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Lampiran 1. *Certificate Of Analysis* Retinol Serbuk

SOHO ANECO Chemicals Co., Limited

**CERTIFICATE OF ANALYSIS**

Product Name: Retinol 10%
INCI Name: Retinol & Hydroxypropyl Cyclodextrin
Lot No.: 211022AC06B
Manufacture Date: Sep. 22nd, 2021

ITEMS	SPECIFICATIONS	RESULTS
Appearance	Yellow crystalline powder	Complies
Assay	310,000-330,000IU/g	Complies
pH (1% a.q., 20°C)	4.0-7.0	Complies
Solubility	Dispersed in water	Complies
Pb	≤10mg/kg	Complies
As	≤2mg/kg	Complies
Cd	≤5mg/kg	Complies
Hg	≤1mg/kg	Complies
Total plate count	≤500cfu/g	<100cfu/g
Yeast & Molds	≤100cfu/g	<10cfu/g
Thermotolerant coliform bacteria	Negative	N.D.
Staphylococcus aureus	Negative	N.D.
Pseudomonas aeruginosa	Negative	N.D.

CONCLUSION: Conform to the standard of ANECO.
STORAGE: Store in cool and dry place at 2-10°C. Keep away from strong light and heat.
SHELF LIFE: 2 years when properly stored.

OPERATOR:

王颖

AUDITOR:

宋佳



Lampiran 2. Sediaan Retinol Gel

Formula 1



Formula 2



Formula 3



Lampiran 3. Gambar Alat Uji

1. Uji Viskositas



2. Uji pH



3. Uji Daya Lekat



4. Uji Daya Sebar



Lampiran 4. Hasil Uji Iritasi Gel Retinol

No.	Nama	Usia	Formula 1, Formula 2, dan Formula 3	Formula 1, Formula 2, dan Formula 3	Formula 1, Formula 2, dan Formula 3
			30 menit	24 Jam	48 Jam
1	Ashyifa	19	Tidak	Tidak	Tidak
	Salasabila Z	tahun	mengiritasi	mengiritasi	mengiritasi
2	Dina Desliliana	21	Tidak	Tidak	Tidak
	Berliana Wulan	tahun	mengiritasi	mengiritasi	mengiritasi
3	Nurix Kharomah	21	Tidak	Tidak	Tidak
	Ritma Nerisa	tahun	mengiritasi	mengiritasi	mengiritasi
4	Patra Bagus	21	Tidak	Tidak	Tidak
	Febriansah	tahun	mengiritasi	mengiritasi	mengiritasi
5	Ani Rahmawati	22	Tidak	Tidak	Tidak
	Suprpto	tahun	mengiritasi	mengiritasi	mengiritasi
6	Nastra Subasita	20	Tidak	Tidak	Tidak
	Angelia Rambu	tahun	mengiritasi	mengiritasi	mengiritasi
7	Hamu Ratu	18	Tidak	Tidak	Tidak
	Amah	Tahun	mengiritasi	mengiritasi	mengiritasi
8	Karin Febryanti	18	Tidak	Tidak	Tidak
	Anantra	tahun	mengiritasi	mengiritasi	mengiritasi
9	Hakapaa	20	Tidak	Tidak	Tidak
	Riska Dwi	tahun	mengiritasi	mengiritasi	mengiritasi
10	Septiana	20	Tidak	Tidak	Tidak
	Ayu Rosmayani	tahun	mengiritasi	mengiritasi	mengiritasi
11	Novita anggreini	20	Tidak	Tidak	Tidak
	Aulya Veli	tahun	mengiritasi	mengiritasi	mengiritasi
12	Kustika	21	Tidak	Tidak	Tidak
		tahun	mengiritasi	mengiritasi	mengiritasi

**Keterangan : F1 : Formula gel yang mengandung konsentrasi HPMC 3%,
F2: Formula gel yang mengandung konsentrasi HPMC 3,5%,
F3 : Formula gel yang mengandung konsentrasi HPMC 4%.**

Lampiran 5. Hasil Uji Viskositas

Penyimpanan	Replikasi	Formula 1	Formula 2	Formula 3
Hari ke 1	1	150	165	200
	2	149	170	250
	3	149	168	250
Rata-Rata±SD		149±0,58	168±2,52	233±28,9
Hari ke 7	1	201	300	400
	2	225	300	400
	3	247	250	397
Rata-Rata±SD		224±23,0	283±28,9	399±1,73
Hari ke 14	1	200	330	350
	2	250	300	400
	3	250	300	400
Rata-Rata±SD		233±28,9	310±17,3	383±28,9
Hari ke 21	1	200	300	400
	2	250	400	400
	3	350	300	400
Rata-Rata±SD		267±76,4	333±57,7	400±0,00

