

CO₂ Pop Tops

Preparer's Version

Introduction

The CO₂ Pop Tops demonstration provides a simple but powerful illustration of phase changes and gas pressure buildup. In this activity, a small pellet of solid carbon dioxide (dry ice) is placed in a sealed film canister. As the dry ice sublimates – transforms directly from a solid to a gas – the internal pressure increases until the lid forcefully pops off. The result is a loud, attention-grabbing "pop" that offers a vivid example of the physical chemistry behind gas expansion and pressure.

Safety Hazards

- Personal Protective Equipment:
 - Safety glasses/goggles
 - Cryo Gloves
 - Chemical & flame retardant lab coat
- Physical Hazards
 - Dry ice may displace oxygen and cause rapid suffocation.
- Chemical Hazards
 - Dry ice may increase respiration and heart rate, cause cryogenic burns or injury or frostbite, and may increase respiration and heart rate.

Materials

- Film canister
- Dry ice, pellets
- Tongs

Safety Data Sheet(s)

- [Dry Ice, pellets](#)

Procedure

1. Using the tongs, place one pellet of dry ice into the film canister and close the lid.
2. Step several feet away from the film canister and wait!

Tips & Tricks

- Check the film canister lids to make sure there are no cracks! Pressure may not build if there are defects in the caps.

Clean-Up Procedures

1. Allow the dry ice to sublime.