

**Tabella 16.2 Costanti di ionizzazione di alcuni acidi e delle loro basi coniugate a 25 °C**

NOME DELL'ACIDO	ACIDO	$K_a$	BASE	$K_b$	NOME DELLA BASE
Acido perclorico	HClO <sub>4</sub>	Grande	ClO <sub>4</sub> <sup>-</sup>	Molto piccola	lone perclorato
Acido solforico	H <sub>2</sub> SO <sub>4</sub>	Grande	HSO <sub>4</sub> <sup>-</sup>	Molto piccola	lone idrogeno solfato
Acido cloridrico	HCl	Grande	Cl <sup>-</sup>	Molto piccola	lone cloruro
Acido nitrico	HNO <sub>3</sub>	Grande	NO <sub>3</sub> <sup>-</sup>	Molto piccola	lone nitrato
lone idrossonio	H <sub>3</sub> O <sup>+</sup>	1.0	H <sub>2</sub> O	$1.0 \times 10^{-14}$	Acqua
Acido solforoso	H <sub>2</sub> SO <sub>3</sub>	$1.2 \times 10^{-2}$	HSO <sub>3</sub> <sup>-</sup>	$8.3 \times 10^{-13}$	lone idrogeno solfito
lone idrogeno solfato	HSO <sub>4</sub> <sup>-</sup>	$1.2 \times 10^{-2}$	SO <sub>4</sub> <sup>2-</sup>	$8.3 \times 10^{-13}$	lone solfato
Acido fosforico	H <sub>3</sub> PO <sub>4</sub>	$7.5 \times 10^{-3}$	H <sub>2</sub> PO <sub>4</sub> <sup>-</sup>	$1.3 \times 10^{-12}$	lone diidrogeno fosfato
lone esaquoferro(III)	[Fe(H <sub>2</sub> O) <sub>6</sub> ] <sup>3+</sup>	$6.3 \times 10^{-3}$	[Fe(H <sub>2</sub> O) <sub>5</sub> OH] <sup>2+</sup>	$1.6 \times 10^{-12}$	lone pentaquidrossiferro(III)
Acido fluoridrico	HF	$7.2 \times 10^{-4}$	F <sup>-</sup>	$1.4 \times 10^{-11}$	lone fluoruro
Acido nitroso	HNO <sub>2</sub>	$4.5 \times 10^{-4}$	NO <sub>2</sub> <sup>-</sup>	$2.2 \times 10^{-11}$	lone nitrito
Acido formico	HCO <sub>2</sub> H	$1.8 \times 10^{-4}$	HCO <sub>2</sub> <sup>-</sup>	$5.6 \times 10^{-11}$	lone formiato
Acido benzoico	C <sub>6</sub> H <sub>5</sub> CO <sub>2</sub> H	$6.3 \times 10^{-5}$	C <sub>6</sub> H <sub>5</sub> CO <sub>2</sub> <sup>-</sup>	$1.6 \times 10^{-10}$	lone benzoato
Acido acetico	CH <sub>3</sub> CO <sub>2</sub> H	$1.8 \times 10^{-5}$	CH <sub>3</sub> CO <sub>2</sub> <sup>-</sup>	$5.6 \times 10^{-10}$	lone acetato
Acido propanoico	CH <sub>3</sub> CH <sub>2</sub> CO <sub>2</sub> H	$1.3 \times 10^{-5}$	CH <sub>3</sub> CH <sub>2</sub> CO <sub>2</sub> <sup>-</sup>	$7.7 \times 10^{-10}$	lone propanoato
lone esaquoalluminio	[Al(H <sub>2</sub> O) <sub>6</sub> ] <sup>3+</sup>	$7.9 \times 10^{-6}$	[Al(H <sub>2</sub> O) <sub>5</sub> OH] <sup>2+</sup>	$1.3 \times 10^{-9}$	lone pentaquidrossialluminio
Acido carbonico	H <sub>2</sub> CO <sub>3</sub>	$4.2 \times 10^{-7}$	HCO <sub>3</sub> <sup>-</sup>	$2.4 \times 10^{-8}$	lone idrogeno carbonato
lone esaquorame(III)	[Cu(H <sub>2</sub> O) <sub>6</sub> ] <sup>2+</sup>	$1.6 \times 10^{-7}$	[Cu(H <sub>2</sub> O) <sub>5</sub> OH] <sup>+</sup>	$6.3 \times 10^{-8}$	lone pentaquidrossirame(II)
