

# **ADEKA NOL GT-730**

## **Reference Formulation**

### **Table of Contents**

Clear Gel Lotion	[T14J-01-006]
Gel Serum	[T14J-02-001]
Skin Care Cream	[T15A-12-002]
Gel Makeup Base	[T16F-29-011]

**Clear Gel Lotion**

[T14J-01-006]

	Cosmetic label name	Raw material	Manufacturer	wt%
1	<b>PEG-240/HDI copolymer bis-decyltetradeceth-20 ether, BG, water</b>	<b>ADEKA NOL GT-730</b>	<b>ADEKA</b>	5.1
2	Gellan gum, BG, water	0.5% aqueous solution of gellan gum <sup>(*1)</sup>		10.0
3	Pullulan, BG, water	3% aqueous solution of pullulan <sup>(*2)</sup>		6.0
4	BG	1,3-BG		4.5
5	Glycerin	Concentrated glycerin for cosmetics	Kao	7.5
6	PEG-60 hydrogenated castor oil	EMANON CH-60 (K)	Kao	0.046
7	Vitamin A Oil	Riken A Oil 500	Riken Vitamin	0.004
8		Preservative		qs
9	Water	Water		to 100.0

(\*1) 0.5% aqueous solution of gellan gum: Gellan gum [0.5 wt%], 1,3-BG [20 wt%], water [79.5 wt%]

(\*2) 3% aqueous solution of pullulan: Pullulan [3.0 wt%], 1,3-BG [20 wt%], water [77 wt%]

**<Steps>**

- I. Mix and dissolve 6 and 7 well while warming. Add 4, 5 and 8 and mix.
- II. Add, mix and dissolve 9 to I.
- III. Add, mix and disperse 1, 2 and 3 to II with a disperser.  
(5000 rpm, 3 minutes, room temperature)

A gel lotion with a jelly like texture peculiar to ADEKA NOL GT-730 is obtained.  
The combined use of gellan gum and pullulan gives it a smooth texture  
and a good applicability to the hands when being applied.

**Gel Serum**

[T14J-02-001]

	Cosmetic label name	Raw material	Manufacturer	wt%
1	PEG-240/HDI copolymer bis-decyltetradeceth-20 ether, BG, water	ADEKA NOL GT-730	ADEKA	3.7
2	Gellan gum, BG, water	1% aqueous solution of gellan gum <sup>(*3)</sup>		20.0
3	Acrylates/C10-30 alkyl acrylate crosspolymer, BG, water	1% aqueous solution of PEMULEN TR-2 <sup>(*4)</sup>		30.0
4	Dimethicone	KF-96A-6cs	Shin-Etsu Chemical	3.0
5	Lauroyl glutamic acid di-(phytosteryl/octyldodecyl)	ELDEW PS-203	Ajinomoto Healthy Supply	0.2
6	BG	1,3-BG		6.6
7	Glycerin	Concentrated glycerin for cosmetics	Kao	5.0
8	DPG	DPG-RF	ADEKA	3.0
9	Sodium chloride			0.5
10	Silica	SUNSPHERE H-121	AGC Si-Tech	1.0
11	Potassium hydroxide			0.1
12	Water			to 100.0

(\*3) 1% aqueous solution of gellan gum: Gellan gum [1.0 wt%], 1,3-BG [20 wt%], water [79 wt%]

(\*4) 1% aqueous solution of PEMULEN TR-2: PEMULEN TR-2 [1.0 wt%], 1,3-BG [20 wt%], water [79 wt%]

**<Steps>**

- I. Heat 6-9, 11 and 12 to 50°C, mix and dissolve.
- II. Heat 1-3 to 50°C, stir and disperse with a disperser. (5000 rpm, 5 minutes)
- III. Add, stir and disperse 4 and 5 to II with a disperser. (5000 rpm, 5 minutes, 50°C)
- IV. Add, stir and disperse I to III with a disperser. (5000 rpm, 5 minutes, 50°C)
- V. Add, stir and disperse 10 to IV with a disperser. (5000 rpm, 5 minutes, 50°C)
- VI. Cool to 35°C while stirring.

A combination of silica,  
dimethicone and polyols gives a silky sensation with less stickiness.  
\*This formula does not contain preservatives as it contains approximately 16% BG.

