

Epidermal Growth Factor

(MC-EGF)

EGF FORMULATION EXAMPLES

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Topical Gel Formulation Containing EGF

FG-EGF-00101

Ingredients	INCI	[wt.%]	Supplier
A			
1 Water for injection	Water (aqua)	66.65	
2 methyl paraoxybenzoate	methylparaben	0.20	
3 Carbomer 934	carbomer	1.00	M.C.Biotec
4 Sodium hydroxide	Sodium hydroxide	q.s.	
5 Propylene glycol	Propylene glycol	20g	
B			
6 Water for injection	Water (aqua)	10.00	
7 MC-EGF	rh-Oligopeptide-1	150,000IU (0.2-0.3mg)	M.C.Biotec
8 1% sodium hyaluronate	Sodium hyaluronate (and) water	2.00	M.C.Biotec
9 EDTA disodium	EDTA disodium	0.05	
10 L-histidine	L-histidine	0.10	
Total		100.00	

Procedure:

1. Dissolve methylparaben of Part A in distilled water with heat, disperse Carbomer 934P in the solution with stirring, Adjust pH to 6.5—7.0 with sodium hydroxide.
2. Add propylene glycol to above “1”, and mix well, sterilize by heating.
3. Mix together all ingredients in Part B in order, and then blend with above “2”.

M.C.Biotec hopes that the technical information and suggestions for use contained herein will be of interest to you, but they are not to be construed as warranties or inducements to infringe any particular patent.

Anti-wrinkle Cream Containing EGF and Empty Liposome

FC-EGF-00101

Ingredients	INCI	[wt.%]	Supplier
A			
1 Myrj S40	PEG-40 Stearate	2.00	Croda
2 Stearyl alcohol	Stearyl alcohol	1.75	
3 Cetyl alcohol	Cetyl alcohol	4.00g	
4 Span 60	Sorbitan Stearate	0.50	
5 Propyl paraoxybenzoate	propylparaben	0.05	
6 Copherol 1250	Tocopheryl Acetate	0.50	Cognis
B			
7 Distilled water for injection	Water	74.90	
8 Glycerin	Glycerin	4.00	
9 Mehtyl paraoxybenzoate	methylparaben	0.15	
10 Carbomer 934P	Carbomer	0.10	BF Goodrich
C			
11 Triethanolamine	Triethanolamine	q.s.	
D			
12 Distilled water for injection	Water (aqua)	5.00	
13 MC-EGF	rh-Oligopeptide-1	150,000IU (0.2-0.3mg)	M.C.Biotec
14 1% sodium hyaluronate	Sodium hyaluronate (and) water	2.00	M.C.Biotec
15 EDTA disodium	EDTA disodium	0.05	
16 Probiol L 05018	Aqua, alcohol denat., lecithin, glycerin, disodium phosphate	5.00	Kuhs GmbH & Co. KG
Total		100.00	

Procedure:

1. Dissolve methylparaben of Part B in glycerin, then add to water and mix well. Add Carbomer 940P and disperse with stirring.
2. Add Part A to above "1" and emulsify with melting.
3. Adjust pH to 6.5-7.0 with triethanolamine, sterilize.
4. Add MC-EGF of Part D in water, followed by blending other ingredients in Part D.
5. Add above "4" to "3", mix well.

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Anti-aging Cream with EGF and Milk Protein

FC-ERY-00201

Ingredients	INCI Name	[wt.%]	Suppliers
A			
1 TEGO® Care 150	Glyceryl Stearate (and) Steareth-25 (and) Ceteth-20 (and) Stearyl Alcohol	9.00	Evonik Goldschmidt GmbH
2 TEGO® Alkanol 18	Stearyl Alcohol	1.00	Evonik Goldschmidt
3 Paraffin liquid	Mineral oil	8.00	Merck KGaA
4 Octyldodecanol	Octyldodecanol	2.50	Cognis GmbH
5 TEGOSOFT® CT	Caprylic/Capric Triglycerides	1.50	Evonik Goldschmidt
B			
6 Butane-1,3-diol	Butylene glycol	2.00	Kyowa Hakko
7 Sorbitol USP Powder	Sorbitol	3.00	Lipo Chemicals,
8 Carbomer 934P	Carbomer	0.10	BF Goodrich
8 Water	Water	60.37	
C			
9 Distilled water for injection	Water (aqua)	5.00	
10 MC-EGF	rh-Oligopeptide-1	150,000IU (0.2-0.3mg)	M.C.Biotec
11 1% sodium hyaluronate	Sodium hyaluronate (and) water	2.00	M.C.Biotec
Sericin	Silk peptide	1.0	M.C.Biotec
EDTA disodium	EDTA disodium	0.02	
D			
14 Diocide	Caprylyl Glycol, Phenoxyethanol, Hexylene Glycol	0.50	Centerchem Inc.
Total		100.00	

Procedure:

1. Disperse and dissolve Carbomer 934P of Phase B in water, mix together other ingredients in Phase B. Heat to approx. 65°C.
2. Heat phase A to approx. 65°C.
3. Add above “2” to “1” while stirring. Homogenize. Cool.
4. Add phase C at 35 -45°C, followed by phase D

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Anti-aging Cream with EGF and Ceramide

