

Specification of Paprika extract loaded in nanovesicular suspension (Manose RM-001)

1. **Name of the raw material** : Paprika extract loaded in nanovesicular suspension
2. **Active components** : Paprika extract 2 % (capsaicin 0.05 %)
3. **Scientific name of the plant / Family** : Paprika (*Capsicum frutescens* L.)/ SOLANACEAE
4. **Physical appearance of the raw material** : Turbid light brownish suspension with specific odor
5. **pH of the raw material** : 4
6. **Standardization of the raw material** : 0.05% capsaicin (marker) content in paprika extract loaded in nanovesicles
7. **Solubility** : Soluble in 95% ethanol
8. **Microbial contamination** : None
9. **Biological activities** : Analgesic⁽¹⁾, anti-inflammation⁽²⁾, increase blood circulation⁽³⁾ and anti-cancer⁽⁴⁾
10. **Safety** : No skin irritation in human volunteers
11. **Animal / human performance test** : Analgesic and anti-inflammation in human volunteers
12. **Pharmaceutical, food supplement or cosmetic applications** : Analgesic and hair growth promotion cosmetic products
13. **Recommended concentrations in the product (%)** : 10-20 % in cream / gel / lotion
14. **Storage** : Keep in tight and light protection container at room temperature
15. **Precautions (if any)** : External use, avoid contact with eyes or soft tissue because of irritation, must not use in children under 6 years old
16. **Cost per kg** : -

References

1. Anand P and Bley K. Topical capsaicin for pain management: therapeutic potential and mechanisms of action of the new high-concentration capsaicin 8% patch. *British Journal of Anaesthesia* 2011, 107(4): 490–502.
2. Zimmer AR, Leonardi B, Miron D, Schapoval E, Oliveira JR, Gosmann G. Antioxidant and anti-inflammatory properties of *Capsicum baccatum*: From traditional use to scientific approach. *J. Ethnopharmacol.* 2012, 139, 228–233.
3. Liang YT, Tian XY, Chen JN, Peng C, Ma KY, Zuo Y, *et al.* Capsaicinoids lower plasma cholesterol and improve endothelial function in hamsters. *Eur J Nutr* 2013, 52(1):379-388
4. Lin CH, Lu WC, Wang CW, Chan YC, Chen MK. Capsaicin induces cell cycle arrest and apoptosis in human KB cancer cells. *BMC Complementary and Alternative Medicine* 2013, 2-9.