

Making a Volcano

This demonstration is to be done only by the teacher. Students will observe what happens when a volcano erupts.

The following materials are needed: a stiff wooden board, masking tape, aluminum foil, plaster of Paris, ammonium dichromate, a strip of magnesium tape, matches, and safety goggles.

1. Tape a sheet of aluminum foil to the stiff wooden board.
2. Using plaster of Paris, shape a volcanic cone with its crater. Your plaster of Paris model should be allowed to harden for about a week.
3. After your model volcano has hardened, fill the crater with ammonium dichromate, $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$, which is a solid. Place a strip of magnesium tape within the crater to act as a fuse.
4. Be sure to put on safety goggles before proceeding to the next step.
5. Light the fuse and stand back. The ammonium dichromate decomposes when heated. The chromic oxide, which is a green solid, is formed and violently ejected. It represents the dust, ashes, and other debris, such as volcanic rocks, that are violently thrown out of a real volcano. The chemical equation for this reaction is

