

UNITÀ SCONSIGLIATE O DA ABBANDONARE

Grandezza fisica	Unità	Simbolo	In unità SI
lunghezza	angstrom	A	$1,00 \cdot 10^{-10}$ m
forza	dine	din	$1,00 \cdot 10^{-6}$ N
energia	erg	erg	$1,00 \cdot 10^{-7}$ J
energia	caloria	cal	4,184 J
pressione	atmosfera	atm	$1,01325 \cdot 10^5$ Pa
pressione	millimetro di mercurio	mm Hg	$1,33322 \cdot 10^2$ Pa
pressione	torr	torr	$1,33322 \cdot 10^2$ Pa

COSTANTI DI IONIZZAZIONE DI ACIDI DEBOLI A 25°C

Nome dell'acido	Formula	Ka
Acetico	$\text{CH}_3\text{COOH} \rightarrow \text{H}^+ + \text{CH}_3\text{COO}^-$	$K = 1,8 \cdot 10^{-5}$
cloroacetico	$\text{CH}_2\text{ClCOOH} \rightarrow \text{H}^+ + \text{CH}_2\text{ClCOO}^-$	$K = 1,4 \cdot 10^{-3}$
dicloroacetico	$\text{CHCl}_2\text{COOH} \rightarrow \text{H}^+ + \text{CHCl}_2\text{COO}^-$	$K = 5,5 \cdot 10^{-2}$
tricloroacetico	$\text{CCl}_3\text{COOH} \rightarrow \text{H}^+ + \text{CCl}_3\text{COO}^-$	$K = 3,0 \cdot 10^{-1}$
fluoroacetico	$\text{CH}_2\text{FCOOH} \rightarrow \text{H}^+ + \text{CH}_2\text{FCOO}^-$	$K = 2,6 \cdot 10^{-3}$
trifluoroacetico	$\text{CF}_3\text{COOH} \rightarrow \text{H}^+ + \text{CF}_3\text{COO}^-$	$K = 5,9 \cdot 10^{-1}$
Arsenico	$\text{H}_3\text{AsO}_4 \rightarrow \text{H}^+ + \text{H}_2\text{AsO}_4^-$	$K_1 = 2,5 \cdot 10^{-4}$
	$\text{H}_2\text{AsO}_4^- \rightarrow \text{H}^+ + \text{HAsO}_4^{2-}$	$K_2 = 5,6 \cdot 10^{-8}$
	$\text{HAsO}_4^{2-} \rightarrow \text{H}^+ + \text{AsO}_4^{3-}$	$K_3 = 3,0 \cdot 10^{-13}$
Arsenioso	$\text{H}_3\text{AsO}_3 \rightarrow \text{H}^+ + \text{H}_2\text{AsO}_3^-$	$K_1 = 6,0 \cdot 10^{-10}$
	$\text{H}_2\text{AsO}_3^- \rightarrow \text{H}^+ + \text{HAsO}_3^{2-}$	$K_2 = 3,0 \cdot 10^{-14}$
Azotidrico	$\text{HN}_3 \rightarrow \text{H}^+ + \text{N}_3^-$	$K = 1,9 \cdot 10^{-5}$
Benzoico	$\text{C}_6\text{H}_5\text{COOH} \rightarrow \text{H}^+ + \text{C}_6\text{H}_5\text{COO}^-$	$K = 6,3 \cdot 10^{-5}$
Borico	$\text{H}_3\text{BO}_3 \rightarrow \text{H}^+ + \text{H}_2\text{BO}_3^-$	$K_1 = 7,3 \cdot 10^{-10}$
