

Dougherty Valley HS Honors Chemistry

Strong Acid, Strong Base Handout

7 Strong Acids (H ⁺) All other acids are weak			8 Strong Bases (OH ⁻) All other bases are weak	
Hydrochloric acid	HCl		Lithium hydroxide	LiOH
Hydrobromic acid	HBr		Sodium hydroxide	NaOH
Hydroiodic	HI		Potassium hydroxide	KOH
Perchloric acid	HClO ₄		Rubidium hydroxide	RbOH
Chloric acid	HClO ₃		Cesium hydroxide	CsOH
Nitric acid	HNO ₃		Calcium hydroxide	Ca(OH) ₂
Sulfuric acid	H ₂ SO ₄		Strontium hydroxide	Sr(OH) ₂
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Memorize these 15, ALL ELSE ARE considered WEAK

Dougherty Valley High School Chemistry — Weak Acid/Base Reference Sheet
Acid Dissociation Constant (K_a) Values for Some Weak Acids

Weak Acid	Chemical Formula	K_a
acetic	$\text{HC}_2\text{H}_3\text{O}_2$	1.8×10^{-5}
arsenic	H_3AsO_4	5.6×10^{-3}
arsenous	HAsO_2	6×10^{-10}
ascorbic	$\text{H}_2\text{C}_6\text{H}_6\text{O}_6$	8.0×10^{-5}
benzoic	$\text{C}_6\text{H}_5\text{COOH}$	6.5×10^{-5}
boric	H_3BO_3	5.8×10^{-10}
carbonic	H_2CO_3	4.3×10^{-7}
chloroacetic	CH_2ClCOOH	1.4×10^{-3}
citric	$\text{H}_3\text{C}_6\text{H}_5\text{O}_7$	7.4×10^{-4}
formic	HCOOH	1.8×10^{-4}
hydrazoic	HN_3	1.9×10^{-5}
hydrocyanic	HCN	4.9×10^{-10}
hydrofluoric	HF	6.8×10^{-4}
hydrosulfuric	H_2S	5.7×10^{-8}
hypobromous	HBrO	2×10^{-9}
hypochlorous	HClO	3.0×10^{-8}
hydrogen peroxide	H_2O_2	2.4×10^{-12}
iodic	HIO_3	1.7×10^{-1}
malonic	$\text{H}_2\text{C}_3\text{H}_2\text{O}_4$	1.5×10^{-3}
nitrous	HNO_2	4.5×10^{-4}
oxalic	$\text{H}_2\text{C}_2\text{O}_4$	5.9×10^{-2}
phosphoric	H_3PO_4	7.5×10^{-3}
selenous	H_2SeO_3	5.3×10^{-9}
sulfurous	H_2SO_3	1.7×10^{-2}
tartaric	$\text{H}_2\text{C}_4\text{H}_4\text{O}_6$	1.0×10^{-3}

Base Dissociation Constant (K_b) Values for Some Weak Bases

Weak Base	Chemical Formula	K_b
ammonia	NH_3	1.8×10^{-5}
aniline	$\text{C}_6\text{H}_5\text{NH}_2$	4.3×10^{-10}
dimethylamine	$(\text{CH}_3)_2\text{NH}$	5.4×10^{-4}
ethylamine	$\text{C}_2\text{H}_5\text{NH}_2$	6.4×10^{-4}
hydrazine	N_2H_4	1.3×10^{-6}
hydroxylamine	HONH_2	1.1×10^{-8}
methylamine	CH_3NH_2	4.4×10^{-4}
pyridine	$\text{C}_5\text{H}_5\text{N}$	1.7×10^{-9}
trimethylamine	$(\text{CH}_3)_3\text{N}$	6.4×10^{-5}