

Geranium Oil Research Paper

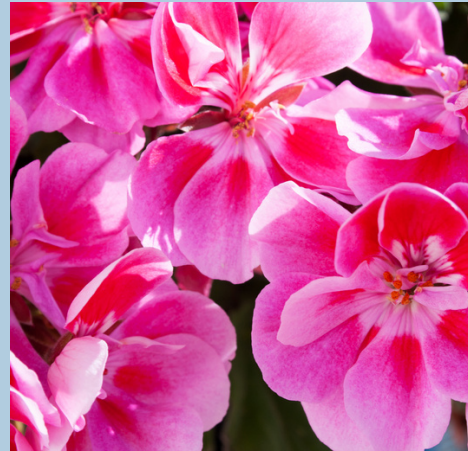
APPEARS IN



Geranium Oil is a volatile oil derived from the Pelargonium graveolens plant which is sourced from Egypt, South Africa, and Madagascar. Geranium oil is known for its antioxidant, antimicrobial, and sebum-reducing properties. Three Ships utilizes this oil in many products such as Nourish Lavender + MCT Cleansing Oil, Boost 49% Rosehip Oil Serum, and Soothe Rosehip Vitamin C Clay Mask.

GERANIUM OIL HAS BEEN SHOWN TO BE ANTI-BACTERIAL

Geranium and Pelargonium species have been often confused for centuries. Part of this confusion is enhanced by the fact that there are multiple types of Geranium Oil, one of them being from the plant species Pelargonium graveolens which is sourced by Three Ships. The main constituents of this oil are isomethone, citronellol, geraniol, and citronellyl formate. Citronellol and geraniol give this ingredient its scent that is similar to rose. Geranium Oil has been shown to exhibit anti-bacterial, anti-fungal, anti-inflammatory, sebostatic, and antioxidant activity, making it a desirable addition to many skincare products.



To create Geranium Oil, the pelargonium plant is collected, washed and dried. They are then soaked in a solvent and go through a process of steam distillation. Steam distillation is the separation process that uses two liquids that have different boiling points, and using heat to boil the liquid mixture in so that one liquid remains and the other liquid boils off into steam. The steam is then recollected and condensed in a separate container, which holds the geranium essential oils. The exact process of extraction method for the Geranium Oil that Three Ships sources is proprietary information.

**GERANIUM OIL USED BY THREE SHIPS IS
GMO-FREE AND VEGAN**

The free radical theory, first proposed in 1954, postulates that aging is caused by free radical reactions.

These reactions are irreversible and may be a result of environment, disease, and intrinsic aging. The theory suggests that an individual's lifespan can be increased by slowing the rate of initiation of random free radical reactions. A free radical is a chemical species possessing an unpaired electron. Reactive oxygen species are a type of free radicals that contain oxygen. Oxidative stress occurs when there is an imbalance between the generation of free radicals and the activity of antioxidant defense. Too much oxidative stress can result in cell damage; hence, the generation of too many free radicals can be harmful. Intracellular mechanisms can often reduce the damaging effects of free radicals; however, with age, endogenous antioxidative mechanisms may not work as effectively and oxidative stress is a more likely occurrence.

Antioxidants, such as Geranium Oil, are molecules that neutralize free radicals, caused by extrinsic and intrinsic aging, by accepting or donating electrons. Antioxidants can directly react with free radicals by delocalizing the unpaired electron, or inhibit the activity of free radicals by generating enzymes (e.g. NAD(P)H) that provide an important defense against free radicals.

SCIENTIFIC STUDY

**Antifungal Activity of Zataria multiflora, Pelargonium graveolens
and Cuminum cyminum essential oils**

Malassezia is a genus of yeasts that exist in the human microbiome that have been attributed to the development of certain skin diseases including seborrheic dermatitis and atopic dermatitis. The presented study analyzed the antifungal effects of Geranium Oil, Zataria multiflora, and Cuminum cyminum. All three essential oils were found to have antifungal activity against certain Malassezia species, warranting further research on how these oils may be used in clinical settings for treatment of skin disease.

Geranium Oil benefits the skin in many ways when used in cosmetics. It provides anti-bacterial, anti-fungal, anti-inflammatory, sebostatic, and antioxidant properties which helps prevent the growth of microbes, protects the skin, and reduces sebum. Geranium Oil used by Three Ships is GMO-free, vegan, and made via steam distillation. Geranium Oil can be found in Three Ships products such as Nourish Cleansing Oil, Boost Oil Serum, and Soothe Clay Mask.