayed lacquer without wearing a respirator, and lacquer thinner was our go-to cleaner for glue overspray on countertops, applied barehanded. This routine exposure to toxic chemicals—through both inhalation and skin contact—was simply part of the job. According to the Occupational Safety and Health Administration (OSHA), symptoms of toluene exposure, one of the chemicals found in lacquer thinner, worsen with increased exposure. Over time, this took a toll on me; today, even being near an open container of lacquer thinner makes me lightheaded.

Consumer concern about health, environment, and safety has prompted manufacturers to use minimal or vague labeling. Terms such as *natural, environmentally friendly, or food safe*

when cured are commonly used but rarely offer the full picture. As an example, there is a popular wood finish marketed as “100% organic and safe for the environment.” But it turns out the product includes, among other ingredients, white spirits, which is a mixture of petroleum-derived products like mineral spirits or turpentine substitutes. For most of us, “100% organic” conjures up images of natural, nontoxic materials—not petrochemical-based substances with environmental and health risks.

By sharing knowledge and encouraging informed choices, we can all work toward practices that minimize harm to both our health and the environment—without compromising the quality and beauty of the woodwork we so proudly create.

Origin stories

I've always been fascinated by origin stories—our roots and how they shape us. This curiosity has deeply influenced my creative practice, leading me to questions like: *Who were the first woodturners? What did the first chairs look like?*



SYMPOSIUM DEMONSTRATOR IN SAINT PAUL!

Jim Sannerud will be a demonstrator at AAW's International Woodturning Symposium in Saint Paul, Minnesota, June 12-15, 2025, where he will share his wealth of experience with attendees. Don't miss this chance to learn from Jim, live and in person! For the latest details, visit aawsymposium.org.

My interest in history, particularly the Second Industrial Revolution (1870–1914), has shaped much of my thinking about materials and methods. This period marked a turning point when synthetic chemicals began to emerge, replacing earlier, more traditional products. Understanding these historical shifts has given me a valuable perspective on how materials and processes have evolved, which continues to inspire questions about how we choose and use the substances in our work today.

In 2015, while studying in Northern Europe, I encountered homes, furniture, and wooden bowls painted with vibrantly pigmented linseed oil paints. This practice demonstrated that natural materials could be functional, durable, and beautiful, sparking a deeper appreciation for traditional methods. During that time, I visited the Maihaugen Museum in Lillehammer, Norway, an open-air museum showcasing rural life from the Middle Ages through the 20th century. The museum vividly illustrated the evolution of homes and farms—from the smoke-filled medieval house with its central firepit and lack of windows, to the painted interiors and decorated furniture of the 18th and 19th centuries. By the 20th century, homes featured vibrant, colorful designs that surpassed anything I had imagined.

One moment from that immersive experience stands out. In the 1930s kitchen of the Olsengården house, I met a costumed interpreter—Mrs. Olson—who was mopping the floor. The room was filled with the fresh, fragrant aroma of a pine forest, and I felt completely transported. Curious, I asked her about the scent. Smiling, she brought out a bottle of Grønnsåpe, explaining that it was a pine-sap-derived turpentine-based cleaner.

That simple moment, steeped in the senses, deepened my appreciation for the ingenuity and beauty of natural

I've made a conscious decision to eliminate petrochemical-derived finishes from both my creative practice and my daily life.

materials and traditional practices. That moment made me reflect on how people once made their own cleaners—or bought ones crafted from simple, natural ingredients. It was a reminder of a time when natural materials were central to daily life, from cleaning products to finishes. I couldn't help but wonder why we moved away from simpler, chemical-free solutions.

My curiosity led me to research the rich history of natural finishes. For example, during the Song Dynasty in China, tung oil was used to waterproof wooden boats—a practice still relevant today. Milk paint, made from casein (milk protein), lime, and pigment, dates back an astonishing 49,000 years.