Lampiran 6. Hasil Uji pH

Penyimpanan	Replikasi	Formula 1	Formula 2	Formula 3
Hari ke 1	1	5	5	5
	2	5	5	5
	3	5	5	5
Rata-Rata±SD		5,00±0,00	5,00±0,00	5,00±0,00
Hari ke 7	1	5	5	5
	2	5	5	5
	3	5	5	5
Rata-Rata±SD		5,00±0,00	5,00±0,00	5,00±0,00
Hari ke 14	1	5	5	5
	2	5	5	5
	3	5	5	5
Rata-Rata±SD		5,00±0,00	5,00±0,00	5,00±0,00
Hari ke 21	1	5	5	5

	2	5	5	5
	3	5	5	5
Rata-Rata±SD		5,00±0,00	5,00±0,00	5,00±0,00

Lampiran 7. Hasil Uji Daya Sebar

Penyimpanan	Replikasi	Formula 1	Formula 2	Formula 3
Hari ke 1	1	6,1	5,6	4,8
	2	5	5,2	4,7
	3	5,6	5,1	4,8
Rata-Rata±SD		5,57±0,55	5,30±0,26	4,77±0,06
Hari ke 7	1	5	3,6	3,3
	2	4,3	4	3,4
	3	4,6	3,4	3,1
Rata-Rata±SD		5,10±0,26	4,03±0,32	3,27±0,15
Hari ke 14	1	5	3,6	3,3
	2	4,3	4	3,4
	3	4,6	4,1	3,1
Rata-Rata±SD		4,63±0,35	3,90±0,26	3,27±0,15
Hari ke 21	1	5	4,4	3,1
	2	5,4	3,9	3
	3	4,9	3,8	3,3
Rata-Rata±SD		4,23±0,80	3,67±0,31	3,13±0,15

Lampiran 8. Hasil Uji Daya Lekat

Penyimpanan	Replikasi	Formula 1	Formula 2	Formula 3
Hari ke 1	1	0,35	0,43	0,50
	2	0,45	0,50	0,51
	3	0,48	0,52	0,63
Rata-Rata±SD		0,43±0,06	0,39±0,24	1,00±0,01
Hari ke 7	1	0,45	0,52	0,79
	2	0,39	0,48	0,60
	3	0,50	0,48	0,57
Rata-Rata±SD		0,45±0,24	0,49±0,02	1,00±0,10
Hari ke 14	1	0,40	0,41	0,59
	2	0,38	0,42	0,65
	3	0,39	0,40	0,60

Rata-Rata±SD		0,39±0,01	0,41±0,01	1,00±0,03
Hari ke 21	1	0,38	0,60	0,73
	2	0,46	0,62	0,73
	3	0,41	0,48	0,70
Rata-Rata±SD		0,42±0,01	0,48±0,04	1,00±0,06

Lampiran 9. Hasil Uji Statistik Viskositas Gel Retinol dengan menggunakan *one way* ANOVA

1. Uji Viskositas hari ke 1

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Replikasi	.303	3	.	.909	3	.415

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

Viskositas

Levene Statistic	df1	df2	Sig.
1.727	2	6	.256

ANOVA

Viskositas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11704.222	2	5852.111	20.900	.002
Within Groups	1680.000	6	280.000		
Total	13384.222	8			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Viskositas

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-18.333	13.663	.425	-60.25	23.59
	3	-84.000*	13.663	.002	-125.92	-42.08
2	1	18.333	13.663	.425	-23.59	60.25
	3	-65.667*	13.663	.007	-107.59	-23.75
3	1	84.000*	13.663	.002	42.08	125.92
	2	65.667*	13.663	.007	23.75	107.59

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

Viskositas

Tukey HSD^a

Formula	N	Subset for alpha = 0.05	
		1	2
1	3	149.33	
2	3	167.67	
3	3		233.33
Sig.		.425	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

2. Uji Viskositas hari ke 21

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Replikasi	.175	3	.	1.000	3	.992

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

Viskositas

Levene Statistic	df1	df2	Sig.
1.217	2	6	.360

ANOVA

Viskositas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	33888.889	2	16944.444	5.545	.043
Within Groups	18333.333	6	3055.556		
Total	52222.222	8			

