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Specification : Purple glutinous rice extract / สารสกัดข้าวเหนียวดำ  
(Manose RM-0015)

(Application : An active ingredient for anti-wrinkle/ whitening cosmetic and  
food supplements / สารสำคัญในผลิตภัณฑ์เครื่องสำอางต้านริ้วรอย /  
ช่วยให้ผิวขาว และผลิตภัณฑ์เสริมอาหาร)

1. Name of the raw material : Purple glutinous rice extract
2. Active components : Anthocyanins, alkaloids, glycosides and flavonoids<sup>(1)</sup>
3. Common and scientific name/ Family of the plant : Purple glutinous rice (*Oryza sativa* L.)/  
GRAMINEAE
4. Physical appearance : Dark purple solid with specific odor
5. pH : 5
6. Standardization : HPLC fingerprint using anthocynin 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 (DPPH, lipid peroxidation and chelating activity)<sup>(1)</sup> and whitening effect by tyrosinase inhibition<sup>(1)</sup>
- 10. Animal / human performance test : Anti-wrinkle and whitening activity in volunteers<sup>(1)</sup>
- 11. Safety : No skin irritation in volunteers<sup>(1)</sup>
- 12. Pharmaceutical, food supplement or cosmetic applications : Anti-wrinkle/ whitening cosmetic and food supplements
- 13. Recommended concentrations in the product : 0.1-5 % w/w
- 14. Storage : Keep in tight and light protection container at room temperature
- 15. Precautions : None
- 16. Cost per kg : Please request

## Reference

1. Manosroi A, Chankhampan C, Kumguan K, Manosroi W, Manosroi J. (2012) Anti-aging performance evaluation of cream containing niosomes loaded with the purple glutinous rice (*Oryza sativa* Linn.) extract. **International Journal of Cosmetic Science**. 42 : 622 - 631 (Corresponding author and co-authors are from Manose Health and Beauty Research Center)