

Specification : WMP Lanna Medicinal Plant Extract for Tonics and the Relief of Menopause Symptoms in Women/ สารสกัดจากตำรับยาสมุนไพรล้านนา WMP สำหรับบรรเทาอาการวัยทองในสตรี (Manose RM-0097)

(Application : An active ingredient in food supplements for tonics in menopause women/ สารสำคัญในผลิตภัณฑ์เสริมอาหารสำหรับบรรเทาอาการวัยทองในสตรี)

1. Name of the raw material : WMP Lanna Medicinal Plant Extract for Tonics and the Relief of Menopause Symptoms in Women
2. Active components : Anthraquinone, tannin, flavonoid and triterpenoid/steroid
3. Common and scientific name/ Family of the plant : Extracts from edible and medicinal plants such as Myrobalan<sup>(1)</sup> (*Terminalia chebula* Retz./ COMBRETACEAE) and Black-cumin<sup>(2)</sup> (*Nigella sativa* L./ RANUNCULACEAE)
4. Physical appearance : Brown solid with specific odor
5. pH : 4.75 (1% in distilled water)
6. Standardization : HPLC fingerprint with the retention times at 3.02 min (marker = gallic acid)
7. Stability of active constituent : Stable to strong/weak acid, oxidizing agent and acid salt/ Unstable to strong/weak base and reducing agent
8. Solubility : Sparingly soluble in hot water (100 °C), slightly soluble in cold water (25 °C), insoluble in ethanol, methanol, propylene glycol, glycerin and mineral oil
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<sup>(3)</sup> :
  - Antioxidant DPPH radical scavenging (SC<sub>50</sub> = 0.019mg/ml) (standard vitamin C = 0.14 mg/ml)
  - Antioxidant metal chelating (MC<sub>50</sub> = 6757.15mg/ml) (standard EDTA= 0.058 mg/ml)

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11. Animal / human performance test : -
12. Safety<sup>(3)</sup> : Cell viability 83.97% at 0.1 mg/ml in human skin fibroblasts (standard vitamin C = 140.21%)/safe for topical use/ LD<sub>50</sub> > 5000 mg/kg in Wistar rats by oral administration / considered as practically nontoxic
13. Pharmaceutical, food supplement or cosmetic applications : Food supplements for tonics and the relief of menopause women
14. Recommended concentrations in the product : 2.68 g/5 days or as needed
15. Storage : Keep in tight container at cool place (4 °C) protected from light
16. Precautions : None
17. Cost per kg : Please request

#### References

1. Chakkalakal M, Pan A, Nadora D, Gahoonia N, Chaudhuri RK, Burney W, Thacker S, Shakhbazova A, Subramanyam C, Chambers CJ and Sivamani RK. Randomized double-blind placebo-controlled supplementation with standardized *Terminalia chebula* fruit extracts reduces facial sebum excretion, erythema, and wrinkle severity. J Clin Med., 2023; 12(4): 1591.
2. Ibrahim R.M., Hamdan N.S., Ismail M., Saini S.M., Abd Rashid S.N., Abd Latiff L. and Mahmud R. Protective Effects of *Nigella sativa* on metabolic syndrome in menopausal women. Adv Pharm Bull. 2014; 4(1): 29-33.
3. Manose In-house Project “The Development of Extract from Lanna Medicinal Plant Recipe for Tonics and the Relief of Menopause Symptoms in Women (WMP)” Manose Health and Beauty Research Center (www.manose.co), unpublished, 2007.