FC-ERY-00301

	Ingredients	INCI Name	[wt.%]	Suppliers
	A			
1	Brij 72	Steareth-2	2.00	Uniqema
2	Brij 721	Steareth-21	2.00	Uniqema
3	Lanette MY	Cetearyl alcohol	1.50	Cognis
4	DC200/350 cs	Dimethicone	0.50	Dow Corning
5	dl-alpha-tocopheryl Acetate	Tocopheryl Acetate	1.00	DSM
	Finsolv TN	C12-15 Alkyl Benzoate	4.00	Finetex
6	Cetiol SB45	Sea Butter	2.00	Cognis
7	Ceramide analogue	Ceramide	0.50	M.C.Biotec
	B			
	Water	Water (aqua)	73.40	
	Carbopol Ultrez 21	Acrylates/C10-30 Acrylate Crosspolymer	Alkyl 0.25	Noveon
	1,3-Butylenglykol	Butylene Glycol	2.00	Merck
	C			
	Tea (10%)	Triethanolamine	1.20	
	D			
	Water	Water	5.00	
10	MC-EGF	rh-Oligopeptide-1	150,000IU (0.2-0.3mg)	M.C.Biotec
11	1% sodium hyaluronate	Sodium hyaluronate (and) water	4.00	M.C.Biotec
	EDTA disodium	EDTA disodium	0.05	BASF
	L-histidine	L-histidine	0.10	M.C.Biotec
	E			
14	Diocide	Caprylyl Glycol, Phenoxyethanol, Hexylene Glycol	0.50	Centerchem Inc.
	Total		100.00	

Procedure

1. Disperse and dissolve Carbopol Ultrez 21 of Phase B in water, mix together other ingredients in Phase B. Heat to 80-85°C.
2. Heat phase A to 80-85°C.
3. Add above "1" to "2" while stirring. Homogenize. Cool.
4. Add phase C to the resulting mixture with stirring at 55°C
5. Add phase D at 35 -45°C, followed by phase E with stirring.

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Anti-wrinkle Lotion Containing EGF

FL-EGF-00101

Ingredients	INCI	[wt.%]	Supplier
A			
Lipomulse Luxe	Cetearyl alcohol & glyceryl stearate & PEG-40 Stearate & Cetareth-20	4.00	LIPO
Cetearyl Alcohol	Cetearyl Alcohol	3.00	Cognis
Tegosoft DEC	Diethylhexyl carbonate	4.00	Degussa
GTCC	Caprylic/capric triglyceride	4.00	Croda
DC245	Cyclopentasiloxane	5.00	Dow corning
DC200/10	Dimethicone	2.00	Dow corning
Ganex® V-216	VP/Hexadecene Copolymer	1.00	ISP
B			
Water	Water	65.08	
Glycerin	Glycerin	1.00	
Carbomer 934P	Carbomer	0.10	BF Goodrich
C			
Triethanolamine	Triethanolamine	q.s.	
D			
6 Distilled water for injection	Water (aqua)	5.00	
7 MC-EGF	rh-Oligopeptide-1	150,000IU (0.2-0.3mg)	M.C.Biotec
9 EDTA disodium	EDTA disodium	0.02	
Probiol L 05018	Aqua, alcohol denat., lecithin, glycerin, disodium phosphate	5.00	Kuhs GmbH & Co. KG
2 E			
Euxyl PE9010/	Phenoxyethanol & Ethylhexylglycerin	0.80	Schulke
Total		100.00	

Procedure:

1. Mix Phase A and heat to 70°C
2. Disperse Carbomer 934P of Phase B in water and glycerin, and heat to 70°C .
3. Mix above “1” and “2” together
4. Adjust pH with Triethanolamine
5. Add Phase D below 40°C, followed by add Phase E.

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Anti-wrinkle Ointment Containing EGF

FO-EGF-00101

Ingredients	INCI	[wt.%]	Supplier
A			
1	Beeswax	Beeswax	5.00
2	Mineral oil	Mineral oil	45.00
3	Microcrystalline wax	Microcrystalline wax	7.00
4	Paraffin wax	Paraffin	10.00
5	Propyl paraoxybenzoate	propylparaben	0.05
B			
6	Distilled water for injection	Water	24.70
7	Glycerin	Glycerin	0.50
8	methyl paraoxybenzoate	methylparaben	0.10
9	Carbomer 940	Carbomer	0.10 BF Goodrich
C			
10	Borax	Sodium Borate	0.20
D			
11	Distilled water for injection	Water (aqua)	5.00
12	MC-EGF	rh-Oligopeptide-1	150,000IU (0.2-0.3mg) M.C.Biotec
13	1% sodium hyaluronate	Sodium hyaluronate (and) water	2.00 M.C.Biotec
14	EDTA disodium	EDTA disodium	0.05
15	L-histidine	L-histidine	0.10
16	Silk Powder	Silk Powder	0.20 M.C.Biotec
Total			100.00

Procedure:

1. Dissolve methylparaben of Part B in glycerin, then add to water, disperse Carbomer 940 to the resulting solution.
2. Add Part A to above "1" and emulsify at an elevated temperature.
3. Add Part C to above "2" with stirring.
4. Add Part D to above "3", mix well.

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