As always Safety First

When using any kind of wood Finish

1. Know your ingredients.
	1. Nearly all finishes use some kind of solvent that will evaporate at or below Room Temperature.

This presents a couple of significant hazards.

Inhalation through the nose and mouth.

Absorption through the skin especially your hands.

1. Always follow the manufacturer's recommendations listed on their products.
	1. Generally,
		1. you will need a pair of rubber/Viton gloves,
		2. a respirator, and or
		3. a well-ventilated work area
	2. Try to avoid latex gloves as the latex will react with solvents and deteriorate quickly
2. Disposal
	1. Outdated or left over finishes need to be disposed of at a hazardous collection site. Consult your local Bylaws, Fire Department, or Waste Disposal site for direction
	2. These chemicals dry by oxidation and evaporation, which by nature, is an exothermic reaction. This means that heat is produced and spontaneous combustion may occur, a rag, paper towel, pad or brush must be disposed of properly to prevent fire, a non flammable container with a lid is recommended.

Bees Wax

The use of Bees wax predates recorded history and has been and is still being used as a lubricant, water proofing agent, to make candles and wood polish, cosmetics, as well as moulds for “Lost wax casting” for metals and Glass.

Bees wax is considered edible and is approved for food use in most countries around the globe although it has no significant nutritional value.

Bees Wax is formed by worker bees and initially it is clear and colourless. It gains its colour from contamination of Pollen and Propolis that is present in the hive. The longer the wax remains in the hive the darker it becomes.

Bees wax has a relatively low melting point range of 62 to 64 °C (144 to 147 °F). If beeswax is heated above 85 °C (185 °F) discoloration occurs. The flash point of beeswax is 204.4 °C (399.9 °F).

Food Grade Mineral Oil

Because of its properties that prevent water absorption, combined with its lack of flavor and odor, food grade mineral oil is a popular preservative for wooden cutting boards, countertops, salad bowls, and utensils. Periodically rubbing a small amount of mineral oil into a wooden kitchen item impedes absorption of food liquids, and thereby food odors, easing the process of hygienically cleaning wooden utensils and equipment. The use of mineral oil to impede water absorption can also prevent cracks and splits from forming in wooden utensils due to wetting and drying cycles. However, some of the mineral oil used on these items, if in contact with food, will be picked up by it and therefore ingested.

Mineral oil is occasionally used in the food industry. In this application, it is typically used for the glossy effect it produces, and to prevent candy pieces from adhering to each other. The use of food grade mineral oil is self-limiting because of its laxative effect, and is not considered a risk in food for any age class.

Raw Linseed oil

**Linseed oil**, also known as **flaxseed oil** or **flax oil** (in its edible form), is a colorless to yellowish oil obtained from the dried, ripened seeds of the flax plant. The oil is obtained by pressing, sometimes followed by solvent extraction.

Owing to its polymer-forming properties, linseed oil is often blended with combinations of other oils, resins or solvents as an impregnator, drying oil finish or varnish in wood finishing, as a pigment binder in oil paints, as a plasticizer and hardener in putty, and in the manufacture of linoleum. Linseed oil use has declined over the past several decades with increased availability of synthetic alkyd resins which function similarly but resist yellowing.

When used as a wood finish, linseed oil dries slowly and shrinks little upon hardening. A linseed oil finish is easily scratched and liquid water penetrates a linseed oil finish in mere minutes, and water vapour bypasses it almost completely. Garden furniture treated with linseed oil may develop mildew. Oiled wood may be yellowish and is likely to darken with age. Even though the oil feels dry to the touch, studies show linseed oil does not fully cure.

Boiled Linseed Oil

Boiled linseed oil is made by heating raw linseed oil with drying agents and catalysts to improve its drying time and make it more reactive with pigments.

Boiled linseed oil has a thicker consistency and is slightly darker in color than pure linseed oil and it dries within 12 to 24 hrs depending on ambient temperature and humidity.

It has a higher viscosity and is more reactive with pigments.

Boiled linseed oil is used to treat and protect wood.

It is used as a primer in Paints, Putty, and sealants.

It can also be used to waterproof cement and pottery, and as rust prevention on carbon steel

Double boiled linseed oil is the Same as above. It gets its name "double boiled" because the process involves heating the oil twice, first to extract the oil from the seeds and then again to add the driers and metallic salts.

Turpentine

Turpentine is a fluid obtained by the distillation of resin harvested from Pine trees.

Rosin collected from the trees may be evaporated by steam distillation in a copper still. Molten rosin remains in the still bottoms after turpentine has been distilled out. As a solvent, turpentine is used for thinning oil-based paints, for producing varnishes, and as a raw material for the chemical industry. Its use as a solvent in industrialized nations has largely been replaced by the much cheaper turpentine substitutes obtained from petroleum such as white spirit. A solution of turpentine and beeswax or carnauba wax has long been used as a furniture wax.

Safety and health considerations

Turpentine is highly flammable, so much so that it has been considered as an automotive fuel. Turpentine's vapour can irritate the skin and eyes, damage the lungs and respiratory system, as well as the central nervous system when inhaled, and cause damage to the renal system when ingested, among other things. Ingestion can cause burning sensations, abdominal pain, nausea, vomiting, confusion, convulsions, diarrhea, tachycardia, unconsciousness, respiratory failure, and chemical pneumonia.

1 part turpentine

1 part Bees wax

1 part Boiled linseed oil

Makes a durable finish for non food related items, however it will take a few days for the turpentine to dissipate.

