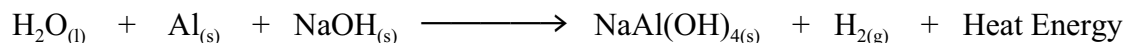


GAS LAWS: QUIZ II - STOICHIOMETRY

2002

Name: _____

Some commercial drain cleaners contain sodium hydroxide and powdered aluminium. When the mixture is poured into a drain full of water and dirt, the exothermic reaction is as follows ...



a) Show the balanced chemical reaction please. (1)

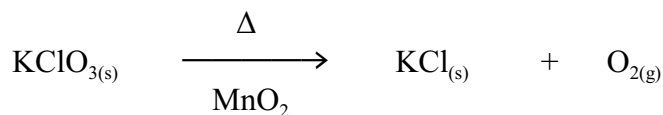
b) The heat energy generated by the reaction helps to melt any grease, and the gas being generated stirs up the particles and helps to unclog the drain. If you use 5.60 g of $\text{Al}_{(s)}$ and excess $\text{NaOH}_{(s)}$, how many litres of gaseous hydrogen measured at 102.3 kPa and 22.0 °C are produced?

GAS LAWS: QUIZ II - STOICHIOMETRY

2002

Name: _____

In commercial aircrafts, the emergency oxygen is often provided by the decomposition of potassium chlorate ...



a) Show the balanced chemical reaction please. (1)

b) Calculate the volume of oxygen gas that could be supplied by 5.00 kg of potassium chlorate at a pressure of 75.0 kPa and a temperature of 23.0 °C.

c) Suggest why aircrafts carry their emergency oxygen supply as $\text{KClO}_{3(s)}$ and not as oxygen gas.