



Chemical Weight and Formula

Soybean Methyl Ester Formula and Molecular Weight

The average molecular weight of soybean oil methyl esters is 292.2. This was calculated using the average fatty acid distribution for soybean methyl esters below. Also below is the molecular weight and chemical formula for each of the component esters.

Typical Soybean Oil Methyl Ester Profile

<u>Fatty Acid</u>	<u>Weight Percent</u>	<u>Mol. Wt.</u>	<u>Formula</u>
Palmitic	12.0	270.46	$C_{15}H_{31}CO_2CH_3$
Stearic	5.0	298.52	$C_{17}H_{35}CO_2CH_3$
Oleic	25.0	296.50	$C_{17}H_{33}CO_2CH_3$
Linoleic	52.0	294.48	$CH_3(CH_2)_4CH=CHCH_2CH=CH(CH_2)_7$
CO ₂ CH ₃			
Linolenic	6.0	292.46	$CH_3(CH_2CH=CH)_3(CH_2)_7 CO_2CH_3$