



HOME DEMO NO. 8

Pop A Rocket

If you like explosions, you'll love this experiment. You can make a two-part rocket fuel system that safely explodes!

What you need:

1. Two film canisters, at least one of them with a plug-style top
2. Baking powder
3. Safety glasses

Muy Importante!

This demonstration works well with a film canister that has a plug-style top, one that snaps into the cylindrical canister. The cap-style tops that fit around the outside of the cylinder are harder to use. Clear FUJI "plug" canisters work the best. The oval-shaped Advanced Photo System (APS) ones work fine, too.

What you do:

1. Put a heaping teaspoon (10 ml) of baking powder in one canister.
2. Fill the second one not quite half full with water.
3. Find a pair of safety goggles and wear them.
4. What happens as it melts?
5. When you're ready, pour the water onto the powder. Quickly snap the top on. Immediately (right away) shake the canister once or twice, turn it upside down on the countertop, and stand back!

What's happening?

Mixing the water with the baking powder produces a lot of carbon dioxide gas (CO₂). This build up of gas causes the film canister to go flying. The same sort of thing happens in a rocket and even a volcano. Rocket engines often have fuel that doesn't make pressure until two different liquids or solids are mixed.

Sometimes when volcanoes erupt, the lava oozes out of a vent and flows downhill. Other times a volcano's vent clogs, forcing the pressure to build up inside. This can lead to a violent volcanic eruption, just like the popping lid!