

Specification : 1 % Golden Shower Flower Extract

Loaded Niosomal Dispersion / สารสกัดดอกคูน 1 % เก็บกักในอนุภาคนีโอโซม  
(Manose RM-0052)

(Application : An active ingredient for anti-aging and whitening cosmetics/

สารสำคัญในผลิตภัณฑ์เครื่องสำอางชะลอวัยและช่วยให้ผิวขาว)

1. Name of the raw material : 1% Golden Shower Flower Extract  
Loaded Niosomal Dispersion
2. Active components : Anthraquinones, flavonoids and proanthocyanidins<sup>(1)</sup>
3. Common and scientific name/ Family of the plant : Golden Shower (*Cassia fistula* L.)/  
LEGUMINOSAE-CAESALPINOIDEAE
4. Physical appearance : Light brownish turbid dispersion with specific herbal odor
5. pH : 6.04
6. Standardization : HPLC fingerprint using catechin as a marker
7. Solubility : Disperse in water

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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 :
- Antioxidative activity by DPPH radical scavenging with the  $SC_{50}$  value of  $0.20 \pm 0.05$  mg/ml (ascorbic acid =  $0.02 \pm 0.00$  mg/ml)
  - Antioxidative activity by lipid peroxidation inhibition with the  $IPC_{50}$  value of  $1.27 \pm 0.11$  mg/ml (ascorbic acid =  $0.07 \pm 0.01$  mg/ml)
  - Antioxidative activity by metal chelating with the  $MC_{50}$  value more than 1,000 mg/ml (EDTA =  $0.27 \pm 0.01$  mg/ml)
  - Stimulation of collagen and hyaluronic acid production<sup>(3)</sup>
  - Collagenase and MMP-2 inhibition activity<sup>(3)</sup>
  - Tyrosinase inhibition activity<sup>(3)</sup>

10. Animal / human performance test : Anti-oxidative activities in animals<sup>(2)</sup>
11. Safety : No skin irritation in human volunteers
12. Pharmaceutical, food supplement or cosmetic applications : Anti-aging and whitening cosmetics
13. Recommended concentrations in the product : 10-50 % w/w
14. Storage : Keep in tight and light protection container at room temperature
15. Precautions : None
16. Cost per kg : Please request

## References

1. Bahorun T, Neergheen VS, Aruoma OI. (2005) Phytochemical constituents of *Cassia fistula*. **African Journal of Biotechnology**. 4(13): 1530-1540
2. Neelam C, Ranjan B, Komal S, Nootan C. (2011) Review on *Cassia fistula*. **International Journal of Research in Ayurveda & Pharmacy**. 2(2): 426-430
3. Limtrakul P, Yodkeeree S, Thippraphan P, Punfa W and Srisomboon J. (2016) Anti-aging and tyrosinase inhibition effects of *Cassia fistula* flower butanolic extract. **BMC Complementary and Alternative Medicine**. 16 : 497