I began collecting historic books on finishes, including one from 1854. These texts confirmed what I'd suspected: most natural finishes, whether from centuries ago or today, are based on linseed oil, tung oil, or other similar oils. Their enduring popularity makes sense—they're effective, sustainable, beautiful, and even smell good.

The more I learned, the more determined I became to embrace these materials in my own work and life. It was a lightbulb moment: I needed to fully explore these natural finishes, not just for my creative projects, but as a way to live more intentionally and sustainably. My experiences have transformed how I think about materials. Over the past year, I've made a conscious decision to eliminate petrochemical-derived finishes from both my creative practice and my daily life. In our woodworking business, we use only organic, safe, natural finishes for bowls, furniture, and other handmade items.



Collecting pine sap for natural turpentine, or 100% pure gum spirits of turpentine.

Photo: Dorothea Lange, Public domain, via Wikimedia Commons

Case in point

During a recent remodel of our home, I used organic finishes on high-wear surfaces like kitchen cabinets and wood countertops. For low-wear areas, such as the white pine wall and ceiling paneling, I chose to leave the wood unfinished. Even the exterior pine board-on-board siding of our house is untreated—demonstrating that living sustainably doesn't mean sacrificing beauty or function.

Through this journey, I've come to view traditional practices not as outdated but as deeply relevant to modern creativity, health, and sustainability. These methods honor our roots while providing meaningful and effective solutions for the future. What became clear to me is that the answers I sought lay in the natural finishes and colors I ►

was already working with. Researching historical practices and experimenting in my own work revealed that the materials I was looking for had always been there—rooted in traditional practices.

I have also confirmed that many finishes and paints marketed as “natural” or “safe” contain potentially harmful ingredients. By thoroughly researching and testing products, I developed a framework for evaluating finishes and paints based on three key criteria: safety, functionality, and longevity. This framework has allowed me to make informed choices that align with my values and enhance my work.

I won't say that these natural/organic finishes are more durable or long-lasting than pre-catalyzed lacquers or polyurethanes. But I will say that I don't leave the studio with headaches or feeling dizzy. I feel good making choices that don't adversely affect my health, the health of my family and clients, or the health of the people who manufacture toxic petrochemical-based finishes and the communities where their factories operate. I also know that what I'm doing is the best I can do for the environment in my practice.

My dream is that we all move toward using safe, nontoxic products and therefore limit the risks of exposing ourselves and the environment to harmful chemicals, while still having beautiful, lasting results. Mrs. Olson, at the museum, was onto something.



Tung oil is naturally derived from the fruit of the tung tree.

Photo: Tatiana Gerus (Brisbane, Australia), via Wikimedia Commons

Use natural finishes. Implement safe practices. Become your own best expert!

Reading Safety Data Sheets

Safety Data Sheets (SDSs) are designed to provide detailed information about the chemicals in a product, and OSHA requires all chemical products have an SDS. However, even these documents can be misleading and difficult to decipher. For example, a common chemical found in turpentines is listed as “(1S)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene.” At first glance, it looks like something I don't want to use. But I really don't know what it is, so I took it a step further and went to the U.S.

Department of Commerce, National Institute of Standards and Technology website. I still don't know what it is.

Since OSHA is the governing body requiring the availability of SDSs, I called them, but they couldn't give me any information either and simply suggested I contact the manufacturer. The manufacturer said that certain items are proprietary and I should call Chemtrek, a company that helps manufacturers comply with industry standards. At that point, I gave up and decided not to use any product containing that ingredient.

OSHA does offer a free training tutorial, “Understanding GHS Safety Data Sheets,” which “Explains the GHS [Globally Harmonized System] format for Safety Data Sheets (SDSs) adopted by OSHA when they revised their hazard communication standard in 2012.” You can view this training video at tiny.cc/SDStraining (URL is case-sensitive).

Know your products Solvents

• Industrial-grade turpentine:

Purchased from your local home center, this turpentine is *not* 100% pure gum spirits of turpentine, despite its label's claims. It will have residual or added chemicals in it. This type of turpentine originates from the paper and pulp industry where extracting turpentine from wood fibers is a chemical process.



