**Section 742.APPENDIX C Tier 2 Illustrations and Tables**

**Section 742.TABLE J Values to be Substituted for kd or ks when Evaluating Inorganics as a Function of pH (cm3/g or L/kg or cm3water/gsoil)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pH | As | Ba | Be | Cd | Cr (+3) | Cr (+6) | Hg | Ni | Ag | Se | Tl | Zi | Pb |
| 4.9 | 2.5E+01 | 1.1E+01 | 2.3E+01 | 1.5E+01 | 1.2E+03 | 3.1E+01 | 4.0E-02 | 1.6E+01 | 1.0E-01 | 1.8E+01 | 4.4E+01 | 1.6E+01 | 1.5E+01 |
| 5.0 | 2.5E+01 | 1.2E+01 | 2.6E+01 | 1.7E+01 | 1.9E+03 | 3.1E+01 | 6.0E-02 | 1.8E+01 | 1.3E-01 | 1.7E+01 | 4.5E+01 | 1.8E+01 | 1.5E+01 |
| 5.1 | 2.5E+01 | 1.4E+01 | 2.8E+01 | 1.9E+01 | 3.0E+03 | 3.0E+01 | 9.0E-02 | 2.0E+01 | 1.6E-01 | 1.6E+01 | 4.6E+01 | 1.9E+01 | 1.5E+01 |
| 5.2 | 2.6E+01 | 1.5E+01 | 3.1E+01 | 2.1E+01 | 4.9E+03 | 2.9E+01 | 1.4E-01 | 2.2E+01 | 2.1E-01 | 1.5E+01 | 4.7E+01 | 2.1E+01 | 1.5E+01 |
| 5.3 | 2.6E+01 | 1.7E+01 | 3.5E+01 | 2.3E+01 | 8.1E+03 | 2.8E+01 | 2.0E-01 | 2.4E+01 | 2.6E-01 | 1.4E+01 | 4.8E+01 | 2.3E+01 | 1.5E+01 |
| 5.4 | 2.6E+01 | 1.9E+01 | 3.8E+01 | 2.5E+01 | 1.3E+04 | 2.7E+01 | 3.0E-01 | 2.6E+01 | 3.3E-01 | 1.3E+01 | 5.0E+01 | 2.5E+01 | 1.5E+01 |
| 5.5 | 2.6E+01 | 2.1E+01 | 4.2E+01 | 2.7E+01 | 2.1E+04 | 2.7E+01 | 4.6E-01 | 2.8E+01 | 4.2E-01 | 1.2E+01 | 5.1E+01 | 2.6E+01 | 1.5E+01 |
| 5.6 | 2.6E+01 | 2.2E+01 | 4.7E+01 | 2.9E+01 | 3.5E+04 | 2.6E+01 | 6.9E-01 | 3.0E+01 | 5.3E-01 | 1.1E+01 | 5.2E+01 | 2.8E+01 | 1.5E+01 |
| 5.7 | 2.7E+01 | 2.4E+01 | 5.3E+01 | 3.1E+01 | 5.5E+04 | 2.5E+01 | 1.0E-00 | 3.2E+01 | 6.7E-01 | 1.1E+01 | 5.4E+01 | 3.0E+01 | 1.5E+01 |
| 5.8 | 2.7E+01 | 2.6E+01 | 6.0E+01 | 3.3E+01 | 8.7E+04 | 2.5E+01 | 1.6E-00 | 3.4E+01 | 8.4E-01 | 9.8E+00 | 5.5E+01 | 3.2E+01 | 1.5E+01 |
| 5.9 | 2.7E+01 | 2.8E+01 | 6.9E+01 | 3.5E+01 | 1.3E+05 | 2.4E+01 | 2.3E-00 | 3.6E+01 | 1.1E+00 | 9.2E+00 | 5.6E+01 | 3.4E+01 | 1.5E+01 |
| 6.0 | 2.7E+01 | 3.0E+01 | 8.2E+01 | 3.7E+01 | 2.0E+05 | 2.3E+01 | 3.5E-00 | 3.8E+01 | 1.3E+00 | 8.6E+00 | 5.8E+01 | 3.6E+01 | 1.5E+01 |
| 6.1 | 2.7E+01 | 3.1E+01 | 9.9E+01 | 4.0E+01 | 3.0E+05 | 2.3E+01 | 5.1E-00 | 4.0E+01 | 1.7E+00 | 8.0E+00 | 5.9E+01 | 3.9E+01 | 1.5E+01 |
| 6.2 | 2.8E+01 | 3.3E+01 | 1.2E+02 | 4.2E+01 | 4.2E+05 | 2.2E+01 | 7.5E-00 | 4.2E+01 | 2.1E+00 | 7.5E+00 | 6.1E+01 | 4.2E+01 | 1.5E+01 |
