

## Organic Exothermic Reaction

### Purpose

To demonstrate that a strong oxidizing agent, combined with a combustible material, will burst into flame.

### Materials

asbestos pad	potassium chlorate
spatula	granulated sugar
crucible	sulfuric acid

### Procedure

1. With a spatula, carefully mix 6.0 grams of potassium chlorate with 2.0 grams of granulated sugar in a crucible. If the amounts are doubled, the reaction is more impressive.
2. Pile the mixture in the middle of the asbestos pad.
3. Make a small depression in the top of the pile with the spatula.
4. Add about 0.5 mL of concentrated sulfuric acid into the depression and stand back immediately.
5. The reaction begins quickly, evolving smoke after 1-3 seconds, and then the pile will burst into a purplish flame.

### Additional Information

1. Potassium chlorate is the strong oxidizing agent. Do not store the mixture of  $\text{KClO}_3$  and sugar for long periods of time.
2. Sulfuric acid is a powerful dehydrating agent. Thus, handle it with great care. Spills can be neutralized with sodium bicarbonate.

### Disposal

Remaining solid should be placed in properly labeled solid waste container.

### Reference

Shakashiri, Bassam. Chemical Demonstrations, Volume I, 1983.