BAB V

KESIMPULAN DAN SARAN

A. Kesimpulan

Berdasarkan Penelitian yang sudah dilakukan dapat diambil kesimpulan bahwa :

1. Minyak biji tomat (*tomato seed oil*) dapat dibuat dalam sediaan micellar water dengan surfaktan PEG-12 Dimetichone.
2. Micellar water minyak biji tomat (*tomato seed oil*) yang baik adalah cair, tidak berwarna dan jernih.
3. Konsentrasi PEG-12 Dimetichone sebagai surfaktan untuk formulasi micellar water minyak biji tomat (*tomato seed oil*) yang baik adalah 2,75% karena hasilnya jernih dan stabil.

B. Saran

1. Perlu dilakukan pengembangan formulasi sediaan micellar water minyak biji tomat (*Tomato seed oil*) dengan memperhatikan pengukuran partikel micell.
2. Perlu dilakukan penelitian formulasi sediaan micellar water minyak biji tomat (*Tomato seed oil*) lebih lanjut dengan konsentrasi surfaktan yang berbeda.
3. Perlu dilakukan pengujian stabilitas formulasi sediaan micellar water minyak biji tomat (*Tomato seed oil*) pada suhu rendah dan suhu tinggi.

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Daftar Lampiran

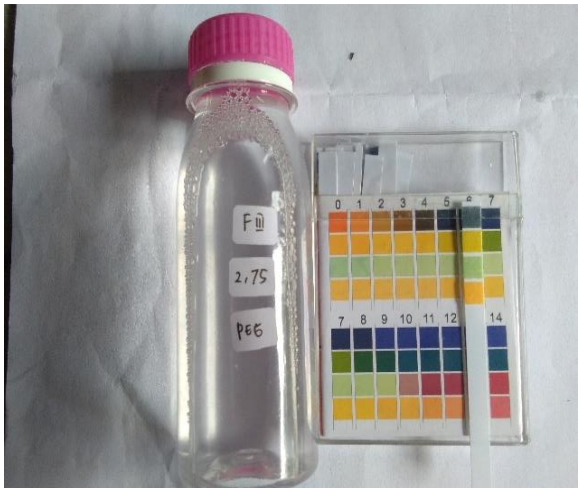
Lampiran 1. Gambar Hasil Sediaan dan Hasil Uji

