

Study on solubilization of high concentration fragrances with Pellicer™

Solubilization of high concentration fragrances with Pellicer™

By using Pellicer™ in combination,
5% fragrance can be solubilized **without the need for ethanol.**

Phase	Ingredients	Manufacturer name	INCI	(wt%)
A	Water	-	Water	to 100.0
	-	-	EDTA-2Na	0.1
B	-	-	PG	15.0
	-	-	Pentylene glycol	0~5.0
	①THP-27246 ②THP-27250 ③Non-disclosure	T.HASEGAWA T.HASEGAWA Non-disclosure	Fragrance	5.0
	TEGOSOFT PC 41 MB	Evonik	Polyglyceryl-4 Caprate, Water	7.7~18.7 (7.0~17.0% solids)
	Pellicer™L-30	ASAHI KASEI FINECHEM	Water, Sodium Dilauramidoglutamide Lysine	1.0 (0.3% solids)
	Inorganic salt	-	-	Appropriate amount
	pH adjuster	-	-	Appropriate amount



Nonion 14.0%



Nonion 7.0%
+Pellicer™ 0.3%

<Procedure>

Weigh Phase B and stir at 40 degrees C until it is uniformly dissolved, and add Phase A and cool down to RT.

◆ Functions



- When used in combination with Pellicer™, the total amount of surfactants and polyhydric alcohols can be significantly reduced.

⇒ **This reduces stickiness and irritation, and also leads to cost reduction.**




Compared to nonionic surfactants alone, the amount of each ingredient can be reduced by approximately 10-50%.
(※depending on the fragrance)

◆ Application



- Perfumes (**Ethanol-free is also possible**), Lotions, Hair mists, Body mists, etc...

Phase	Ingredients	Manufacturer name	INCI	(wt%)	
				without Pellicer™	with Pellicer™
A	Water	-	water	65.9	71.9
	-	-	EDTA-2Na	0.1	0.1
B	-	-	PG	15.0	15.0
	Fragrance①	T.HASEGAWA	Fragrance	5.0	5.0
	TEGOSOFTP C 41 MB	Evonik	Polyglyceryl-4 Caprate,Water	15.4	7.7
	Pellicer™ L-30	ASAHI KASEI FINECHEM	Water,Sodium Dilauramidoglutamide Lysine	-	1.0
pH				4.94	6.21
Transmittance (660nm)				85.2	99.8
Appearance					






**By using Pellicer™ in combination,
the amount of nonionic surfactant can be significantly reduced.**

Phase	Ingredients	Manufacturer name	INCI	(wt%)		
				without Pellicer™	without Pellicer™	with Pellicer™
A	Water	-	Water	62.2	76.7	81.2
	-	-	EDTA-2Na	0.1	0.1	0.1
B	-	-	PG	20.0	-	-
	-	-	Pentylene glycol	5.0	5.0	5.0
	Fragrance①	T.HASEGAWA	Fragrance	5.0	5.0	5.0
	TEGOSOFT PC 41 MB	Evonik	Polyglyceryl-4 Caprate,Water	7.7	13.2	7.7
	Pellicer™ L-30	ASAHI KASEI FINECHEM	Water,Sodium Dilauramidoglutamide Lysine	-	-	1.0
pH				5.03	5.50	6.13
Transmittance (660nm)				96.3	83.7	99.7
Appearance						

**By using Pellicer™ in combination,
the amount of polyhydric alcohol can be significantly reduced.**

Phase	Ingredients	Manufacturer name	INCI	(wt%)		
				without Pellicer™	with Pellicer™	
A	Water	-	water	68.9	67.9	
	-	-	EDTA-2Na	0.1	0.1	
B	-	-	PG	15.0	15.0	
	Fragrance①	T.HASEGAWA	Fragrance	5.0	5.0	
	TEGOSOFT PC 41 MB	Evonik	Polyglyceryl-4 Caprate,Water	11.0	11.0	
C	Pellicer™ L-30	ASAHI KASEI FINECHEM	Water,Sodium Dilauramidoglutamide Lysine	-	1.0	
				pH	4.87	6.11
				Transmittance (660nm)	1.0	99.7
				Appearance		

The solution can be made clear simply by adding Pellicer™ afterwards without changing the nonionic surfactant level.

Phase	Ingredients	Manufacturer name	INCI	(wt%)				
				without Pellicer™	without Pellicer™	with Pellicer™	with Pellicer™&salt	with Pellicer™&acid
A	Water	-	Water	61.2	63.4	62.4	62.1	62.2
	-	-	EDTA-2Na	0.1	0.1	0.1	0.1	0.1
B	-	-	PG	15.0	15.0	15.0	15.0	15.0
	Fragrance③	Non-disclosure	Fragrance	5.0	5.0	5.0	5.0	5.0
	TEGOSOFT PC 41 MB	Evonik	Polyglyceryl-4 Caprate, Water	18.7	16.5	16.5	16.5	16.5
	Pellicer™ L-30	ASAHI KASEI FINECHEM	Water, Sodium Dilauramidoglutamide Lysine	-	-	1.0	1.0	1.0
	Inorganic salt	-	-	-	-	-	0.3	-
	pH adjuster	-	-	-	-	-	-	0.2
pH				5.09	5.16	6.00	4.72	4.15
Transmittance (660nm)				88.5	6.8	0.3	77.9	87.3
Appearance								

Even with fragrances that are difficult to solubilize, the amount of nonionic surfactant can be reduced by using inorganic salts and pH adjusters in combination with Pellicer™.

Summary: By using Pellicer™ (0.3% solids) in combination, reduces the required level of nonionic surfactant(CP-4).

