

CH₄ Bubbles

Recommended for Chapter(s): 1 and 9

Demo #003

Materials NOT in box

1. Lighting stick (between tables in demonstration room).
2. Two pair of safety goggles.

Procedure

1. (Prep) Attach the tubing/funnel to the gas nozzle.
2. Ask for a student volunteer.
3. Insert a birthday candle into the clamp at the end of the metal lighting stick and light the candle.
4. Instruct student not to light the bubble if the bubble gets too close to them and tell them if they miss the bubble it is O.K.
5. Turn on the gas.
6. Put funnel in bubble solution.
7. When the bubble has gotten to the appropriate size, flick your wrist to form the bubble. You should be able to form multiple bubbles with one dip in the bubble solution.

Safety

1. Wear safety goggles.
2. Have student volunteer wear safety goggles.
3. If the funnel accidentally catches fire there is no danger. Simply hold the funnel away from you and away from the students and turn off the gas.
4. Only take volunteers that have their hair tied back so that it will not catch on fire.

Clean Up

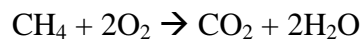
1. After finishing demo make sure to wipe off the table.
2. Return the materials to the cart in the demonstration library room.

Stockroom Notes

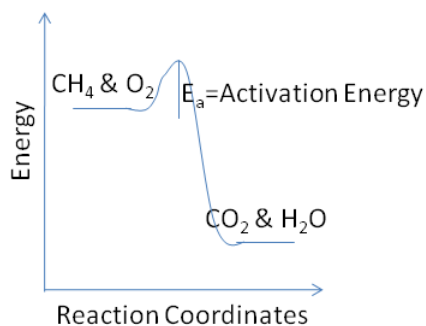
1. Rinse off the funnel and wipe outside of Tupperware.
2. If needed, refill any materials that have been used up.
 - a. To make more bubble solution, mix one bottle of bubble (~500 mL) with ~3 mL of glycerol.
3. Return items to demonstration tub.
4. Return tub to the demonstration library.
 - a. Return goggles to goggle box.
 - b. Return lighting stick to between tables in demonstration room.

Discussion

The reaction that takes place is the combustion of methane.



During the reaction heat is produced, therefore, the reaction is exothermic. Although, the reaction is exothermic the reaction will not proceed unless energy is put into the system.



Materials in box

1. Bubble solution (with small amount of glycerol mixed in) in Tupperware
2. Extra bubble solution
3. Glycerol
4. Paper towels
5. Birthday candles
6. Tea light
7. Matches
8. Funnel and tubing
9. Paper towels