1. Minggu ke-0

Formula 1

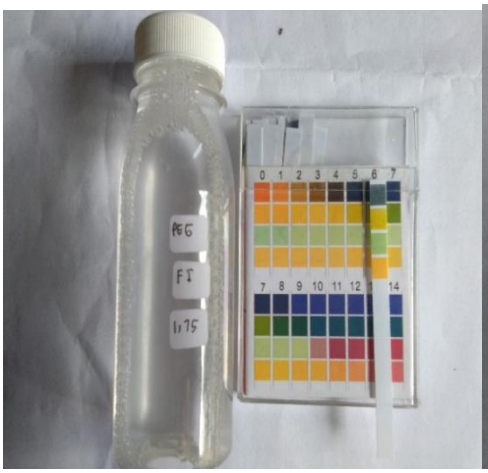
Formula 2

Formula 3

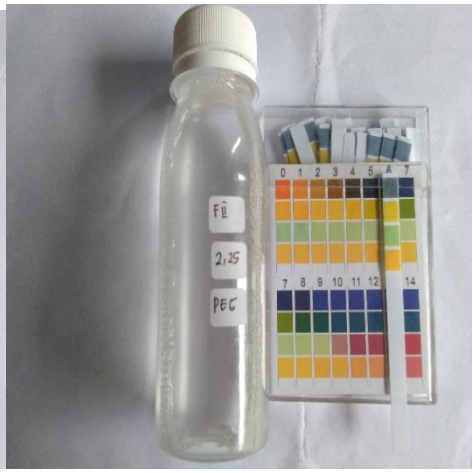


2. Minggu ke-1

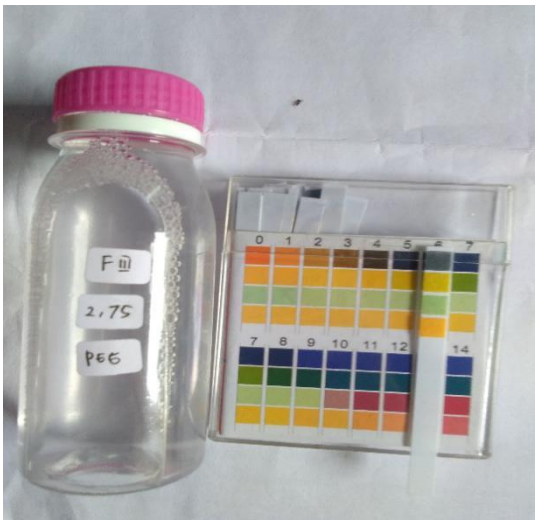
Formula 1



Formula 2

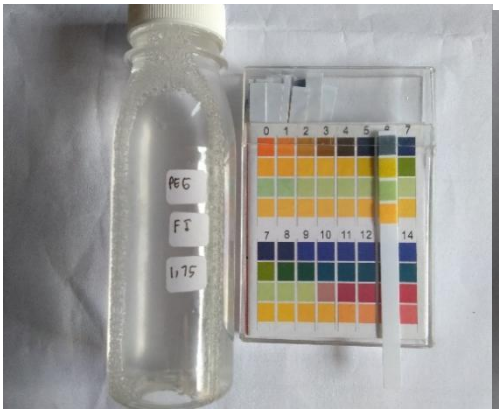


Formula 3

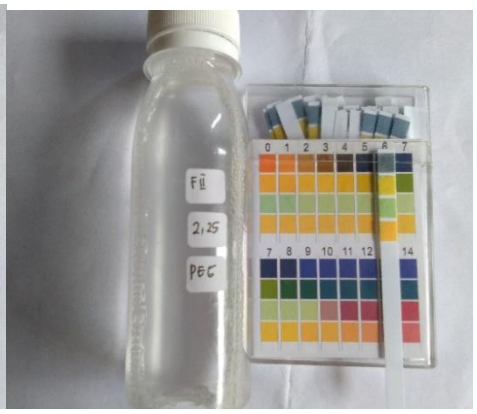


3. Minggu ke-2

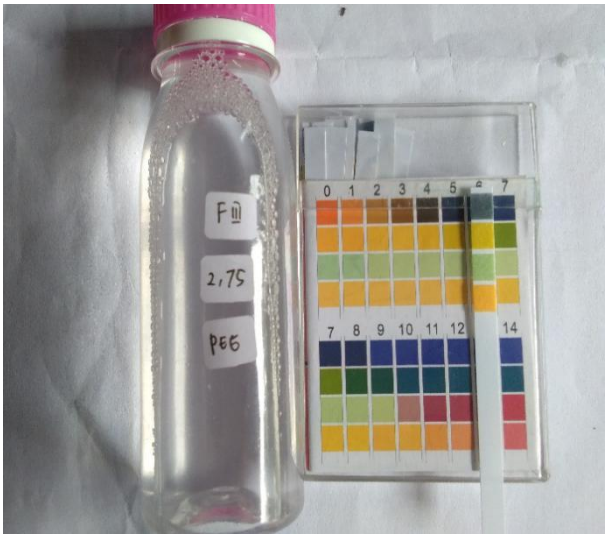
Formula 1



Formula 2



Formula 3



Lampiran 2. Sertifikat Analisis Mimyak Biji Tomat (Tomato seed oil)

Importer of Essential Oils, Absolutes, and Carrier Oils

Jakarta, Indonesia Customessentialoil@gmail.com Phone 081295037988

Certificate of Analysis

Product	Tomato Seed Oil
INCI	Solanum Lycopersicum
Lot No.	HBNO - 5001
Color	Brownish orange color
Extraction Process	Cold Pressed

Range

Acid Value	NMT 2.0 mg KOH/g
Peroxide Value	NMT 10.0 meq/kg
Saponification Value	180.0-200.0 mg KOH/g
Specific Gravity	0.910 - 0.926

shall not be responsible for any damages resulting from use of or reliance upon this information. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties.

Lampiran 3. Perhitungan Viskositas Sediaan Micellar Water

Viskositas Micellar Water diukur dengan persamaan sebagai berikut :

$$\frac{\eta 1}{\eta 2} = \frac{p1.t1}{p2.t2}$$

(Apriani, dkk., 2013)

Diketahui :

viskositas air = 0,89 mPa.s

(Rowe dkk., 2009)

Keterangan :

η1 = Viskositas Sediaan

η2 = Viskositas Pembanding (Aquadest)

