

Lab 2: Ionic Compounds Identification Lab

Science 10

Names: _____, _____, _____

In this lab you will be testing the properties of several substances to determine whether they are ionic compounds or not.

Prelab: Before entering the lab, complete the following questions:

1. Do an internet search for "Properties of ionic compounds" List 5 or 6 properties

(a)

(b)

(c)

(d)

(e)

(f)

2. Define the following terms in your own words:

(a) conductivity

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(b) solubility

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3. How could you test whether a substance is soluble or not?

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4. How could you test whether a substance is conductive or not?

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5. Prepare labels (little pieces of paper with the names on them) for the following chemicals: sugar, salt, deicer, bluestone and corn starch. You will use these in the lab.

Lab

Names: _____, _____, _____

Equipment: Five 50 mL beakers, Distilled water, conductivity tester, stir rod(s), spatulas, chemical samples: sugar, salt, deicer, bluestone, corn starch.

Hypothesis: Based on the pre-lab:

1. How will you test if the chemicals may be ionic compounds or not?

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2. Write this in a sentence of the form "If a chemical is an ionic compound it will ..."

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Procedure:

1. Get a spatula scoop of each sample in each of your five beakers. Make sure you label each one (for example a piece of paper with the name in front of each one).
2. Make observations about each of the chemicals (colour, shape, hardness). You **may** touch these with your fingers, but it is important to wash and dry your fingers after each one. Record your observations in the table.
3. Add about 20 mL of water to the beaker containing sugar. Stir it with the stir rod. Make observations about the solubility. Describe the appearance in the table below. Repeat this for the other four substances, making sure to **clean your stir rod with distilled water** in between each use.
4. Using the conductivity test, put the two probes in the beaker containing salt and water. Since we **know** salt is an ionic compound, it *should* conduct. Make a note of the brightness of the light that indicates it conducts. Test the conductivity of each substance and record your observations in the table. (Note some conductivity testers will show a faint red light, but the substance isn't conductive. Ask if you aren't sure). Make sure to rinse the probes well of the conductivity tester with distilled water between each use.

| | Sugar | Salt | Deicer | Bluestone | Cornstarch |
|-------------------------|-------|------|--------|-----------|------------|
| Colour, shape, hardness | | | | | |
| Dissolves? | | | | | |
| Conducts? | | | | | |

Conclusions

1. Based on your observations in the lab, which of the chemicals do you believe are ionic compounds?

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2. What is the importance of washing your hands, stir rod and conductivity tester between each chemical?

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