LABORATORY 5

WHAT IS MYSTICAL ABOUT MYSTICAL FIRE?

Palomar College
1140 West Mission Road
San Marcos, CA92069

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Dear Chemistry Students,

We are writing to you to ask for your help. On a recent trip to Canada, one of our sales reps saw an advertisement for Mystical Fire (http://www.mysticalfire.ca). This substance is marketed as a packet containing a powder that will cause campfire flames to create amazing, vibrant colors. Although we can't create a campfire in lab, this video (https://youtu.be/aZAgVN2WNgg) shows what happens to a flame before and after Mystical Fire is added. It is truly amazing, and we know that Canadian stores can't keep these packets on their shelves!

What we would like you to do is to investigate what causes Mystical Fire to change the color of flames. Unfortunately, we have not been able to obtain any detailed information about what is in these packets, save for the fact that the packets have a mixture of chlorides, sulfates, sugar, and urea. Thus, we are asking you to perform an introductory investigation to determine what causes these colors. If we can market our own formula, we are certain sales would go through the roof! Your instructor will demonstrate how to test these compounds and aid you in formulating questions and discussing how your report should written. We look forward to reviewing the results of your research.

Sincerely,

Dante Brimstone

Dr. Dante Brimstone

Firestorm Industries

Available Compounds

- $SrCl_2$
- KCl
- $CaCl_2$
- NaCl
- $CaSO_4$
- NaBr
- KBr
- Urea
- Sugar
- $MgCl_2$
- $MgSO_4$
- Na_2SO_4
- $CuSO_4$
- $CuCl_2$
- $BaSO_4$
- $BaCl_2$