

Table of Acid and Base Strength

Ka	Acid		Base	
	Name	Formula	Formula	Name
Large	Perchloric acid	HClO ₄	ClO ₄ ⁻	Perchlorate ion
3.2 * 10 ⁹	Hydroiodic acid	HI	I ⁻	Iodide
1.0 * 10 ⁹	Hydrobromic acid	HBr	Br ⁻	Bromide
1.3 * 10 ⁶	Hydrochloric acid	HCl	Cl ⁻	Chloride
1.0 * 10 ³	Sulfuric acid	H ₂ SO ₄	HSO ₄ ⁻	Hydrogen sulfate ion
2.4 * 10 ¹	Nitric acid	HNO ₃	NO ₃ ⁻	Nitrate ion
-----	Hydronium ion	H ₃ O ⁺	H ₂ O	Water
5.4 * 10 ⁻²	Oxalic acid	HO ₂ C ₂ O ₂ H	HO ₂ C ₂ O ₂ ⁻	Hydrogen oxalate ion
1.3 * 10 ⁻²	Sulfurous acid	H ₂ SO ₃	HSO ₃ ⁻	Hydrogen sulfite ion
1.0 * 10 ⁻²	Hydrogen sulfate ion	HSO ₄ ⁻	SO ₄ ²⁻	Sulfate ion
7.1 * 10 ⁻³	Phosphoric acid	H ₃ PO ₄	H ₂ PO ₄ ⁻	Dihydrogen phosphate ion
7.2 * 10 ⁻⁴	Nitrous acid	HNO ₂	NO ₂ ⁻	Nitrite ion
6.6 * 10 ⁻⁴	Hydrofluoric acid	HF	F ⁻	Fluoride ion
1.8 * 10 ⁻⁴	Methanoic acid	HCO ₂ H	HCO ₂ ⁻	Methanoate ion
6.3 * 10 ⁻⁵	Benzoic acid	C ₆ H ₅ COOH	C ₆ H ₅ COO ⁻	Benzoate ion
5.4 * 10 ⁻⁵	Hydrogen oxalate ion	HO ₂ C ₂ O ₂ ²⁻	O ₂ C ₂ O ₂ ²⁻	Oxalate ion
1.8 * 10 ⁻⁵	Ethanoic acid	CH ₃ COOH	CH ₃ COO ⁻	Ethanoate (acetate) ion
4.4 * 10 ⁻⁷	Carbonic acid	NO CO ₃ ²⁻	HCO ₃ ⁻	Hydrogen carbonate ion
1.1 * 10 ⁻⁷	Hydrosulfuric acid	H ₂ S	HS ⁻	Hydrogen sulfide ion
6.3 * 10 ⁻⁸	Dihydrogen phosphate ion	H ₂ PO ₄ ⁻	HPO ₄ ²⁻	Hydrogen phosphate ion
6.2 * 10 ⁻⁸	Hydrogen sulfite ion	HS ⁻	S ²⁻	Sulfite ion
2.9 * 10 ⁻⁸	Hypochlorous acid	HClO	ClO ⁻	Hypochlorite ion
6.2 * 10 ⁻¹⁰	Hydrocyanic acid	HCN	CN ⁻	Cyanide ion
5.8 * 10 ⁻¹⁰	Ammonium ion	NH ₄ ⁺	NH ₃	Ammonia
5.8 * 10 ⁻¹⁰	Boric acid	H ₃ BO ₃	H ₂ BO ₃ ⁻	Dihydrogen carbonate ion
4.7 * 10 ⁻¹¹	Hydrogen carbonate ion	HCO ₃ ⁻	CO ₃ ²⁻	Carbonate ion
4.2 * 10 ⁻¹³	Hydrogen phosphate ion	HPO ₄ ²⁻	PO ₄ ³⁻	Phosphate ion
1.8 * 10 ⁻¹³	Dihydrogen borate ion	H ₂ BO ₃ ⁻	HBO ₃ ²⁻	Hydrogen borate ion
1.3 * 10 ⁻¹³	Hydrogen sulfide ion	HS ⁻	S ²⁻	Sulfide ion
1.6 * 10 ⁻¹⁴	Hydrogen borate ion	HBO ₃ ²⁻	BO ₃ ³⁻	Borate ion
-----	water	H ₂ O	OH ⁻	Hydroxide

OOO
 THESE R
 THE
 SAME?

1. Strong acids are listed at the top left hand corner of the table and have Ka values >1
2. Acid with values less than one are considered weak.
3. The strong bases are listed at the bottom right of the table and get weaker as we move to the top of the table.