

Specification : Butterfly Pea Extract (Manose RM-0013)

(Application : An active ingredient for hair blackening / anti-wrinkle and anti-aging cosmetics / สารสำคัญในผลิตภัณฑ์เครื่องสำอางย้อมสีผมให้ดำ / ต้านริ้วรอยและชะลอวัย)

1. Name of the raw material : Butterfly Pea Extract (solid) / 1 % Butterfly Pea Extract in propylene glycol (liquid)
2. Active components : Anthocyanins and triterpenoids <sup>(1)</sup>
3. Common and scientific name/ Family of the plant : Butterfly Pea (*Clitoria ternatea* L.)/ LEGUMINOSAE-PAPILIONOIDEAE
4. Physical appearance : Dark purple solid with herbal odor/ Blue liquid with light herbal odor
5. pH : 5
6. Standardization : HPLC fingerprint using anthocyanin as a marker <sup>(1)</sup>
7. Solubility : Soluble in water and ethanol
8. 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
9. Biological activities : Anti-oxidant, anti-bacterial and hair darkening <sup>(1), (2)</sup>
10. Animal / human performance test : Anti-oxidant and hair blackening in human volunteers
11. Safety : No skin irritation in human volunteers
12. Pharmaceutical, food supplement or cosmetic applications : Hair blackening, anti-wrinkle and anti-aging cosmetic products

- 
13. Recommended concentrations in the product : 0.1 – 5 % w/w (for solid extract) and 5 – 10 % w/w (for 1 % extract in propylene glycol)
14. Storage : Keep in tight and light protection container at room temperature
15. Precautions : None
16. Cost per kg : Please request

### References

1. Pulok KM, Venkatesan K, Satheesh Kumara N, Micheal H. (2008) The Ayurvedic medicine *Clitoria ternatea* - from traditional use to scientific assessment. **Journal of Ethnopharmacology**. 120: 291-301
2. Sitthiphong S, Sawai N, Khaunnapa P, Somkamol M, Pokchut K, Thanachod T, Paiboon R, Siriinan T. (2016) Antioxidant and melanogenesis stimulating activities of different pigment extracts for grey hair treatment. **The 6<sup>th</sup> International Conference on Natural Products for Health and Beauty (NATPRO 6)**
3. Roy RK, Mayank Thakur, Dixit VK. (2008) Hair growth promoting activity of *Eclipta alba* in male albino rats. **Archives of Dermatological Research**. 300: 357-64