	$\text{H}_2\text{BO}_3^- \rightarrow \text{H}^+ + \text{HBO}_3^{2-}$	$K_2 = 1,8 \cdot 10^{-13}$
	$\text{HBO}_3^{2-} \rightarrow \text{H}^+ + \text{BO}_3^{3-}$	$K_3 = 1,6 \cdot 10^{-14}$
Carbonico	$\text{H}_2\text{CO}_3 \rightarrow \text{H}^+ + \text{HCO}_3^-$	$K_1 = 4,2 \cdot 10^{-7}$
	$\text{HCO}_3^- \rightarrow \text{H}^+ + \text{CO}_3^{2-}$	$K_2 = 4,8 \cdot 10^{-11}$
Cianidrico	$\text{HCN} \rightarrow \text{H}^+ + \text{CN}^-$	$K = 6,2 \cdot 10^{-10}$
Citrico	$\text{C}_3\text{H}_5\text{O}(\text{COOH})_3 \rightarrow \text{H}^+ + \text{C}_3\text{H}_5\text{O}(\text{COOH})_2\text{COO}^-$	$K_1 = 7,4 \cdot 10^{-3}$
	$\text{C}_3\text{H}_5\text{O}(\text{COOH})_2\text{COO}^- \rightarrow \text{H}^+ + \text{C}_3\text{H}_5\text{O}(\text{COOH})(\text{COO}^-)_2$	$K_2 = 1,7 \cdot 10^{-5}$
	$\text{C}_3\text{H}_5\text{O}(\text{COOH})(\text{COO}^-)_2 \rightarrow \text{H}^+ + \text{C}_3\text{H}_5\text{O}(\text{COO}^-)_3$	$K_3 = 4,0 \cdot 10^{-7}$
Cloroso	$\text{HClO}_2 \rightarrow \text{H}^+ + \text{ClO}_2^-$	$K = 1,1 \cdot 10^{-2}$
Fenolo	$\text{C}_6\text{H}_5\text{OH} \rightarrow \text{H}^+ + \text{C}_6\text{H}_5\text{O}^-$	$K = 1,3 \cdot 10^{-10}$
Fluoridrico	$\text{HF} \rightarrow \text{H}^+ + \text{F}^-$	$K = 7,2 \cdot 10^{-4}$
Formico	$\text{HCOOH} \rightarrow \text{H}^+ + \text{HCOO}^-$	$K = 1,8 \cdot 10^{-4}$
Fosforico	$\text{H}_3\text{PO}_4 \rightarrow \text{H}^+ + \text{H}_2\text{PO}_4^-$	$K_1 = 7,5 \cdot 10^{-3}$
	$\text{H}_2\text{PO}_4^- \rightarrow \text{H}^+ + \text{HPO}_4^{2-}$	$K_2 = 6,2 \cdot 10^{-8}$
	$\text{HPO}_4^{2-} \rightarrow \text{H}^+ + \text{PO}_4^{3-}$	$K_3 = 3,6 \cdot 10^{-13}$
Fosforoso	$\text{H}_3\text{PO}_3 \rightarrow \text{H}^+ + \text{H}_2\text{PO}_3^-$	$K_1 = 1,6 \cdot 10^{-2}$
	$\text{H}_2\text{PO}_3^- \rightarrow \text{H}^+ + \text{HPO}_3^{2-}$	$K_2 = 7,0 \cdot 10^{-7}$
Ipobromoso	$\text{HBrO} \rightarrow \text{H}^+ + \text{BrO}^-$	$K = 2,5 \cdot 10^{-9}$

COSTANTI DI IONIZZAZIONE DI ACIDI DEBOLI A 25°C (continua)

