

Naming Acids and Bases

ACIDS

Acids are compounds in which the “cation” is H^+ . These can be named according to the rules for Ionic Compounds, but are more frequently given special “acid names” (especially when dissolved in water, which is most frequently the case). The word “hydrogen” is omitted, the word “acid” is used at the end, and the suffix is determined from the name of the anion portion.

Compound Name	Acid Name	Example
___-ide	hydro-___-ic + acid	HCl hydrochloric acid
___-ite	___-ous + acid	HClO ₂ chlorous acid
___-ate	___-ic + acid	HClO ₃ chloric acid

BASES:

Strong bases contain hydroxide (OH^-) and are therefore named like ionic compounds. Some weak bases also contain hydroxide and are also named like ionic compounds. However, most weak bases are molecular compounds or organic compounds and are named accordingly. Other weak bases have “common” names that aren’t derived from any naming system.

Formula	Base Name	Why?
Na ₂ CO ₃	sodium carbonate	ionic compound
C ₅ H ₅ N	pyridine	molecular compound
CH ₃ NH ₂	methyl amine	organic compound
NH ₃	ammonia	common name

Common Strong Acids:

HClO ₄	perchloric acid
H ₂ SO ₄	sulfuric acid
HI	hydroiodic acid
HBr	hydrobromic acid
HCl	hydrochloric acid
HNO ₃	nitric acid

Common Strong Bases:

LiOH	lithium hydroxide
NaOH	sodium hydroxide
KOH	potassium hydroxide
Ca(OH) ₂	calcium hydroxide
Sr(OH) ₂	strontium hydroxide
Ba(OH) ₂	barium hydroxide