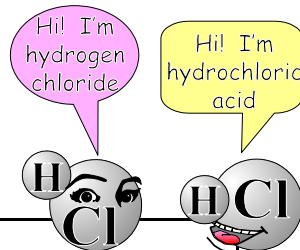


Naming Acids *or (An Acid by Any other Name would still Smell just as Sour)*

Acids have regular chemical names, just like other compounds. $\text{HCl}(g)$ is hydrogen chloride. Mix it with water to form $\text{HCl}(aq)$ and you have hydrochloric acid. The rules for naming acids are different from the rules for naming other compounds. All binary acids (hydrogen and one other element) have the prefix HYDRO and suffix IC. HF is hydrofluoric acid. Oxyacids are most easily named based on the names of their polyatomic ions from *Table E*. The chart below shows how the name of the ion relates to the name of the acid.



oxidation state	polyatomic ion			acid name	
	example	prefix	suffix	prefix	suffix
two less than most common	ClO^{-1}	hypo	ite	hypo	ous
one less than most common	ClO_2^{-1}	-	ite	-	ous
most common	ClO_3^{-1}	-	ate	-	ic
one more than most common	ClO_4^{-1}	hyper	ate	per	ic

The prefixes and suffixes are added to the root (*fluor* for fluorine, *sufur* for sulfur, *nitr* for nitrogen, etc.) HNO_2 is normally hydrogen nitrite. Mix it with water to form $\text{HNO}_2(aq)$ and you get nitrous acid. Nitrous because the regular chemical name of the ion is nitrite.

Name the acids below, following the directions above:

- | | |
|---------------------------------------|--|
| 1. $\text{H}_2\text{SO}_4(aq)$ _____ | 10. $\text{HI}(aq)$ _____ |
| 2. $\text{HBr}(aq)$ _____ | 11. $\text{H}_2\text{SO}_4(aq)$ _____ |
| 3. $\text{HCH}_3\text{COO}(aq)$ _____ | 12. $\text{H}_2\text{CrO}_4(aq)$ _____ |
| 4. $\text{H}_3\text{PO}_4(aq)$ _____ | 13. $\text{HMnO}_4(aq)$ _____ |
| 5. $\text{H}_2\text{S}(aq)$ _____ | 14. $\text{H}_2\text{CO}_3(aq)$ _____ |
| 6. $\text{HCl}(aq)$ _____ | 15. $\text{HF}(aq)$ _____ |
| 7. $\text{HClO}(aq)$ _____ | 16. $\text{H}_2\text{C}_2\text{O}_4(aq)$ _____ |
| 8. $\text{HClO}_4(aq)$ _____ | 17. $\text{HNO}_3(aq)$ _____ |
| 9. $\text{H}_2\text{SO}_3(aq)$ _____ | 18. $\text{HClO}_2(aq)$ _____ |