True milk paint comes in powder form and must be mixed with water.



- **Natural turpentine:** Natural turpentine, or 100% pure gum spirits of turpentine, is derived from the oleoresin (essentially tree sap) of pine trees. The oleoresin is collected by making a scar on the tree that allows the natural resin to slowly ooze out. The resin is collected and distilled, and the result is pure natural turpentine. Your nose knows. Home center turpentine stinks like, well, turpentine, and natural turpentine smells like a pine forest.
- **D-limonene:** D-limonene is a colorless, oily liquid with a light, citrusy scent. It is used in fragrances, green cleaning products, and other applications. The oil is extracted from citrus fruit rinds either by mechanically cold pressing or through distillation.
- **Denatured alcohol:** This is pure alcohol with methanol added to make it poisonous to drink. Thus, it is not regulated and can be sold without a liquor license.
- **Alcohol:** Pure grain alcohol can be used as a substitute for denatured alcohol for cleaning or dissolving shellac flakes.
- **Mineral spirits:** Without splitting hairs, mineral spirits, paint thinner, white spirits, and odorless mineral spirits are essentially all in the same family. They are petrochemical-based products, and we do not use them in our studio.
- **Linseed oil (boiled; home center):** Boiled linseed oil from your local home center contains petroleum-based chemicals and metallic driers.
- **Linseed oil (boiled organic):** Purified boiled linseed oil is a refined, cold-pressed linseed oil with a dark amber color and will dry easily to form a protective surface finish.
- **Walnut oil:** Walnuts are mechanically pressed to extrude the oil, which is then filtered and heat-treated to remove the protein that causes allergic reactions.
- **Sunflower oil:** When I taught woodturning in Ukraine, I learned about the local finishing process for wooden bowls. They place a bowl, turned from green wood, in a large kettle filled with hot sunflower oil. The bowl is left there until it stops bubbling, at which point the moisture in the wood has been displaced and the oil has penetrated the pores. I can't say whether the oil turns rancid or affects the flavor of food. But I *can* say it looks very nice, as it warms up the color of the wood and leaves a nice satin sheen.
- **Mineral oil:** This is a colorless, orderless liquid that is a byproduct of crude oil production. It does not polymerize. At best, mineral oil is a temporary color enhancer for wood. It does not offer much else, despite the claims on labels and countless YouTubers proclaiming they have found the greatest new wood finish. There are many products sold as butcher block, cutting board, and wooden bowl finishes that are 100% pure mineral oil. I can't say with certainty whether they are truly food safe, so we don't use it in our shop.

Penetrating oils

- **Tung oil:** Tung oil is produced by pressing the fruit of the tung, or China wood, tree. It has an amber color and hardens upon exposure to air.
- **Linseed oil (raw):** Linseed oil, also known as flaxseed oil or flax oil (in its edible form), is a yellowish oil obtained from the dried seeds of the flax plant. The oil is extracted through a mechanical process. Raw linseed oil sometimes can take forever to dry and may seem not to dry at all.

Topical finishes

- **Shellac:** Shellac comes from the secretion of the lac bug found on trees in India and Thailand. Traditionally, the lac is scraped off the trees and heated over a fire in fabric tubes. The fabric filters the



The author uses 100% pure gum spirits of turpentine as part of his commitment to applying only natural, safe finishes.

liquid, and while the lac is still warm, it is stretched onto large sheets. The lac is then broken into flakes after cooling. Today, lac is harvested, heated, and then hydraulically forced through filters to clean it before cooling into flakes.

- **Beeswax:** This is a naturally occurring wax produced in the hives of honeybees. I use a purified and pelletized form called pearls, which is easy to melt. Studies continually show that yellow and white beeswax offer no toxicological concerns.
- **Urushi, or Japanese, lacquer:** This product is made from the sap of the lacquer tree. We do not use urushi lacquer in our shop, but it is worth mentioning because of its natural origins, durability, and long history of use. Note that urushi can cause a severe allergic reaction for some people. ►



Some natural finishes can be applied with bare hands.

