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AS Chemistry

C5.2: Amount Of Substance and Gas Volume

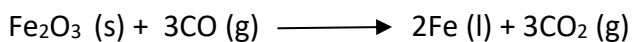
Assignment Questions

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Amount of Substance and Gas Volume Assignment

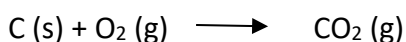
Q1: Calculate the mass of 0.05 moles of H₂O .

Q2: One of the reactions that happens between Iron (III)oxide and carbon monoxide :

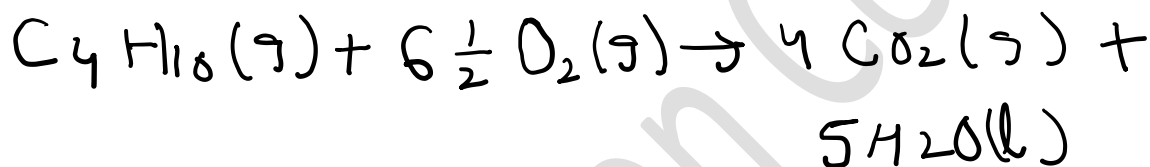


Calculate the mass of iron that can be produced from 3 tons of carbon monoxide and an excess of iron (III)oxide.

Q3: Calculate the mass of carbon dioxide produced from the combustion of 6.0 g of Carbon.



Q4: A camping cylinder contains 190 g of Butane , which burns completely in oxygen to produce carbon dioxide and water,



Assuming that the molar volume of gas V_m is 24 dm³

a) Calculate the amount of oxygen (in mol) of oxygen needed to react completely with the butane.

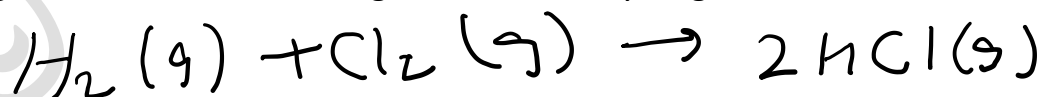
b) Calculate the volume of oxygen needed.

c) Calculate the maximum volume of carbon dioxide produced.

d) Calculate the maximum volume of water produced.

Q5: Calculate the amount of solute dissolved in 200 cm³ of a 0.25 mol dm⁻³ solution.

Q6: Hydrogen and chlorine react together to form hydrogen chloride:



a) Calculate the volume of HCl that can be produced from 50 cm³ of hydrogen and excess of chlorine. Assume temperature and pressure does not change.

b) Calculate the total volume of gas from a complete reaction involving 100 cm³ of hydrogen and 150 cm³ of chlorine. . Assume temperature and pressure does not change.