Lab #2: Saturated and Unsaturated Solutions

Using the Scientific Method your group will find the answer to the following question: ***How can you make saturated solutions?***

Materials Needed:

* Graduated cylinder
* Beaker
* Balance
* Paper to hold solutes
* Spoon or scoopula
* Water at room temperature
* Powdered drink crystals
* Sugar
* Salt
* Stir sticks

Purpose: (state the problem or question here) 1 mark

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Hypothesis: (predict the outcome to the problem or question) 2 marks

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Procedure:

1. Use the graduated cylinder to measure 50 ml of water into a beaker.
2. Measure 5 g of one substance. Add this to the water.
3. Stir the mixture until the substance has dissolved. Record your observations in the table.
4. Keep adding more of the same substance to the water, 5 g at a time, until no more will dissolve.
5. Repeat steps 1 to 4 for each substance.

Data:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Substance | Mass Added | Volume of Water | \*Concentration in g/100 mL water | Observations |
| powdered drink crystals |  |  |  |  |
| sugar |  |  |  |  |
| salt |  |  |  |  |

12 marks

Analysis:

1. Calculate the concentration of each solution in grams per 100 mL. Don’t forget you used only 50 mL of water, so you will need to correct the differences in mass and volume! **For example: if there is 25g of salt in 100 mL of water (25g/100 mL) there would only be 12.5 g/50 mL.**
2. How did you know when a solution was saturated?

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(2 marks)

Conclusion:

Make sure to describe how you made saturated solutions and calculated the concentration of each of your solutes! What did you learn from this lab?

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(5 marks)

Neatness/Accuracy: 5 marks

Lab questions answered: 22 marks

Total: 27 marks

GROUP MEMBERS: