

Tung Oil is pressed from the nuts of Tung tree is known also as China wood oil and nut oil. Major producing countries are mainland China (Guizhou, Guangxi, Sichuan, Hubei, Hunan, Yunnan, Shaanxi, Jiangxi, Henan) and South America (Argentina and Paraguay), United States and Africa. Tung tree farms in the southern U. S. and Argentina now supply tung oil, formerly available only from China. The oil is still known in some circles as "China wood oil".



Tung oil is an ideal "binder" or "vehicle", carrying the resins and driers deep into the pores of the wood so that sealer and finish coats practically become part of the wood - drying into an armor-like yet beautiful surface.

Tung oil tree (*Aleurites fordii*), a deciduous shade tree native to China. It belongs to the Euphorbia Family (Euphorbiaceae) along with the candlenut tree (*A. molucana*), another species with seeds rich in unsaturated oils. For centuries tung oil has been used for paints and waterproof coatings, and as a component of caulk and mortar. It is an ingredient in ink and is commonly used for a lustrous finish on wood. Some woodworkers consider tung oil to be one of the best natural finishes for wood.



Tung oil tree showing two male flowers and one female flower (right) in which the petals have fallen off exposing the pistil.

Other unsaturated plant oils, such as castor oil and linseed oil, take longer to dry and leave an oily residue until they soak into the wood surface. Tung oil's ability to dry quickly and polymerize into a tough, glossy, waterproof coating has made it especially valuable in paints, varnishes, linoleum, oilcloth and printing inks.



Drupaceous fruit and seeds of the tung oil tree. The oil-rich seeds are produced inside a thick, woody endocarp layer and are the source of tung oil used on fine furniture.

The pit of a peach (*Prunus persica*) showing the seed that is contained inside the hard, woody endocarp layer. The endocarp is the inner layer of the fruit wall or pericarp. It is surrounded by a fleshy mesocarp and a thin outer skin or



exocarp. Fruits with an endocarp layer surrounding the seed are called drupes or drupaceous. The endocarp protects and aids in the dispersal of the

vulnerable seed, especially when it is swallowed by a hungry herbivore.

Tung oil is composed primarily of eleostearic (elaestearic) acid, with smaller amounts of oleic, linoleic and palmitic glycerides. Eleostearic acid is a crystalline unsaturated fatty acid that exists in 2 stereoisomeric forms: An alpha acid occurring as the glycerol ester especially in tung oil, and a beta acid obtained from the alpha acid by irradiation (9, 11, 13-octadecatrienoic acid). The chemical structure of tung oil eleostearic acid:

