

Textbook Page 324 #1, 2d, 4

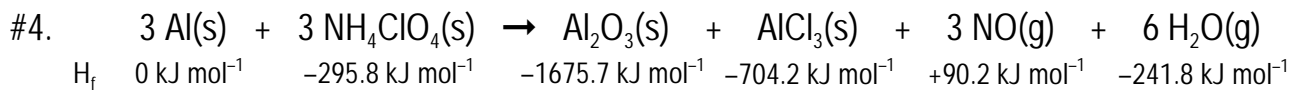
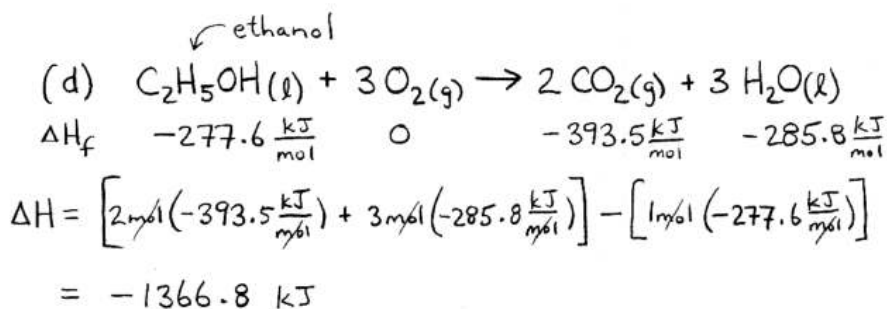
1. (a) Hg(g) NOT standard state Hg(l)

(b) Mg(s) standard state

(c) O₂(l) NOT standard state O₂(g)

(d) Br₂(l) standard state

2.



$$H = \sum n \cdot H_{f(\text{products})} - \sum n \cdot H_{f(\text{reactants})}$$

$$= [1 \cancel{\text{mol}}(-1675.7 \text{ kJ } \cancel{\text{mol}^{-1}}) + 1 \cancel{\text{mol}}(-704.2 \text{ kJ } \cancel{\text{mol}^{-1}}) + 3 \cancel{\text{mol}}(+90.2 \text{ kJ } \cancel{\text{mol}^{-1}}) + 6 \cancel{\text{mol}}(-241.8 \text{ kJ } \cancel{\text{mol}^{-1}})]$$
$$- [3 \cancel{\text{mol}}(0 \text{ kJ } \cancel{\text{mol}^{-1}}) + 3 \cancel{\text{mol}}(-295.8 \text{ kJ } \cancel{\text{mol}^{-1}})]$$

$$= [-3560.1 \text{ kJ}] - [-887.4 \text{ kJ}]$$

$$= 2672.7 \text{ kJ}$$