

LAMPIRAN

Tabel Pengamatan Analisa Sifat Fisik Minyak Kemiri

Variabel	Suhu pengepresan (°C)	Volume minyak (ml)	% Oil Yield	Densitas (gr/ml)	Viskositas (cp)
1	40	23	2,61 %	0,958	36,141
2	50	25	2,75 %	0,951	33,485
3	60	29	3,28 %	0,947	32,550
4	70	31	3,84 %	0,911	29,786
5	80	27	2,97 %	0,906	29,622

Tabel Pengamatan Analisa Sifat Kimia Minyak Kemiri

Variabel	Suhu pengepresan (°C)	Bilangan asam	Bilangan penyabunan (mg KOH/g sampel)
1	40	6,309	185,230
2	50	6,310	187,976
3	60	6,580	191,344
4	70	6,659	198,290
5	80	7,683	189,477

Perhitungan :

1. % Oil Yield

$$\% \text{ Oil Yield} = \frac{\text{massa minyak yang terekstrak (gr)}}{\text{massa sampel (gr)}} \times 100\%$$

$$\text{Variabel 1} = \frac{(72,82-54,50)\text{gr}}{700 \text{ gr}} \times 100\% = 2,61\%$$

$$\text{Variabel 2} = \frac{(73,76-54,50)\text{gr}}{700 \text{ gr}} \times 100\% = 2,75\%$$

$$\text{Variabel 3} = \frac{(77,48-54,50)\text{gr}}{700 \text{ gr}} \times 100\% = 3,28\%$$

$$\text{Variabel 4} = \frac{(81,41-54,50)\text{gr}}{700 \text{ gr}} \times 100\% = 3,84\%$$

$$\text{Variabel 5} = \frac{(75,26-54,50)\text{gr}}{700 \text{ gr}} \times 100\% = 2,97\%$$

2. Densitas

$$\rho = \frac{(\text{massa pikno isi minyak} - \text{massa pikno kosong}) \text{ gr}}{\text{volume pikno yang digunakan (ml)}}$$

$$\text{Variabel 1} = \frac{(20,79-11,41)gr}{10 ml} = 0,938 gr/ml$$

$$\text{Variabel 2} = \frac{(20,82-11,41)gr}{10 ml} = 0,941 gr/ml$$

$$\text{Variabel 3} = \frac{(20,86-11,41)gr}{10 ml} = 0,945 gr/ml$$

$$\text{Variabel 4} = \frac{(20,81-11,41)gr}{10 ml} = 0,94 gr/ml$$

$$\text{Variabel 5} = \frac{(20,57-11,41)gr}{10 ml} = 0,916 gr/ml$$

3. Viskositas

$$\mu_x = \frac{t_x d_x}{t_0 d_0} \cdot \mu_0$$

$$\text{Variabel 1} = \frac{42 s \times 0,951 gr/ml}{1,2 s \times 0,998 gr/ml} \cdot 1,004 cP = 33,485 cP$$

$$\text{Variabel 2} = \frac{45 s \times 0,958 gr/ml}{1,2 s \times 0,998 gr/ml} \cdot 1,004 cP = 36,141 cP$$

$$\text{Variabel 3} = \frac{41 s \times 0,947 gr/ml}{1,2 s \times 0,998 gr/ml} \cdot 1,004 cP = 32,550 cP$$

$$\text{Variabel 4} = \frac{39 s \times 0,911 gr/ml}{1,2 s \times 0,998 gr/ml} \cdot 1,004 cP = 29,786 cP$$

$$\text{Variabel 5} = \frac{39 s \times 0,906 gr/ml}{1,2 s \times 0,998 gr/ml} \cdot 1,004 cP = 29,622 cP$$

4. Bilangan asam

$$\text{Rumus} = \frac{100 \times ml \text{ KOH yang dibutuhkan} \times \text{normalitas KOH}}{\text{massa sampel (gr)}}$$

$$\text{Variabel 1} = \frac{100 \times 3ml \times 0,1 N}{4,755 gr} = 6,309$$

$$\text{Variabel 2} = \frac{100 \times 2,6 ml \times 0,1 N}{4,120 gr} = 6,310$$

$$\text{Variabel 3} = \frac{100 \times 2,8 ml \times 0,1 N}{4,255 gr} = 6,580$$

$$\text{Variabel 4} = \frac{100 \times 2,9 ml \times 0,1 N}{4,355 gr} = 6,659$$

$$\text{Variabel 5} = \frac{100 \times 3,5 ml \times 0,1 N}{4,555 gr} = 7,683$$

5. Bilangan penyabunan

$$\text{Rumus} = \frac{(\text{titrasi blanko} - \text{titrasi sampel}) \text{ ml} \times 28,05}{\text{massa sampel (gr)}}$$

$$\text{Variabel 1} = \frac{(86,2 - 54,8) \text{ ml} \times 28,05}{4,755 \text{ gr}} = 185,230$$

$$\text{Variabel 2} = \frac{(86,2 - 54,1) \text{ ml} \times 28,05}{4,790 \text{ gr}} = 187,976$$

$$\text{Variabel 3} = \frac{(86,2 - 53,9) \text{ ml} \times 28,05}{4,735 \text{ gr}} = 191,344$$

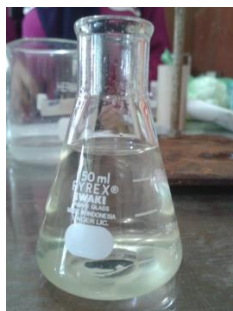
$$\text{Variabel 4} = \frac{(86,2 - 54) \text{ ml} \times 28,05}{4,555 \text{ gr}} = 198,290$$

$$\text{Variabel 5} = \frac{(86,2 - 55,6) \text{ ml} \times 28,05}{4,530 \text{ gr}} = 189,477$$

Gambar :



Hasil Minyak Kemiri



Angka asam
sebelum titrasi



Angka asam
setelah titrasi



Blanko
sebelum titrasi



Blanko
setelah titrasi



Penyabunan
sebelum titrasi



Penyabunan
setelah titrasi