In the experiment, either calcium sulfate dehydrate or magnesium sulfate will be identified through water crystallization. The hydrated salts will be combined with water. Water crystallization is the process of heating the hydrated salt allowing the water crystallization to be driven off in the form of steam, resulting in just the anhydrous salt (no water) with a smaller mass. The purpose of this experiment is to determine the stoichiometric amount of water bounded to the salt.

This result will be determined by heating the hydrated salt on a Bunsen burner. The crucible will contain the hydrated salt and allow the evaporation process of the hydrated salt to separate the combination, leaving the result of the anhydrous salt.