

Witch Hazel Research Paper

APPEARS INS



Witch Hazel, also known as Hamamelis Virginiana, is a deciduous shrub that can be found within North America. Witch Hazel was among the most common medicinal plants used by Native Americans for the treatment of superficial skin wounds and inflammatory skin conditions. Witch Hazel is a prominent example of a medicinal plant that has been applied since ancient times for dermatological treatments. In the modern-day, Three Ships uses Witch Hazel in products such as the <u>Calm and Awake Hydrosol Toners</u>.

THE PROPERTIES OF THE LEAVES AND BARK ARE SIMILAR, WITH ASTRINGENT AND DEGREASING PROPERTIES

The active components of Witch Hazel include, among others, tannins, gallic acid, and proanthocyanidins. These provide strong antioxidant, anti-inflammatory, and astringent properties, which make Witch Hazel extract a natural remedy for skin concerns such as acne or eczema.

It can also be used to soothe irritated skin and treat ingrown nails, cracked or blistered skin, and insect bites.

Moreover, Witch Hazel has anti-inflammatory properties rendering it an effective treatment for minor skin injuries, inflammation and scalp sensitivity.





Traditionally, Witch Hazel Distillate is made from freshly cut and chopped pieces of Witch Hazel, which is sized for convenient handling and put into large kettles. Steam is then passed through the kettles and the distillates are collected in a common receiver. Generally, ethyl-alcohol is co-condensed with the steam of one of the kettles so that the resulting distillates have an alcohol content by volume of about 14%, however, Three Ships sources Witch Hazel Distillate that is alcohol-free, and non-volatile.

After being thoroughly mixed, the distillates are filtered and then stored in wooden barrels, ready for commercial use. However, the exact process of extraction method for the Witch Hazel Distillate that Three Ships sources is proprietary information.



USING WITCH HAZEL IS ALSO DRYING, WHICH IS A DOUBLE-EDGED SWORD

Tannins are great antioxidants and are basal constrictors. They help to tighten the skin which is good for reducing swelling like acne bumps and reduces redness since it also tightens the blood vessels. Using Witch Hazel is also drying, which is a double-edged sword.

While it can be drying if overused, it is really great for degreasing the skin, which is beneficial for those who tend to get oily throughout the day. Tannins can also be sensitizing, which can generate an inflammatory response, and is also a potential source of fragrance, as it contains eugenol. For those that are experiencing any negative reactions to the skin, it is recommended to stop use.

Gallic acid is another naturally occurring phenolic acid found in Witch Hazel, which is also an antioxidant. The antioxidant activity works to combat the high oxidative stress that skin cells frequently experience through the actions of UV radiation-induced free radicals. Antioxidants work to combat this by neutralizing the free radicals and stopping the chain reactions on the skin that they cause.

Proanthocyanidins work as antioxidants by inhibiting some enzymes involved in radical generation, like lipoxygenase. The hydroxyl (OH) groups found in many antioxidants play a role in inhibiting free radicals that cause the skin to photo-age. The hydroxyl groups donate their hydrogen to the free radical form of oxygen and nitrogen in a final reaction that prohibits the free radicals from regenerating. The result of the initial reaction is a radical form of the antioxidant, which is more chemically stable than the initial free radical.

SCIENTIFIC STUDY

Anti-Collagenase, Anti-Elastase and Anti-Oxidant Activities of Extracts from 21 Plants

Another study investigated the anti-collagenase, anti-elastase, and antioxidant activities of various plant extracts, including Witch Hazel. The impact on collagenase and elastase seen from Witch Hazel was not determined to be significant, though antioxidant activity was seen from the extract. The phenolic content was measured, as phenolic compounds have been seen to correlate with antioxidant activity, and Witch Hazel had one of the higher concentrations compared to the other plant extracts. In a Trolox equivalent antioxidant capacity assay, Witch Hazel was again determined to have high antioxidant activity relative to most of the other plant extracts, at 13.15 µM Trolox. The superoxide dismutase assay also showed good results with Witch Hazel (82.05%), which suggests the potential to protect against free radical damage.

Witch Hazel is a plant extract, long used as a natural remedy for various skin concerns. In the modern day, Witch Hazel is still implemented as an effective skincare ingredient. Studies are also being conducted to further explore the possibilities of the ingredient, as well as scientifically confirm factors such as its antioxidant potential. You can find Witch Hazel in Three Ships products, such as the Calm and Awake Hydrosol Toners.