Post Hoc Test

Multiple Comparisons

Dependent Variable: Viskositas

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-83.333	45.134	.234	-221.82	55.15
	3	-150.000*	45.134	.037	-288.48	-11.52
2	1	83.333	45.134	.234	-55.15	221.82
	3	-66.667	45.134	.365	-205.15	71.82
3	1	150.000*	45.134	.037	11.52	288.48
	2	66.667	45.134	.365	-71.82	205.15

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

Viskositas

Tukey HSD^a

Formula	N	Subset for alpha = 0.05	
		1	2
1	3	266.67	
2	3	350.00	350.00
3	3		416.67
Sig.		.234	.365

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Lampiran 10. Hasil Uji Statistik Daya Sebar Gel Retinol dengan menggunakan *one way* ANOVA

1. Uji Daya Sebar hari ke 1

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Replikasi	.251	3	.	.966	3	.646

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

DayaSebar

Levene Statistic	df1	df2	Sig.
4.123	2	6	.075

ANOVA

DayaSebar

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.407	2	.703	11.943	.008
Within Groups	.353	6	.059		
Total	1.760	8			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: DayaSebar

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	.4333	.1981	.152	-.175	1.041
	3	.9667*	.1981	.007	.359	1.575
2	1	-.4333	.1981	.152	-1.041	.175
	3	.5333	.1981	.080	-.075	1.141
3	1	-.9667*	.1981	.007	-1.575	-.359
	2	-.5333	.1981	.080	-1.141	.075

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

DayaSebar

Tukey HSD^a

Formula	N	Subset for alpha = 0.05	
		1	2
3	3	4.767	
2	3	5.300	5.300
1	3		5.733
Sig.		.080	.152

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

2. Uji Daya Sebar hari ke 21

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Replikasi	.176	3	.	1.000	3	.980

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

DayaSebar

Levene Statistic	df1	df2	Sig.
1.455	2	6	.305

ANOVA

DayaSebar

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.816	2	2.908	44.356	.000
Within Groups	.393	6	.066		
Total	6.209	8			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: DataSebar

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.0667*	.2091	.005	.425	1.708
	3	1.9667*	.2091	.000	1.325	2.608
2	1	-1.0667*	.2091	.005	-1.708	-.425
	3	.9000*	.2091	.012	.259	1.541
3	1	-1.9667*	.2091	.000	-2.608	-1.325
	2	-.9000*	.2091	.012	-1.541	-.259

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

DayaSebar

Tukey HSD^a

Formula	N	Subset for alpha = 0.05		
		1	2	3
3	3	3.133		
2	3		4.033	
1	3			5.100
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Lampiran 11. Hasil Uji Statistik Daya Lekat Gel Retinol dengan menggunakan *one way* ANOVA

1. Uji Daya Lekat hari ke 1

Oneway

Test of Homogeneity of Variances

DayaLekat

Levene Statistic	df1	df2	Sig.
2.533	2	6	.159

ANOVA

DayaLekat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.019	2	.009	5.580	.043
Within Groups	.010	6	.002		
Total	.029	8			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: DayaLekat

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.07000	.03333	.170	-.1723	.0323
	3	-.11000*	.03333	.038	-.2123	-.0077
2	1	.07000	.03333	.170	-.0323	.1723
	3	-.04000	.03333	.495	-.1423	.0623
3	1	.11000*	.03333	.038	.0077	.2123
	2	.04000	.03333	.495	-.0623	.1423

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

DayaLekat

Tukey HSD^a

Formula	N	Subset for alpha = 0.05	
		1	2
1	3	.4167	
2	3	.4867	.4867
3	3		.5267
Sig.		.170	.495

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

2. Uji Daya Lekat hari ke 21

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Replikasi	.351	3	.	.827	3	.180

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

DayaLekat

Levene Statistic	df1	df2	Sig.
4.013	2	6	.078

ANOVA

DayaLekat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.138	2	.069	27.004	.001
Within Groups	.015	6	.003		
Total	.153	8			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: DayaLekat

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.15000*	.04128	.025	-.2766	-.0234
	3	-.30333*	.04128	.001	-.4300	-.1767
2	1	.15000*	.04128	.025	.0234	.2766
	3	-.15333*	.04128	.023	-.2800	-.0267
3	1	.30333*	.04128	.001	.1767	.4300
	2	.15333*	.04128	.023	.0267	.2800

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

DayaLekat

Tukey HSD^a

Formula	N	Subset for alpha = 0.05		
		1	2	3
1	3	.4167		
2	3		.5667	
3	3			.7200
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.