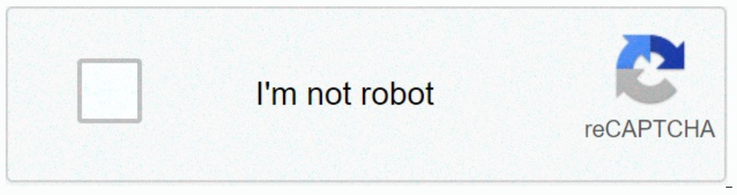

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Conservation of mass worksheet pdf

In this spreadsheet, we will practice the use of the law of mass conservation to calculate the masses of reagents and products in a chemical reaction. Q2: A wet sample of 43.2 g of copper sulphate heptahydrate (CuSO-7HO)42 is heated until only copper sulphate (CuSO) remains4. The mass of water lost is 34.1 g. What is the mass of copper sulphate? Q3: A sample of 13.5 g of calcium carbonate is heated until it decomposes completely and 7.6 g of calcium oxide is produced. What is the mass of carbon dioxide produced? Q4: Magnesium burns in the air to produce magnesium oxide. If a magnesium sample requires 15.0 g of oxygen to burn completely and forms 37.8 g of magnesium oxide, what is the mass of the magnesium sample? Q6: An open-top beaker contains 15.3 g of ethanol. A 7.6 g piece of sodium is deposited in the beaker and reacts completely, producing sodium ethoxide (CHONa)25. What mass of sodium ethoxide should be? The actual mass of sodium ethoxide produced is 22.6 g. By writing a balanced equation for reaction, which of the following statements explains why the mass seems to have decreased? AThe reaction uses oxygen from the air that is not measured in the reagents. BThe reaction produces carbon dioxide that escapes from the beaker. CThe reaction changed the sodium state from a solid product to a watery product. DThe reaction destroys some hydrogen atoms. EThe reaction produces hydrogen gas that escapes from the beaker. Q7: Sodium bicarbonate (X) can be done according to the given reaction: NaCl-CO-NH-HOX-NHCl2324 Use the principle of mass preservation to respond to the following. Determine the relative formula mass of product X. Give your response as a whole. What is the molecular formula for X? ANaCO23 BNaCO3 CNaO32 DNaHCO3 ENaHCO2 Q8: Nickel reacts with a number of carbon monoxide grains to produce an organonickel compound. The equation of this chemical reaction can be written as indicated: Ni-CONi (CO)nn5.9 g of nickel produces 17.1 g of Ni(CO)n. Determine the n value to the nearest entire number. Q9: Toluene combustion occurs according to the indicated reaction. Tolueneoxygencarbondioxidewater →-92 g of toluene produced 308 g of carbon dioxide and 72 g of water. How many grains of oxygen were needed for the complete combustion of toluene? Q10: Which of these statements on mass conservation is not correct? AThe mass of products will be equal to the mass of reagents. BMass is not kept during a physical exchange (e.g., cast iron). C In the event of a chemical reaction, no mass is created or destroyed. DPending on a chemical reaction, no is not created or destroyed. EIt will be the same number and type of atoms before and after a chemical reaction. Q11: A chemical reaction is represented by the general equation shown: xAB-4C The chemical chemical produces 223g of B and 68g of C. If the molar mass of A is 97 g/mol, determine x, the number of moles of A. Q12: Which of the following laws describes the principle that the total masses in a closed container will be the same before and after a reaction occurs? AThe first law of the BLaw mass preservation thermodynamics CLaw energy conservation of multiple proportions EThe second law of thermodynamics Q13: A chemical reaction progresses to completion in a closed container between two reagents, A and B, with masses of 50 grams and 112 grams respectively. What is the mass of the final product, the nearest whole number? Q14: The following figure illustrates the thermal decomposition of copper carbonate. How much carbon dioxide is evolved when 247.1 grams of copper carbonate decomposes, to the nearest whole number? Q15: A reaction occurs between zinc metal and diluted hydrochloric acid to form zinc chloride and hydrogen gas according to the following balanced equation: Zn(s)-2HCl()ZnCl()-H()aqaqg22 Explain why there is a decrease in total mass. AReages decompose. BZinc metal is a limiting reagent. The CHydrogen gas escapes. The DZinc metal is rushing. Q16: What happens to the total mass when a neutralizing reaction occurs in a closed system? He's still the same. BIt is increasing. CIt is shrinking. Q17: A reaction occurs between 2 reagents: one mass 10 grams and the other mass 50.5 grams. A gas is released from this reaction. If the final mass is 42.5 grams, what is the mass released to the nearest whole number? Q18: By first balancing the hydrogen and oxygen reaction equation to form water, calculate the mass of water produced when 14.0 grams of hydrogen reacts with 20.5 grams of oxygen to the nearest total number. A126 grams B63 grams C36 grams D46 grams E23 grams Q19: A pure sample of calcium carbonate is heated until no further change in mass is observed. The total mass variation is 30 g. What is the initial mass of the sample? Sample?