

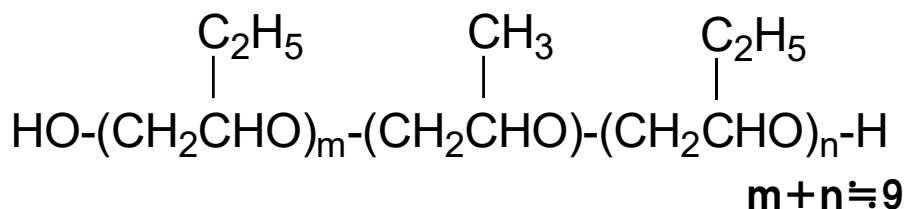


Penetration control oil agent for sunscreen

UNIOL[®] PB-700

1 UNIOL[®] PB-700

Chemical Structure



Concept

Penetration control oil agent for sunscreen

Description

Colorless to slightly yellowish Clear liquid

INCI

POLYBUTYLENEGLYCOL/PPG-9/1-COPOLYMER

Chinese INCI

聚丁二醇/PPG-9/1 共聚物

2 Characteristics

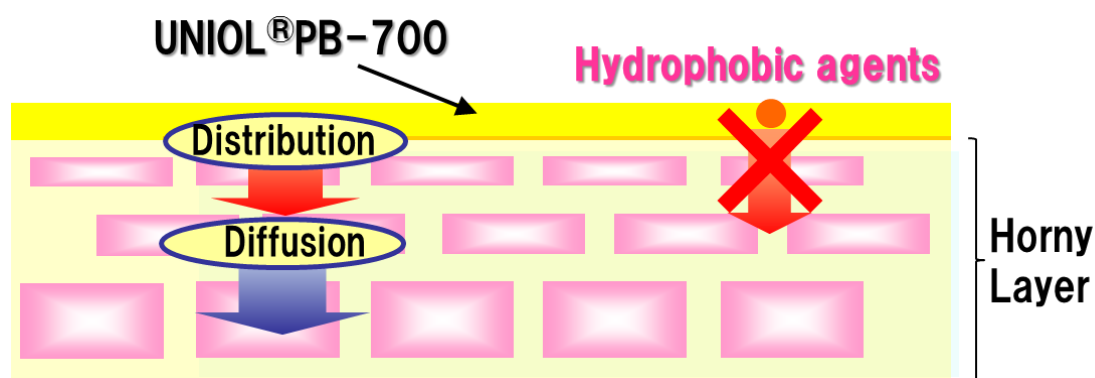
- ① It has more lipophilic property than PPG.
- ② It can be soluble into not only polar oil but also paraffin oil.
- ③ It is suitable for oil-based cosmetics such as milky lotion, sunscreen cream.
- ④ It can inhibit skin penetration of UV-absorber in sunscreen formulations.

3 Compatibility

UNIOL and solvents are mixed in a ratio of 1:1, and mixture are visually observed at 25° C.

Ingredients	Solubility (25°C)
Water	Insoluble
Ethanol	Soluble
Hexane	Soluble
Mineral Oil	Soluble
Hydrogenated Polyisobutene	Soluble
Olea Europaea Fruit Oil	Soluble

4 Skin penetration inhibition of hydrophobic agents



Hydrophobic agents : It can be soluble into UNIOL PB-700
⇒ Distribution to horny layer is inhibited

5 Safety Data

① Human patch testing (40 adults, Occlusive patch 24hours)

Sample concentration : 50% pet.

Skin irritation index* ≤5; Safe

*T. Sugai, et al., J. of Japanese Cosmetic Science Society, Vol. 19, supp. 49-56 (1995)

② In vitro eye irritation test (OECE TG492) : Non-irritant



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