

$$13. M_{MF} = 438.48 \text{ g/mol}$$

$$C = 49.3\% \quad H = 6.91\% \quad O = 43.8\%$$

Assume 100.0 g

$$n_C = \frac{m}{M} = \frac{49.3 \text{ g}}{12.01 \text{ g/mol}}$$

$$= 4.10(4) \text{ mol}$$

$$n_H = \frac{6.91 \text{ g}}{1.01 \text{ g/mol}}$$

$$= 6.84(1) \text{ mol}$$

$$n_O = \frac{43.8 \text{ g}}{16.00 \text{ g/mol}}$$

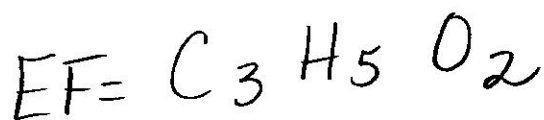
$$= 2.73(7) \text{ mol}$$

$$C : H : O$$

$$\frac{4.10(4)}{2.73(7)} : \frac{6.84(1)}{2.73(7)} : \frac{2.73(7)}{2.73(7)}$$

$$(1.5 : 2.5 : 1) \times 2$$

$$3 : 5 : 2$$



$$M_{EF} = \begin{array}{l} 3 \times C = 3 \times 12.01 \\ 5 \times H = 5 \times 1.01 \\ 2 \times O = 2 \times 16.00 \\ \hline 73.08 \text{ g/mol} \end{array}$$

$$\text{Factor} = \frac{MF}{EF} = \frac{438.48 \text{ g/mol}}{73.08 \text{ g/mol}}$$

$$= 6$$

