

Conservation of Mass and Buoyancy Worksheet

Data Table A

Trial

- | | |
|--|---------|
| 1. Mass of weighing dish and sodium bicarbonate | _____ g |
| 2. Mass of bottle, acetic acid solution, and cap | _____ g |
| 3. Total mass <i>before</i> reaction (#1 and #2) | _____ g |
| 4. Total mass after reaction | _____ g |
| 5. Mass loss or gain (-/+) | _____ g |

Data Table B

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|---|----------|
| 1. Level of water with unreacted assembly submerged. (Step 7) | _____ mL |
| 2. Level of water without assembly (Step 8) | _____ mL |
| 3. Mass of assembly before reaction (Step 10) | _____ g |
| 4. Mass of assembly after reaction (Step 14) | _____ g |
| 5. Mass loss or gain (-/+) | _____ g |
| 6. Level of water with reacted assembly submerged (Step 15) | _____ mL |
| 7. Level of water without the assembly (Step 16) | _____ mL |
| 8. Volume (displacement) of unreacted assembly (#1 and #2) | _____ mL |
| 9. Volume (displacement) of reacted assembly (#5 and #6) | _____ mL |

Post-Lab Question

- Did the mass of the assembly change after the reaction was complete in either Part 1 or Part 2? If so, propose possible explanations.

Beaker	Indicator	Basic Color (Before)	Acidic Color (After)	pH	Range
1	Bromcresol	green	Blue	Yellow-green	5.4 to 3.8
2	Universal	indicator	Purple	Orange	10 to 4
3	Phenol	red	Red	Yellow	8.4 to 6.8
4	Methyl	red	Yellow	Red	6.2 to 4.4
5	Bromthymol	blue	Blue	Yellow	7.6 to 6.0