Acido solfidrico	H <sub>2</sub> S	$1 \times 10^{-7}$	HS <sup>-</sup>	$1 \times 10^{-7}$	lone idrogeno solfuro
lone diidrogeno fosfato	H <sub>2</sub> PO <sub>4</sub> <sup>-</sup>	$6.2 \times 10^{-8}$	HPO <sub>4</sub> <sup>2-</sup>	$1.6 \times 10^{-7}$	lone idrogeno fosfato
lone idrogeno solfito	HSO <sub>3</sub> <sup>-</sup>	$6.2 \times 10^{-8}$	SO <sub>3</sub> <sup>2-</sup>	$1.6 \times 10^{-7}$	lone solfito
Acido ipocloroso	HClO	$3.5 \times 10^{-8}$	ClO <sup>-</sup>	$2.9 \times 10^{-7}$	lone ipoclorito
lone esaquopiombo(II)	[Pb(H <sub>2</sub> O) <sub>6</sub> ] <sup>2+</sup>	$1.5 \times 10^{-8}$	[Pb(H <sub>2</sub> O) <sub>5</sub> OH] <sup>+</sup>	$6.7 \times 10^{-7}$	lone pentaquidrossipiombo(II)
lone esaquocobalto(II)	[Co(H <sub>2</sub> O) <sub>6</sub> ] <sup>2+</sup>	$1.3 \times 10^{-9}$	[Co(H <sub>2</sub> O) <sub>5</sub> OH] <sup>+</sup>	$7.7 \times 10^{-6}$	lone pentaquidrossocobalto(II)
Acido boricico	B(OH) <sub>3</sub> (H <sub>2</sub> O)	$7.3 \times 10^{-10}$	B(OH) <sub>4</sub> <sup>-</sup>	$1.4 \times 10^{-5}$	lone tetraidrossiborato
lone ammonio	NH <sub>4</sub> <sup>+</sup>	$5.6 \times 10^{-10}$	NH <sub>3</sub>	$1.8 \times 10^{-5}$	Ammoniaca
Acido cianidrico	HCN	$4.0 \times 10^{-10}$	CN <sup>-</sup>	$2.5 \times 10^{-5}$	lone cianuro
lone esaquoferro(II)	[Fe(H <sub>2</sub> O) <sub>6</sub> ] <sup>2+</sup>	$3.2 \times 10^{-10}$	[Fe(H <sub>2</sub> O) <sub>5</sub> OH] <sup>+</sup>	$3.1 \times 10^{-5}$	lone pentaquidrossiferro(II)
lone idrogeno carbonato	HCO <sub>3</sub> <sup>-</sup>	$4.8 \times 10^{-11}$	CO <sub>3</sub> <sup>2-</sup>	$2.1 \times 10^{-4}$	lone carbonato
lone esaquonichel(II)	[Ni(H <sub>2</sub> O) <sub>6</sub> ] <sup>2+</sup>	$2.5 \times 10^{-11}$	[Ni(H <sub>2</sub> O) <sub>5</sub> OH] <sup>+</sup>	$4.0 \times 10^{-4}$	lone pentaquidrossinichel(II)
lone idrogeno fosfato	HPO <sub>4</sub> <sup>2-</sup>	$3.6 \times 10^{-13}$	PO <sub>4</sub> <sup>3-</sup>	$2.8 \times 10^{-2}$	lone fosfato
Acqua	H <sub>2</sub> O	$1.0 \times 10^{-14}$	OH <sup>-</sup>	1.0	lone idrossido
lone idrogeno solfuro*	HS <sup>-</sup>	$1 \times 10^{-19}$	S <sup>2-</sup>	$1 \times 10^5$	lone solfuro
Etanolo	C <sub>2</sub> H <sub>5</sub> OH	Molto piccola	C <sub>2</sub> H <sub>5</sub> O <sup>-</sup>	Grande	lone etossido
Ammoniaca	NH <sub>3</sub>	Molto piccola	NH <sub>2</sub> <sup>-</sup>	Grande	lone ammido
Idrogeno	H <sub>2</sub>	Molto piccola	H <sup>-</sup>	Grande	lone idruro

\*I valori di  $K_a$  per HS<sup>-</sup> e  $K_b$  per S<sup>2-</sup> sono stimati.