

Specification : Nutmeg Seed Extract/ สารสกัดเมล็ดจันทน์เทศ (Manose RM-0119)

(Application : An active ingredient for anti-acne cosmetics/

สารสำคัญในผลิตภัณฑ์เครื่องสำอางต้านสิว)

1. Name of the raw material : Nutmeg Seed Extract
2. Active components : Terpenes, phenolic compounds, sabinene, eugenol, myristicin, caryophyllene,  $\beta$ -myrcene and  $\alpha$ -pinene<sup>(1)</sup>
3. Common and scientific name/ Family of the plant : Nutmeg (*Myristica fragrans* Houtt.)/ MYRISTICACEAE
4. Physical appearance : Brown solid with herbal odor
5. pH : 5
6. Standardization : HPLC fingerprint using eugenol as a marker
7. Stability of active constituent : Eugenol is stable at room temperature and light protection condition
8. Solubility : Soluble in water and ethanol
9. Microbial contamination : No pathogenic microorganism with less than 1,000 cfu/g of the total plate count of bacteria, yeast and fungi which is conformed to the Thai FDA regulation
10. Biological activities : Anti-oxidant<sup>(1)</sup>, anti-inflammatory<sup>(1)</sup>, analgesic<sup>(1)</sup>, anti-microbial<sup>(1)</sup> and anti-acne<sup>(2)</sup> activity
11. Animal / human performance test : Anti-inflammatory activity in animals<sup>(1)</sup>
12. Safety : No skin irritation in human volunteers / LD<sub>50</sub> > 5 g/kg BW in rats

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13. Pharmaceutical, food supplement or cosmetic applications : Anti-acne, anti-microbial, anti-oxidant, anti-inflammatory and analgesic in cosmetics
14. Recommended concentrations in the product : 0.1-1.0% w/w in cosmetics
15. Storage : Keep in tight and light protection container at room temperature
16. Precautions : None
17. Cost per kg : Please request

## References

1. Ashokkumar K, Gandara JS, Murugan M, Dhanya MK, Pandian A. (2022) Nutmeg (*Myristica fragrans* Houtt.) essential oil: A review on its composition, biological, and pharmacological activities. **Phytotherapy Research**. 36: 2839-2851.
2. Hamdy AA, Kassem HA, Awad GEA, El-Kady SM, Benito MT, Doyaguez EG, Jimeno ML, Lall M, Hussein AA. (2017) *In vitro* evaluation of certain Egyptian traditional medicinal plants against *Propionibacterium acnes*. **South African Journal of Botany**. 109: 90-95.
3. Manose In-house Project “The Development of Extract from Thai Medicinal Plants for Anti-acne”, Manose Health and Beauty Research Center ([www.manose.co](http://www.manose.co)), unpublished, 2020.