

Abstract

Pulegone Application Trends: Exploration of Uses Based on Leading Patent Applicants †

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Abstract: Pulegone is a natural biomolecule that may be found in essential oils from many medicinal and aromatic plants, especially those from the *Lamiaceae* family. It is known for its distinguished minty aroma and taste, and it has been studied for its potential use in various therapies due to its antibacterial, anti-inflammatory, and cytotoxic effects. Even with its recognized toxicity, pulegone is still widely used as a versatile and valuable compound in many industrial fields. To identify trends in the application of pulegone, we prospected patents from specialized patent databases. A search was carried out on the titles, abstracts, and claims of the patents. The patents were then sorted by applicant names, and then the applicant patent portfolio was studied to identify the targeted trends. The patents reveal that the leading jurisdiction is the United States, with about 44% of the filed patents. The study of the top 10 applicants allows us to distinguish three major areas of innovation. The field of daily-use cleaning, health, and hygiene encompasses 121 patents that take advantage of the aromatic characteristics of pulegone to provide hygiene and cosmetic products. The plant protection field stands out with 58 patents. In this field, pulegone is used for its pesticide and pest-repellent action to develop crop protection products. The third field is the use of pulegone with cannabinoids for pharmacological innovations as well as for recreational uses, as represented by 42 patents. The pulegone-related patents were based on preparations for medical, dental, or toiletry purposes. Pulegone is valued for its refreshing minty scent; it is utilized in perfumes and body care, as well as being an odor neutralizer and odorizing agent for toilet and cleaning compositions. Furthermore, pulegone is used as a natural pesticide and pest repellent, reducing the need for chemicals.

Keywords: biomolecules; pulegone; innovation; patent applicant; patent analysis



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