Polyurethane Coatings

In polyurethane coatings, both solvent-based and water-borne, the most significant health hazard comes from the isocyanates used in the hardener. In addition to polyurethane coatings, isocyanates can also be used in other types of coatings. Isocyanates are a significant group of compounds causing occupational asthma

There is a significant amount of information to be found on the internet and way too much to be covered here. I would encourage you to start your favorite search engine and search for Polyurethane coatings. It is well worth your time.

Just a reminder this stuff is poisonous, by ingestion, absorption, and will cause harm to your eyes.

Shellac

Shellac is an all-purpose sealant and finish that is durable, time tested, and non-toxic . It is environmentally friendly, renewable, and capable of incredibly deep rich finishes that are organically and aesthetically compatible with all woods.

To mix Shellac, Denatured alcohol is recommended as the best solvent to use, but is difficult to obtain. Alternatives are Isopropyl Alcohol (isopropanol or rubbing alcohol, the 99% pure version), Methyl Hydrate (methanol or wood alcohol), or Ethyl Alcohol (ethanol or grain alcohol). Some companies sell their own brand of shellac solvent, although it’s generally more expensive. Regardless of what solvent you use it’s important to wear a respirator.

The ratio of alcohol mixed with flakes is the “cut” of shellac. A 2-pound cut consists of 2 pounds of shellac flakes mixed with 1 gallon of alcohol. That’s quite a bit of shellac to mix, so you can proportionally reduce the mix as required.

Mixing shellac is fairly basic. Start measuring out and crushing the flakes. Then put your flakes in a glass jar, pour in the alcohol, stir and cover. Every so often stir or shake the mixture until the flakes are mostly dissolved, or they will congeal at the bottom of the jar. Let the mixture sit for a day or two, then gently pour the mixture through a strainer, into a clean jar. It’s that easy and now it's ready to use.

Cap’n Eddie’s OB Shine Juice

This is a home-made Friction Polish introduced to me by Cap’n Edde Castelin. It was shared with him by O.B. Lacoste during a demonstration of the Acadiana Woodturners Guild - South Central Louisianna.

Its simple application and formula have made it a go to finish for small Projects in my shop.

The Ratio is One to one to one:

Boiled Linseed oil,

Shellac

Alcohol (Methanol, Ethanol or Isopropyl 99%)

Plain Bees Wax Finish

For Cutting Boards and bowls I like a basic bees wax formulated with “Pharmaceutical Grade” "Food Grade” or "100% Pure” Mineral Oil.

Mineral oil is a refined Petroleum product and is produced in different grades for industrial applications, Veterinary applications and the highest grade for Human consumption or application. So make sure that the Mineral oil you use is labeled “Pharmaceutical Grade” Food Grade” or 100% Pure” Mineral Oil.

The ratio to start with is 4 parts mineral oil to one part Bees wax by weight.

For example, if I used 16ounces of Mineral oil I would use 4 ounces of bees’ wax.

This is a good place to start. If you want the paste to be a little less viscous reduce the mineral oil content or increase the wax content. If you want it to be a little more viscous increase the oil content or reduce the wax content.

I would recommend a small crock pot over a double boiler as there is less risk of an incident involving hot wax and open flame. (Look to your local thrift store or second-hand store for a small crock pot, they are usually very inexpensive).

Heat your ingredients together until all the wax is melted. Stir gently and decant the mixture in to the containers of choice. Caution: if you use a glass container warm up the container in some hot water and make sure that it is dry before pouring the hot mixture into it. This will reduce the risk of the jars breaking due to thermal expansion. Let it set up and it is ready to use.

Abrasive Paste

To the above recipe add 1 part of abrasive powder by weight

In our example

16 ounces of Mineral Oil

4 ounces of Bees wax

4 ounces of abrasive powder

Once the Oil and wax has started to cool ( has a cloudy appearance) it is time to add the abrasive powder .

Choices for Abrasive powder are,

 Tripoli Powder – amazon

 Pumice powder- grade 4f- Lee Valley or Amazon – Not as fine as the Tripoli powder.

Aluminum oxide – local Lapidary shop, or Amazon – This one is recommended and will give superior results on the wood or can be used as a top coat to buff out a finish.

Rotten Stone powder – Amazon – again very fine powder and will give superior results, can be used as a top coat to buff out a finish.

Once you have added the powder to the mixture stir it constantly until the wax oil mixture has coagulated enough to hold the abrasive powder in suspension.

Stirring the mixture while it is cooling will ensure an even distribution of the abrasive powder.

Wipe-on Poly and other Coatings

Wipe on Poly can be cut at a 1-1-1 ratio or used straight out of the can

1 part poly

1-part Boiled linseed oil

1-part mineral spirits

This is applied in the same way as friction polish. Slowly building up layers until the desired finish is achieved.

The cut version can be used as a wet sanding medium an is very effective at filling and sealing the pores in the wood resulting in a superior finish.

Commercially available Varnishes, Lacquers, Danish Oils all come with a very low viscosity and can be thinned with the appropriate solvent or lacquer thinners, remember many thin coats will result in a better finish that one or 2 heavy coats.

Once you have achieved our desired finish buff it and protect it.

**Sanding**:

I recommend that 3- 4 thin coats be applied and let partially cure over night. Lightly sand with very fine sand paper. Ensure that you remove any “nibs’ and look for low spots on your piece. Add a couple more thin coats and rinse and repeat until you have reached the finish that you are looking for.

Remember patience is key and there are no short cuts when it comes to applying finish!