

# GERANIOL OIL: THE CHEMISTRY & ITS APPLICATION

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## WHAT IS GERANIOL??

Do you know the scent of life? Take a minute and smell the roses. You will enjoy the scent of life. Do you know why roses smell nice? It is because roses contain geraniol. Geraniol is an organic compound that has rose oil's signature scent. Geraniol can be extracted in rose oil and can be obtained from many types of flower species as it is also present in many herbs' vegetative tissues and can be extracted in many other plants too. It was first extracted by O. Jacobsen from geranium grass (*Andropogon schoenanthus* L.) in 1871. Its structure is similar to that of nerol, another rose scent ingredient [1]. Geraniol is an acyclic monoterpene alcohol with the formula  $C_{10}H_{18}O$  and a molar mass of about 154.249 g/mol [2]. The IUPAC name for this compound is 3,7-dimethylocta-2,6-dien-1-ol, or more precisely (2E)-3,7-dimethylocta-2,6-dien-1-ol.

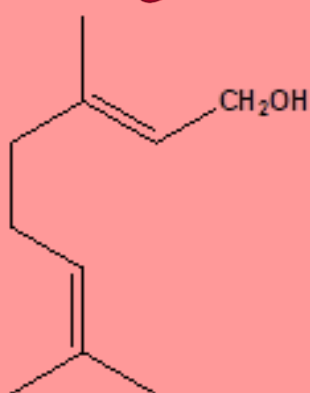


Figure 1: Chemical structure of Geraniol [2].

## THE APPLICATIONS

Geraniol is an essential element of aromatherapy, a traditional treatment. Geraniol is excellent for relaxation, and lemon, grapefruit, lime, and lemon are excellent flavour enhancers. Geraniol inhalation increased blood pressure and sympathetic renal function, supporting the theory that these components act within the central nervous system and cross the blood-brain barrier [3].



Geraniol candles were five times more effective than citronellol at repelling mosquitos and sandflies [8]. Geraniol has been shown in studies to be an effective pesticide against a variety of forms with even lower requirements.

Aside from its function as a flavour and fragrance, scientific literature indicates that geraniol has other medicinal applications. The terpene appears to have antioxidant, antifungal, and anti-inflammatory properties [2]. It acts as an antimicrobial agent, killing bacteria and fungi that are harmful to one's health. Geraniol appears to protect against the harmful *Candida albicans* fungus, which causes yeast infections and thrush [2,6,7].



Geraniol is a popular ingredient in flavour and fragrance products due to its distinctive sweet and floral aroma similar to rose oil's signature scent [4]. It is one of the most important molecules in the flavour and fragrance industries, and it is a common ingredient used in consumer products. It can also be used in the production of cosmetics because it is used as an ingredient in the cosmetics industry [4,5].

## References

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