

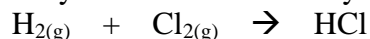
Homework

Remember to balance the equations FIRST!

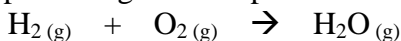
1. The British chemistry Joseph Priestley prepared oxygen in 1774 by heating mercury(II) oxide, HgO. Mercury metal is the other product. If 6.47 g of oxygen are collected, how many grams of mercury metal are also produced?



2. In an industrial process, HCl is prepared by burning hydrogen gas, H₂, in an atmosphere of chlorine, Cl₂. Given 22.8 moles of hydrogen gas, how many moles of HCl could you prepare?

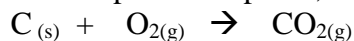


3. Although mixtures of hydrogen and oxygen are highly explosive, pure elemental hydrogen gas itself burns quietly in air with a pale blue flame, producing water vapor:



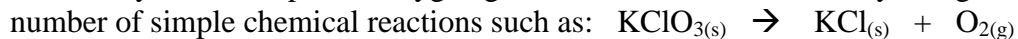
Calculate the mass (in grams) of water vapor produced when 56.0 grams of pure hydrogen gas, H₂, burns.

4. When elemental carbon is burned in the open atmosphere, with plenty of oxygen gas present, the product is carbon dioxide:



What mass of CO₂ is expected when a 5.00 gram sample of pure carbon is burned?

5. When very small samples of oxygen gas are needed in the laboratory, the gas may be generated by any number of simple chemical reactions such as:



What mass of oxygen gas should be produced when 5.00 g. of KClO₃ is heated?