Colorants

- **Milk paint:** Milk paint is made from simple, natural ingredients: limestone, earth pigments, and casein. True milk paint comes only in a powdered form and must be mixed with water prior to use. Some premixed “milk paint” products come in liquid form, but they are actually acrylic-based paints and don’t offer the same characteristics. True milk paint has depth and character, and its durability is unmatched (like a coating of cement on the wood surface).
- **Earth pigments:** Earth pigments are naturally occurring minerals and clay deposits that artists have used in paints for thousands of years: mix it with oils or into milk paint.

Our favorite finishing recipes

Following are a few finishing recipes we use in our woodworking business on a regular basis. Each wood species has different characteristics, so don’t expect just one finish to work well on all woods. Experiment with your own ratios, and always make test samples.

Safety Note: Linseed oil, turpentine, and tung oil are flammable. Spread out wet rags and applicators outdoors until

completely dry before disposal. Rags and applicators still wet with these finishing products (and other oil-based products) can spontaneously combust.

- **A simple finish for bowls, cutting boards, and treen-ware:** Mix pure tung oil and 100% pure gum spirits of turpentine in a 1:1 ratio. Apply subsequent coats for a richer build by reducing the amount of turpentine.
- **For furniture and cabinetry (also works great over milk paint):** First coat: pure tung oil and 100% pure gum spirits of turpentine, mixed in a 1:1 ratio. Second through fourth coats for a richer look, use just 100% pure tung oil, no diluting.
- **An oil and wax paste finish:** 3 cups of 100% pure tung oil, 3 Tbsp of 100% pure gum spirits of turpentine, and 1½ cups of beeswax. For the second and third coats, apply with your bare hands or with a coarse lint-free rag. Wipe off any excess, wait 24 hours, then apply another coat. To mix, pour the oil, turpentine, and a large pinch of beeswax into a saucepan. Heat on medium low until the beeswax melts. Slowly add ¾ cup of beeswax and stir until dissolved. Repeat with remaining wax. Remove from heat and let cool into a paste wax. ■

Sannerud Studios is a husband and wife team—Jim and Mary Sannerud—who work with metal, wood, and fiber, creating sculpture, furniture, turned bowls, and textiles for the home. They share a studio near Grand Marais, Minnesota, that has expansive, inspirational views of Lake Superior. For more, visit sannerudstudios.com.

Resource list

Following is a list of products we use in Sannerud Studios. My research confirms that the companies listed sell what they advertise. I have spoken with most of the owners and can assure you they are committed to providing safe, natural products.

- **Tung oil:** Tallahassee Tung Oil (tallahassee tungoil.com); the only tung oil grown and produced in the USA
- **Linseed oil (raw):** Viking Sales (solventfreepaint.com); I buy the majority of my raw linseed oil here, as Viking Sales grows and produces it in the USA
- **Linseed oil (boiled organic):** (sagerestorations.com); for mixing with earth pigments or using straight, I prefer Allbäck Purified Boiled Linseed Oil. Grown and produced in Sweden
- **100% pure gum spirits of turpentine:** Creekwood Naturals (creekwoodnaturals.com); made in the USA
- **D-limonene:** (alliancechemical.com); food-grade, organic
- **Beeswax pearls:** Bulk Apothecary (bulkapothecary.com)
- **Milk paint:** Old Fashioned Milk Paint Company (milkpaint.com); I love this product and have used it for twenty years
- **Earth pigments:** (earthpigments.com); an extensive variety of earth pigments and a DIY library
- **Variety of finishing products:** Heritage Natural Finishes (heritagenaturalfinishes.com)
- **Heat-treated walnut oil:** Mahoney’s Finishes (bowlmakerinc.com)
- **Soft Wax 2.0:** Anarchist’s Daughter (etsy.com/shop/AnarchistDaughter)