

Naming Hydrates and Acids

Use the information in Hebden pg. 72-74 to complete the following:

Part A) Write formulas for the following hydrates:

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|-------------------------------------|--|
| 1. Copper (II) sulfate pentahydrate | <u>$CuSO_4 \cdot 5H_2O$</u> |
| 2. Lithium hydroxide monohydrate | <u>$LiOH \cdot H_2O$</u> |
| 3. Nickel sulfate heptahydrate | <u>$NiSO_4 \cdot 7H_2O$</u> |
| 4. Aluminum sulfate hexahydrate | <u>$Al_2(SO_4)_3 \cdot 6H_2O$</u> |
| 5. Iron (II) chloride trihydrate | <u>$FeCl_2 \cdot 3H_2O$</u> |

Part B) Write names for the following hydrated ionic compounds:

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|-------------------------------|---|
| 6. $Co_3(PO_4)_2 \cdot 4H_2O$ | <u>Cobalt (II) phosphate tetrahydrate</u> |
| 7. $AgCl \cdot H_2O$ | <u>Silver chloride monohydrate</u> |
| 8. $Zn(OH)_2 \cdot 8H_2O$ | <u>Zinc hydroxide octahydrate</u> |
| 9. $CuCl_2 \cdot 2H_2O$ | <u>Copper (II) chloride dihydrate</u> |
| 10. $PbO_2 \cdot 3H_2O$ | <u>Lead (IV) oxide trihydrate</u> |

Part C) Write formulas for each of the following acids:

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|----------------------|--|
| 11. Hydrobromic acid | <u>HBr</u> |
| 12. Hydroiodic acid | <u>HI</u> |
| 13. Nitric acid | <u>HNO_3</u> |
| 14. Nitrous acid | <u>HNO_2</u> |
| 15. Sulfuric acid | <u>H_2SO_4</u> |
| 16. Acetic acid | <u>CH_3COOH</u> or <u>$HC_2H_3O_2$</u> |

Part D) Write names for the following acids:

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|----------------|--------------------------|
| 16. HCl | <u>Hydrochloric acid</u> |
| 17. H_3PO_4 | <u>Phosphoric acid</u> |
| 18. CH_3COOH | <u>Acetic acid</u> |
| 19. H_2SO_4 | <u>Sulfuric acid</u> |
| 20. HF | <u>Hydrofluoric acid</u> |
| 21. H_2CO_3 | <u>Carbonic acid</u> |

22. Explain the difference between a binary acid and an oxy-acid.

2 atom types

contain at least 1 oxygen atom