

If Your Cat Took Chemistry, Would She Eat This Stuff?

The following are the listed ingredients for Puss'n'Boots *Pounce* (Shrimp Flavor) Treats for Cats:

Flour, liver, dried whole egg, glycerin, pregelatinized wheat flour, shrimp by-products, wheat gluten, torula dried yeast, *calcium sulfate*, cheese meal, phosphoric acid, animal fat (preserved with butylated hydroxyanisole, otherwise known as BHA), *potassium chloride, salt*, potassium sorbate (a preservative), wheat middlings, color, choline chloride, *calcium carbonate, ferrous sulfate*, vitamin E supplement, *zinc oxide*, BHA (again!), *cupric oxide, cobalt carbonate, manganous oxide*, vitamin A supplement, *potassium iodide*, D-calcium pantothenate, vitamin B-12 supplement, vitamin D-3 supplement, water sufficient for processing.

The purpose of this activity is to practice writing formulas for simple inorganic compounds whose names are found on labels of products in the supermarket, drugstore or at home.

1. You are to complete the name and formula grid which is attached. Both the name and correct formula for the compounds represented in matrix must be written in the box. (30 points if completed)
2. On the back of this sheet is a list of ions. You are to read product labels to find compounds formed from the ions on the list. **ONLY COMPOUNDS FROM THESE IONS WILL BE ALLOWED**. If the substance does not contain these ions, do not include it! For each compound, the following information will be required:

Name of compound as it appears on the label

Formula

Name of the product in which it is found.

3. You must turn in at least 20 different compounds. (20 points if completed, -1 for each less than 20)
4. A compound may only be used once. (If the same compound is listed more than once, -2)
5. Names must be of compounds, not elements.
6. The list must be numbered for full credit. (-5 points penalty)
7. You may not write on the back of the page (-5 points penalty)
8. Lists must be alphabetized. (-5) points.
9. Extra compounds can earn extra points, up to 5 extra awarded.

IONS LIST

Cations					
Ion	Formula	Ion	Formula	Ion	Formula
Aluminum	Al^{+3}	Hydrogen	H^{+1}	Potassium	K^{+1}
Ammonium	NH_4^{+1}	Magnesium	Mg^{+2}	Sodium	Na^{+1}
Calcium	Ca^{+2}	Nickel (II)	Ni^{+2}	Zinc	Zn^{+2}
Monoatomic Anions					
Bromide	Br^{-1}	Fluoride	F^{-1}	Oxide	O^{-2}
Chloride	Cl^{-1}	Iodide	I^{-1}	Sulfide	S^{-2}
Polyatomic Anions					
Acetate	$\text{C}_2\text{H}_3\text{O}_2^{-1}$	Hydrogen sulfate (bisulfate)	HSO_4^{-1}	Phosphate	PO_4^{-3}
Bromate	BrO_3^{-1}	Hydrogen sulfite (bisulfite)	HSO_3^{-1}	Sulfate	SO_4^{-2}
Carbonate	CO_3^{-2}	Hydroxide	OH^{-1}	Sulfite	SO_3^{-2}
Chlorate	ClO_3^{-1}	Hypochlorite	ClO^{-1}	Tetraborate	$\text{B}_4\text{O}_7^{-4}$
Hydrogen Carbonate (bicarbonate)	HCO_3^{-1}	Nitrate	NO_3^{-1}		
Alternate Names					
Chromium (II)	Chromous	Iron (III)	Ferric	Tin (II)	Stannous
Chromium (III)	Chromic	Manganese (II)	Manganous	Tin (IV)	Stannic
Copper (II)	Cupric	Mercury (I)	Mercurous		
Iron (II)	Ferrous	Mercury (II)	Mercuric		