

The data in these tables are presented as values of pK_a , defined as the negative logarithm of the acid dissociation constant K_a for the reaction $BH \rightleftharpoons B^- + H^+$.

Thus $pK_a = -\log K_a$, and the hydrogen ion concentration $[H^+]$ can be calculated from

$$K_a = \frac{[H^+][B^-]}{[BH]}$$

In the case of bases, the entry in the table is for the conjugate acid; e.g., ammonium ion for ammonia. The OH^- concentration in the system $NH_3 + H_2O \rightleftharpoons NH_4^+ + OH^-$ can be calculated from the equation

$$K_b = \frac{K_{water}}{K_a} = \frac{[OH^-][NH_4^+]}{[NH_3]}$$

where $K_{water} = 1.01 \times 10^{-14}$ at 25 °C. Note that $pK_a + pK_b = pK_{water}$. All values refer to dilute aqueous solutions at zero ionic strength at the temperature indicated. The tables are arranged alphabetically by compound name.

Reference: Rumble, J. *CRC Handbook of Chemistry and Physics*, 98th Edition, CRC Press LLC, 2017.

Inorganic acids and bases

Name	Formula	Step	T/°C	pKa
Aluminum ion $[Al^{+3}]$	Al^{+3}		25	5.0
Ammonia	NH_3		25	9.25
Arsenic acid	H_3AsO_4	1	25	2.26
		2	25	6.76
		3	25	11.29
Arsenious acid	H_3AsO_3		25	9.29
Barium ion $[Ba^{+2}]$	Ba^{+2}		25	13.4
Boric acid	H_3BO_3	1	20	9.27
		2	20	14
Calcium ion $[Ca^{+2}]$	Ca^{+2}		25	12.6
Carbonic acid	H_2CO_3	1	25	6.35
		2	25	10.33
Chlorous acid	$HClO_2$		25	1.94
Chromic acid	H_2CrO_4	1	25	0.74
		2	25	6.49
Cyanic acid	$HO-CN$		25	3.46
Diphosphoric acid	$H_4P_2O_7$	1	25	0.91
		2	25	2.10
		3	25	6.70
		4	25	9.32
Germanic acid	H_2GeO_3	1	25	9.01
		2	25	12.3
Hydrazine	N_2H_4		25	8.1
Hydrazoic acid	HN_3		25	4.6
Hydrogen cyanide	HCN		25	9.21
Hydrogen fluoride	HF		25	3.20
Hydrogen peroxide	H_2O_2		25	11.62
Hydrogen selenide	H_2Se	1	25	3.89
		2	25	11.0
Hydrogen sulfide	H_2S	1	25	7.05
		2	25	19
Hydrogen telluride	H_2Te	1	18	2.6
		2	25	11
Hydroxylamine	H_2NOH		25	5.94
Hypobromous acid	$HOBr$		25	8.55
Hypochlorous acid	$HOCl$		25	7.40

Name	Formula	Step	T/°C	pKa
Hypoiodous acid	HIO		25	10.5
Iodic acid	HIO_3		25	0.78
Lithium ion $[Li^+]$	Li^+		25	13.8
Magnesium ion $[Mg^{+2}]$	Mg^{+2}		25	11.4
Nitrous acid	HNO_2		25	3.25
Orthosilicic acid	H_4SiO_4	1	30	9.9
		2	30	11.8
		3	30	12
		4	30	12
Perchloric acid	$HClO_4$		20	-1.6
Periodic acid	HIO_4		25	1.64
Phosphonic acid	H_3PO_3	1	20	1.3
		2	20	6.70
Phosphoric acid	H_3PO_4	1	25	2.16
		2	25	7.21
		3	25	12.32
Selenic acid	H_2SeO_4	2	25	1.7
Selenous acid	H_2SeO_3	1	25	2.62
		2	25	8.32
Sodium ion $[Na^+]$	Na^+		25	14.8
Strontium ion $[Sr^{+2}]$	Sr^{+2}		25	13.2
Sulfamic acid	H_2NSO_3H		25	1.05
Sulfuric acid	H_2SO_4	2	25	1.99
Sulfurous acid	H_2SO_3	1	25	1.85
		2	25	7.2
Telluric(VI) acid	H_6TeO_6	1	18	7.68
		2	18	11.0
Tellurous acid	H_2TeO_3	1	25	6.27
		2	25	8.43
Tetrafluoroboric acid	HF_4		25	0.5
Thiocyanic acid	$HCNS$		25	-1.8
Water	H_2O		25	13.995

Organic acids and bases

Name	Formula	Step	T/°C	pKa
Acetic acid	CH_3COOH		25	4.756
L-ascorbic acid	$C_6H_6O_6$	1	25	4.04
		2	16	11.7
Aniline	$C_6H_5NH_2$		25	4.87
Benzenesulfonic acid	$C_6H_5SO_3H$		25	0.70
Benzoic acid	C_6H_5COOH		25	4.204
Citric acid	$H_3C_6H_5O_7$	1	25	3.13
		2	25	4.76
		3	25	6.40
Chloroacetic acid	$CH_2ClCOOH$		25	2.85
Dimethylamine	$(CH_3)_2NH$		25	10.73
Ethylamine	$C_2H_5NH_2$		25	10.65
Ethylenediamine	$H_2NCH_2CH_2NH_2$	1	25	9.92
		2	25	6.86
Formic acid	HCO_2H		25	3.75
D-Lactic acid	$CH_3CH(OH)COOH$		25	3.86
Methylamine	CH_3NH_2		25	10.66
Morphine	$C_{17}H_{19}NO_3$	1	25	8.21
		2	20	9.85
L-Nicotine	$C_{10}H_{14}N_2$	1	25	8.02
		2	25	3.12
Oxalic acid	$HOOC-COOH$	1	25	1.25
		2	25	3.81
Phenol	C_6H_5OH		25	9.99
Pyridine	C_5H_5N		25	5.23
Trichloroacetic acid	CCl_3COOH		25	0.66
Trimethylamine	$(CH_3)_3N$		25	9.80
Urea	$CO(NH_2)_2$		25	0.10