**Skin Care Cream**

[T15A-12-002]

	Cosmetic label name	Raw material	Manufacturer	wt%
1	Polysorbate 60	RHEODOL TW-S120V	Kao	0.5
2	Triethylhexanoin	TOG	Kokyu Alcohol Kogyo	30.0
3	Hexa (hydroxystearic acid/ stearic acid/rosin acid) dipentaerythritol	COSMOL 168ARV	Nisshin Oillio	2.0
4	BG	1,3-BG		4.5
5	Glycerin	Concentrated glycerin for cosmetics	Kao	7.5
6	<b>PEG-240/HDI copolymer bis-decyltetradeceth-20 ether, BG, water</b>	<b>ADEKA NOL GT-730</b>	<b>ADEKA</b>	5.1
7	Acrylates/C10-30 alkyl acrylate crosspolymer	PEMULEN TR-1	Lubrizol	0.05
8	Water			to 100.0
9		Preservative		qs
10	TEA	Triethanolamine		0.1

**<Steps>**

- I. Heat 1-3 to 80°C, mix and dissolve.
- II. Heat 4-9 to 80°C, mix and dissolve.
- III. Add I to II and stir with a homo mixer to emulsify. (6000 rpm, 5 minutes, 80°C)
- IV. Add, stir and mix 10 to III with a homo mixer. (6000 rpm, 5 minutes)
- V. Cool to 40°C while stirring.

A combination of ADEKA NOL GT-730 and PEMULEN improves the emulsion stability.  
Furthermore, the texture can be easily controlled by adjusting the balance  
of these two ingredients and the oils.

**Gel Makeup Base**

[T16F-29-011]

	Cosmetic label name	Raw material	Manufacturer	wt%
A	Glycerin			4.0
	Xanthan gum			0.05
	Hydroxypropyl methylcellulose			0.05
B	Polysorbate 60			2.0
	Sorbitan sesquioleate			1.5
	Ethylhexyl methoxycinnamate			5.0
	Cyclopentasiloxane			4.0
	Triethylhexanoin			3.0
	Hydrogenated polyisobutene	PARLEAM® 4	NOF	10.0
	Dimethicone (10cs)			0.5
	Isononyl isononanoate			2.0
	Diisostearyl malate			0.25
	Titanium oxide, hydrated silica, hydrogen dimethicone	STR-100W-LP	Sakai Chemical Industry	0.5
	Titanium oxide, hydrogen dimethicone	MKR-1S	Sakai Chemical Industry	6.0
	Iron oxide, dimethicone	SA Red R-516PS (100%)	Miyoshi Kasei	0.20
	Iron oxide, dimethicone	SA Yellow LL-100P (100%)	Miyoshi Kasei	0.50
Iron oxide, dimethicone	SA Black BL-100P (100%)	Miyoshi Kasei	0.05	
C		Preservative		qs

**<Steps>**

- I. Heat A and B to 80°C, stir, mix and dissolve.
- II. Add B to A while stirring and emulsifying with a high speed stirring device. (e.g., disperser, 2000 rpm, 5 minutes)
- III. Add, stir and mix C to II. Cool to 40°C while stirring.

A makeup base with an excellent dispersion stability for pigments and oil content is obtained. Has the surface smoothness and jelly like texture peculiar to GT-730. Conditions and moisturizes the skin while maintaining a light texture and less stickiness than O/W.

7-2-35 Higashi-ogu, Arakawa-ku, Tokyo 116-8554, Japan [www.adeka.co.jp](http://www.adeka.co.jp)

The information contained herein is based on our present state of knowledge and is intended to provide general notes on our products and their uses. Any recommendations or suggestions which may be made are without guarantee, since the conditions of use are beyond our control. Furthermore, nothing contained in this publication shall be construed as a recommendation for any use that may infringe patent rights. Readers are cautioned to satisfy themselves as to the suitability of such goods for the purposes intended prior to use.

■本資料中の情報は、ご使用上の便宜を図るための指針を提供する事を目的としており、製品の性能を保証するものではありません。■本資料でご紹介しました用途へのご使用については、工業所有権にご注意願います。■本資料に記載の実験データ等は、記載された条件下で得られた測定値の代表例です。■本製品の取り扱いに際しては、化学物質の事故防止のために、安全データシート (SDS) をご確認ください。尚、本資料記載以外の用途にご検討頂く場合は、本製品を安全に、より有効に御使用頂くために、予め当社担当までご連絡願います。

#### Contacts

ADEKA CORPORATION  
7-2-35 Higashi-ogu, Arakawa-ku, Tokyo 116-8554, Japan

Sales Dept. Tel: +81-3-4455-2833 Fax: +81-3-3809-8232  
Laboratory Tel: +81-50-5518-4336 Fax: +81-3-3809-8284

Date prepared May 21, 2015

Date revised October 20, 2016