

Additional Mass Energy calculation practice

Name Key Period Date

Directions: Round any needed periodic table masses to 100ths (.01). If you need help Merrill has an example on page 241.

- 1) Compute the heat of reaction for the formation of 193 g of ammonium bromide from ammonia and hydrogen bromide.



$$\frac{193 \text{ g NH}_4\text{Br}}{97.94 \text{ g}} \times \frac{188.32 \text{ kJ}}{1 \text{ mol NH}_4\text{Br}} = 371 \text{ kJ}$$

to make NH_4Br
193g

- 2) Compute the heat of reaction for the decomposition of .772 g of cobalt (II) carbonate into cobalt (II) oxide and carbon dioxide.



$$\frac{.772 \text{ g CoCO}_3}{118.94 \text{ g}} \times \frac{81.6 \text{ kJ}}{1 \text{ mol CoCO}_3} = .530 \text{ kJ}$$

to decompose
.77g CoCO_3

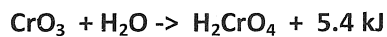
- 3) Compute the heat of reaction for the displacement of .0663 grams of bromine from sodium bromide and chlorine.



$$\frac{.0663 \text{ g Br}_2}{159.8 \text{ g}} \times \frac{100.18 \text{ kJ}}{1 \text{ mol Br}_2} = .0416 \text{ kJ}$$

to displace .0663g
 Br_2

- 4) What mass of chromium (VI) oxide reacted if 6.18 kJ of energy was produced during the following reaction?



$$\frac{6.18 \text{ kJ}}{5.4 \text{ kJ}} \times \frac{1 \text{ mol CrO}_3}{1} \times \frac{100.00 \text{ g}}{1 \text{ mol}} = \boxed{113 \text{ g CrO}_3}$$

$$110 \text{ g CrO}_3 \quad 1.1 \times 10^2 \text{ g CrO}_3$$

corrected by JESS
and NICOLE

Thanks
Ladies
Mr. Leul-7