

Chapter 2: Worksheet #2 Nomenclature

1. Name the following binary compounds:

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|--|---|
| a) SnI_2 tin(II) iodide | n) SO_2 sulfur dioxide |
| b) CrO_3 chromium(VI) oxide | o) P_2S_5 diphosphorus pentsulfide |
| c) P_4O_{10} tetraphosphorus decoxide | p) CuI copper(I) iodide |
| d) CrCl_3 chromium(III) chloride | q) MgCl_2 magnesium chloride |
| e) AlI_3 aluminum iodide | r) CsBr cesium bromide |
| f) FeO iron(II) oxide | s) AgF silver(I) fluoride |
| g) SnO_2 tin(IV) oxide | t) Hg_2I_2 mercury(I) iodide |
| h) BaCl_2 barium chloride | u) HI hydrogen (mono)iodide |
| i) CoCl_3 cobalt(III) chloride | v) CBr_4 carbon tetrabromide |
| j) B_2O_3 diboron trioxide | w) SnCl_4 tin(IV) chloride |
| k) H_2O water | x) SrH_2 strontium hydride |
| l) N_2O dinitrogen monoxide | y) PbCl_2 lead(II) chloride |
| m) PH_3 phosphorus trihydride | z) NCl_3 nitrogen trichloride |

2. Name the following acids:

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|----|-------------------------|-------------------------|----|------------------------|--------------------------|
| a) | HBrO_3 | bromic acid | e) | HF | hydrofluoric acid |
| b) | HClO_3 | chloric acid | f) | HNO_3 | nitric acid |
| c) | HBr | hydrobromic acid | g) | HNO_2 | nitrous acid |
| d) | H_3PO_4 | phosphoric acid | h) | H_2O_2 | hydrogen peroxide |

3. Name these polyatomic ions:

- | | | | | | |
|----|------------------------------|-----------------------------|----|---------------------|---------------------------|
| a) | ClO_3^- | chlorate | f) | NH_4^+ | ammonium |
| b) | OH^- | hydroxide | g) | HPO_4^{2-} | hydrogen phosphate |
| c) | SO_3^{2-} | sulfite | h) | CO_3^{2-} | carbonate |
| d) | $\text{Cr}_2\text{O}_7^{2-}$ | dichromate | i) | MnO_4^- | permanganate |
| e) | H_2PO_4^- | dihydrogen phosphate | j) | HCO_3^- | hydrogen carbonate |

4. Name the following compounds that contain polyatomic ions:

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|----|--------------------------|---------------------------------------|----|--|----------------------------|
| a) | FeSO_3 | iron(II) sulfite | e) | $\text{Fe}(\text{NO}_3)_3$ | iron(III) nitrate |
| b) | KH_2PO_4 | potassium dihydrogen phosphate | f) | $\text{Al}_2(\text{SO}_4)_3$ | aluminum sulfate |
| c) | Na_2CO_3 | sodium carbonate | g) | CsClO_4 | cesium perchlorate |
| d) | KClO | potassium hypochlorite | h) | $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$ | ammonium dichromate |

5. Write the formula for the chemical name below:

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|------------------------|-----------------------------------|----------------------------|--------------------------|
| a) lithium bromide | LiBr | g) phosphorus triiodide | PI₃ |
| b) diboron trioxide | B₂O₃ | h) tin(IV) sulfide | SnS₂ |
| c) mercury(II) sulfate | HgSO₄ | i) barium sulfate | BaSO₄ |
| d) nitrous acid | HNO₂ | j) hydrobromic acid | HBr |
| e) aluminum hydroxide | Al(OH)₃ | k) sodium hydrogen sulfite | NaHSO₃ |
| f) perbromic acid | HBrO₄ | l) potassium sulfide | K₂S |

6. Write the formula for the oxide below:

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|--------------|------------------------------------|--------------|------------------------------------|
| a) iron(II) | FeO | c) aluminum | Al₂O₃ |
| b) iron(III) | Fe₂O₃ | d) magnesium | MgO |