p1 = Bobot Jenis Sediaan

P2 = Bobot Jenis Aquadest

t1 = Watu Alir Sediaan

t2 = Waktu Alir Aquadest

Waktu Sampel

Minggu 0

Aquasdest	F1	F2	F3
0,70	0,72	0,76	0,77
0,66	0,75	0,83	0,85
0,68	0,80	0,83	0,77

Minggu 1

Aquadest	F1	F2	F3
0,66	0,78	0,75	0,83
0,73	0,70	0,80	0,82
0,81	0,73	0,80	0,83

Minggu 2

Aquadest	F1	F2	F3
0,63	0,70	0,83	0,77
0,66	0,75	0,80	0,74
0,65	0,70	0,80	0,79

Minggu 0

Formula 1

Viskositas 1 = η1 / 0,89= 0,99 × 0,72 / 1×0,70 = 0,91 mPa.s

Viskositas 2 = η1 / 0,89= 0,99 × 0,75/ 1×0,66 = 1,00 mPa.s

Viskositas 3 = η1 / 0,89= 0,99 × 0,80 / 1×0,68 = 1,04 mPa.s

Formula 2

Viskositas 1 = η1 / 0,89= 0,99 × 0,76 / 1×0,70 = 0,96 mPa.s

Viskositas 2 = η1 / 0,89= 0,99 × 0,83/ 1×0,66 = 1,11 mPa.s

Viskositas 3 = η1 / 0,89= 1,00 × 0,83 / 1×0,68 = 1,09 mPa.s

Formula 3

Viskositas 1 = η1 / 0,89= 0,99 × 0,77 / 1×0,70 = 0,97 mPa.s

Viskositas 2 = η1 / 0,89= 1,00 × 0,85 / 1×0,66 = 1,15 mPa.s

Viskositas 3 = η1 / 0,89= 1,00 × 0,77 / 1×0,68= 1,01 mPa.s

Minggu 1

Formula 1

Viskositas 1 = η1 / 0,89= 0,99 × 0,78 / 1×0,66 = 1,04 mPa.s

Viskositas 2 = η1 / 0,89= 0,99 × 0,70/ 1×0,73 = 0,84 mPa.s

Viskositas 3 = η1 / 0,89= 0,99 × 0,73 / 1×0,81 = 0,79 mPa.s

Formula 2

Viskositas 1 = η1 / 0,89= 0,99 × 0,75 / 1×0,66 = 0,91 mPa.s

Viskositas 2 = η1 / 0,89= 0,99 × 0,80 / 1×0,73 = 0,96 mPa.s

Viskositas 3 = η1 / 0,89= 1,00 × 0,80/ 1×0,81 = 0,88 mPa.s

Formula 3

Viskositas 1 = η1 / 0,89= 0,99 × 0,83 / 1×0,66 = 1,11 mPa.s

Viskositas 2 = η1 / 0,89= 1,00 × 0,82 / 1×0,73 = 1,00 mPa.s

Viskositas 3 = η1 / 0,89= 1,00 × 0,83/ 1×0,81 = 0,91 mPa.s

Minggu 2

Formula 1

Viskositas 1 = η1 / 0,89 = 0,99 × 0,70 / 1×0,63 = 0,98 mPa.s

Viskositas 2 = η1 / 0,89= 0,99 × 0,75/ 1×0,66 = 1,00 mPa.s

Viskositas 3 = η1 / 0,89= 0,99 × 0,70 / 1×0,65 = 0,95 mPa.s

Formula 2

Viskositas 1 = η1 / 0,89= 0,99 × 0,83 / 1×0,63 = 1,16 mPa.s

Viskositas 2 = η1 / 0,89= 0,99 × 0,80 / 1×0,66 = 1,07 mPa.s

Viskositas 3 = η1 / 0,89= 1,00× 0,80 / 1×0,65 = 1,09 mPa.s

Formula 3

Viskositas 1 = η1 / 0,89= 0,99 × 0,77 / 1×0,63 = 1,08 mPa.s

Viskositas 2 = η1 / 0,89= 1,00 × 0,724/ 1×0,66 = 1,00 mPa.s

Viskositas 3 = η1 / 0,89= 1,00 × 0,79/ 1×0,65 = 1,08 mPa.s

Standar Deviasi

Minggu 0	Minggu 1	Minggu 2
F1 = 0,07	F1 =0,13	F1 =0,03
F2 = 0,08	F2 =0,06	F2 =0,05
F3 = 0,09	F3 =0,10	F3 = 0,05

Lampiran 4. Hasil uji statistik formulasi Micellar Water minyak biji tomat

One-Sample Kolmogorov-Smirnov Test

		Viskositas
N		9
Normal Parameters[a,b]	Mean	1.0267
	Std. Deviation	.07794
Most Extreme Differences	Absolute	.140
	Positive	.140
	Negative	-.125
Test Statistic		.140
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Data output menunjukkan bahwa nilai sig. dari uji *Kolmogorov-Smirnov* diatas >0,05 H0 diterima) maka dapat disimpulkan bahwa data tersebut terdistribusi normal sehingga dapat dilanjutkan dengan *uji One Way ANOVA*.

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Viskositas	Based on Mean	.373	2	6	.704
	Based on Median	.052	2	6	.950
	Based on Median and with adjusted df	.052	2	5.335	.950
	Based on trimmed mean	.327	2	6	.733

Nilai probabilitas dari output diatas adalah sig. = 0,704 > 0,05 maka H0 diterima sehingga dapat dilanjutkan dengan *uji post hoc*.

ANOVA

Viskositas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.009	2	.004	.645	.558
Within Groups	.040	6	.007		
Total	.049	8			

Dari data output uji *ANOVA* diatas diketahui nilai sig. = 0,558 > 0,05 (H0 diterima) maka dapat disimpulkan bahwa tidak ada perbedaan yang signifikan pada formulasi.

Post Hoc Tests

Homogeneous Subsets

Viskositas

Tukey B[a]

Formula_micellar	N	Subset for alpha = 0.05 1
Formula 1	3	.9833
Formula 3	3	1.0433
Formula 2	3	1.0533

Means for groups in homogeneous subsets are displayed.

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

Dari data output diatas menunjukkan bahwa tidak terdapat adanya perbedaan signifikan pada setiap kelompok formulasi.