

Solubility Product Constants

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| Ag ₃ AsO ₄ | 1.03E-22 |
| AlPO ₄ | 9.84E-21 |
| Be(OH) ₂ | 6.92E-22 |
| Ca ₃ (PO ₄) ₂ | 2.07E-33 |
| Cd ₃ (AsO ₄) ₂ | 2.2E-33 |
| Cd ₃ (PO ₄) ₂ | 2.53E-33 |
| Co ₃ (AsO ₄) ₂ | 6.8E-29 |
| Co ₃ (PO ₄) ₂ | 2.05E-35 |
| Cu ₃ (AsO ₄) ₂ | 7.95E-36 |
| Cu ₃ (PO ₄) ₂ | 1.4E-37 |
| Eu(OH) ₃ | 9.38E-27 |
| Fe(OH) ₃ | 2.79E-39 |
| Ga(OH) ₃ | 7.28E-36 |
| Hg ₂ Br ₂ | 6.4E-23 |
| Hg ₂ I ₂ | 5.2E-29 |

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| HgI ₂ | 2.9E-29 |
| Mg ₃ (PO ₄) ₂ | 1.04E-24 |
| Nd ₂ (CO ₃) ₃ | 1.08E-33 |
| Ni ₃ (PO ₄) ₂ | 4.74E-32 |
| Pd(SCN) ₂ | 4.39E-23 |
| Pr(OH) ₃ | 3.39E-24 |
| Sc(OH) ₃ | 2.22E-31 |
| ScF ₃ | 5.81E-24 |
| Sn(OH) ₂ | 5.45E-27 |
| Tl(OH) ₃ | 1.68E-44 |
| Y(OH) ₃ | 1E-22 |
| Y ₂ (CO ₃) ₃ | 1.03E-31 |
| YF ₃ | 8.62E-21 |
| Zn ₃ (AsO ₄) ₂ | 2.8E-28 |
| ZnSe | 3.6E-26 |

Lide, David R. *CRC Handbook, 83rd ed.*; CRC Press: Boca Raton, Florida, 2002; pp 8:119-8:122..

Acid-Base Indicators

| <u>Indicator name</u> | <u>pH range</u> | <u>Color change</u> |
|-----------------------|-----------------|---------------------|
| Alizarin yellow R | 10.1 – 12.0 | yellow – red |
| Bromothymol blue | 6.0 – 7.6 | yellow – blue |
| Clayton yellow | 12.2 – 13.2 | yellow – amber |
| Congo red | 3.0 – 5.0 | blue – red |
| Cresol red | 7.0 – 8.8 | yellow – red |
| Crystal violet | 0.0 – 1.8 | yellow – blue |
| Litmus | 5.5 – 8.2 | red – blue |
| Malachite green | 0.2 – 1.8 | yellow – blue/green |
| Methyl violet | 0.0 – 1.6 | yellow – blue |
| Methyl orange | 3.2 – 4.4 | red – yellow |
| Methyl red | 4.8 – 6.0 | red – yellow |
| Neutral red | 6.8 – 8.0 | red – amber |
| Phenolphthalein | 8.2 – 10.0 | colorless – pink |
| Quinaldine red | 1.4 – 3.2 | colorless – red |
| Resorcin blue | 4.4 – 6.2 | red – blue |
| Thymol blue | 8.0 – 9.6 | yellow – blue |

Lide, David R. *CRC Handbook, 83rd ed.*; CRC Press: Boca Raton, Florida, 2002; pp 8–16 – 8–18.