

Mixtures and Properties Questions

1. Classify each of the following as a pure substance or a mixture.

Substance	Pure substance or mixture	Element, compound, solution, heterogeneous mixture
Soapy water		
Hydrogen gas (H ₂)		
Sodium chloride		
Water		
Magnesium (Mg)		
Trail mix		
Kool-Aid		
Helium (He)		

2. Classify each of the following as a physical property or a chemical property.

	Physical or chemical property
Gasoline is a clear pink solution	
Gasoline burns in air	
Water boils at 100°C	
Electric current can split water into hydrogen and oxygen gases	
Ice melts at 0°C	
Diamond is an extremely hard substance	
Sodium burns when placed in water	

3. When aluminum metal is added to hydrobromic acid, hydrogen gas and an aluminum bromide solution are formed.

a) What kind of change has occurred? How do you know?

b) Which substances are the reactants and which are the products?

4. When sodium carbonate is added to water, the sodium carbonate dissolves. When hydrochloric acid is added to the solution, the solution fizzes. What kinds of changes have occurred? How do you know?