Nome dell'acido	Formula	K _a
Ipocloroso	HClO → H ⁺ + ClO ⁻	K = 3,5 · 10 ⁻⁸
Nitroso	HNO ₂ → H ⁺ + NO ₂ ⁻	K = 4,5 · 10 ⁻⁴
Ossalico	H ₂ C ₂ O ₄ → H ⁺ + HC ₂ O ₄ ⁻	K ₁ = 5,9 · 10 ⁻²
	HC ₂ O ₄ ⁻ → H ⁺ + C ₂ O ₄ ²⁻	K ₂ = 6,4 · 10 ⁻⁵
Perossido di idrogeno	H ₂ O ₂ → H ⁺ + HO ₂ ⁻	K = 2,4 · 10 ⁻¹²
Selenico	H ₂ SeO ₄ → H ⁺ + HSeO ₄ ⁻	K ₁ = molto grande
	HSeO ₄ ⁻ → H ⁺ + SeO ₄ ²⁻	K ₂ = 1,2 · 10 ⁻²
Selenioso	H ₂ SeO ₃ → H ⁺ + HSeO ₃ ⁻	K ₁ = 2,7 · 10 ⁻³
	HSeO ₃ ⁻ → H ⁺ + SeO ₃ ²⁻	K ₂ = 2,5 · 10 ⁻⁷
Solfidrico	H ₂ S → H ⁺ + HS ⁻	K ₁ = 1,0 · 10 ⁻⁷
	HS ⁻ → H ⁺ + S ²⁻	K ₂ = 1,0 · 10 ⁻¹⁹
Solforico	H ₂ SO ₄ → H ⁺ + HSO ₄ ⁻	K ₁ = molto grande
	HSO ₄ ⁻ → H ⁺ + SO ₄ ²⁻	K ₂ = 1,2 · 10 ⁻²
Solforoso	H ₂ SO ₃ → H ⁺ + HSO ₃ ⁻	K ₁ = 1,2 · 10 ⁻²
	HSO ₃ ⁻ → H ⁺ + SO ₃ ²⁻	K ₂ = 6,2 · 10 ⁻⁸

COSTANTI DI IONIZZAZIONE DI BASI DEBOLI A 25°C

Nome della base	Formula	K _b
Ammoniaca	NH ₃ + H ₂ O → NH ₄ ⁺ + OH ⁻	K = 1,8 · 10 ⁻⁵
Anilina	C ₆ H ₅ NH ₂ + H ₂ O → C ₆ H ₅ NH ₃ ⁺ + OH ⁻	K = 4,0 · 10 ⁻¹⁰
Dimetilammina	(CH ₃) ₂ NH + H ₂ O → (CH ₃) ₂ NH ₂ ⁺ + OH ⁻	K = 7,4 · 10 ⁻⁴
Etilammina	C ₂ H ₅ NH ₂ + H ₂ O → C ₂ H ₅ NH ₃ ⁺ + OH ⁻	K = 4,3 · 10 ⁻⁴
Etilendiammina	NH ₂ CH ₂ CH ₂ NH ₂ + H ₂ O → NH ₂ CH ₂ CH ₂ NH ₃ ⁺ + OH ⁻	K ₁ = 8,5 · 10 ⁻⁵
	NH ₂ CH ₂ CH ₂ NH ₃ ⁺ + H ₂ O → NH ₂ CH ₂ CH ₂ NH ₃ ²⁺ + OH ⁻	K ₂ = 2,7 · 10 ⁻⁸
Idrazina	N ₂ H ₄ + H ₂ O → N ₂ H ₅ ⁺ + OH ⁻	K ₁ = 8,5 · 10 ⁻⁷
	N ₂ H ₅ ⁺ + H ₂ O → N ₂ H ₆ ²⁺ + OH ⁻	K ₂ = 8,9 · 10 ⁻¹⁶
Idrossilammina	NH ₂ OH + H ₂ O → NH ₃ OH ⁺ + OH ⁻	K = 6,6 · 10 ⁻⁹
Metilammina	CH ₃ NH ₂ + H ₂ O → CH ₃ NH ₃ ⁺ + OH ⁻	K = 5,0 · 10 ⁻⁴
Piridina	C ₅ H ₅ N + H ₂ O → C ₅ H ₅ NH ⁺ + OH ⁻	K = 1,5 · 10 ⁻⁹
Trimetilammina	(CH ₃) ₃ N + H ₂ O → (CH ₃) ₃ NH ⁺ + OH ⁻	K = 7,4 · 10 ⁻⁵