| 6.3 | 2.8E+01 | 3.5E+01 | 1.6E+02 | 4.4E+01 | 5.8E+05 | 2.2E+01 | 1.1E+01 | 4.5E+01 | 2.7E+00 | 7.0E+00 | 6.2E+01 | 4.4E+01 | 1.5E+01 |
| 6.4 | 2.8E+01 | 3.6E+01 | 2.1E+02 | 4.8E+01 | 7.7E+05 | 2.1E+01 | 1.6E+01 | 4.7E+01 | 3.4E+00 | 6.5E+00 | 6.4E+01 | 4.7E+01 | 7.1E+02 |
| 6.5 | 2.8E+01 | 3.7E+01 | 2.8E+02 | 5.2E+01 | 9.9E+05 | 2.0E+01 | 2.2E+01 | 5.0E+01 | 4.2E+00 | 6.1E+00 | 6.6E+01 | 5.1E+01 | 7.1E+02 |
| 6.6 | 2.8E+01 | 3.9E+01 | 3.9E+02 | 5.7E+01 | 1.2E+06 | 2.0E+01 | 3.0E+01 | 5.4E+01 | 5.3E+00 | 5.7E+00 | 6.7E+01 | 5.4E+01 | 7.1E+02 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pH | As | Ba | Be | Cd | Cr (+3) | Cr (+6) | Hg | Ni | Ag | Se | Tl | Zi | Pb |
| 6.7 | 2.9E+01 | 4.0E+01 | 5.5E+02 | 6.4E+01 | 1.5E+06 | 1.9E+01 | 4.0E+01 | 5.8E+01 | 6.6E+00 | 5.3E+00 | 6.9E+01 | 5.8E+01 | 7.1E+02 |
| 6.8 | 2.9E+01 | 4.1E+01 | 7.9E+02 | 7.5E+01 | 1.8E+06 | 1.9E+01 | 5.2E+01 | 6.5E+01 | 8.3E+00 | 5.0E+00 | 7.1E+01 | 6.2E+01 | 7.1E+02 |
| 6.9 | 2.9E+01 | 4.2E+01 | 1.1E+03 | 9.1E+01 | 2.1E+06 | 1.8E+01 | 6.6E+01 | 7.4E+01 | 1.0E+01 | 4.7E+00 | 7.3E+01 | 6.8E+01 | 7.1E+02 |
| 7.0 | 2.9E+01 | 4.2E+01 | 1.7E+03 | 1.1E+02 | 2.5E+06 | 1.8E+01 | 8.2E+01 | 8.8E+01 | 1.3E+01 | 4.3E+00 | 7.4E+01 | 7.5E+01 | 7.1E+02 |
| 7.1 | 2.9E+01 | 4.3E+01 | 2.5E+03 | 1.5E+02 | 2.8E+06 | 1.7E+01 | 9.9E+01 | 1.1E+02 | 1.6E+01 | 4.1E+00 | 7.6E+01 | 8.3E+01 | 7.1E+02 |
| 7.2 | 3.0E+01 | 4.4E+01 | 3.8E+03 | 2.0E+02 | 3.1E+06 | 1.7E+01 | 1.2E+02 | 1.4E+02 | 2.0E+01 | 3.8E+00 | 7.8E+01 | 9.5E+01 | 7.1E+02 |
| 7.3 | 3.0E+01 | 4.4E+01 | 5.7E+03 | 2.8E+02 | 3.4E+06 | 1.6E+01 | 1.3E+02 | 1.8E+02 | 2.5E+01 | 3.5E+00 | 8.0E+01 | 1.1E+02 | 7.1E+02 |
| 7.4 | 3.0E+01 | 4.5E+01 | 8.6E+03 | 4.0E+02 | 3.7E+06 | 1.6E+01 | 1.5E+02 | 2.5E+02 | 3.1E+01 | 3.3E+00 | 8.2E+01 | 1.3E+02 | 7.1E+02 |
| 7.5 | 3.0E+01 | 4.6E+01 | 1.3E+04 | 5.9E+02 | 3.9E+06 | 1.6E+01 | 1.6E+02 | 3.5E+02 | 3.9E+01 | 3.1E+00 | 8.5E+01 | 1.6E+02 | 7.1E+02 |
| 7.6 | 3.1E+01 | 4.6E+01 | 2.0E+04 | 8.7E+02 | 4.1E+06 | 1.5E+01 | 1.7E+02 | 4.9E+02 | 4.8E+01 | 2.9E+00 | 8.7E+01 | 1.9E+02 | 7.1E+02 |
| 7.7 | 3.1E+01 | 4.7E+01 | 3.0E+04 | 1.3E+03 | 4.2E+06 | 1.5E+01 | 1.8E+02 | 7.0E+02 | 5.9E+01 | 2.7E+00 | 8.9E+01 | 2.4E+02 | 7.1E+02 |
| 7.8 | 3.1E+01 | 4.9E+01 | 4.6E+04 | 1.9E+03 | 4.3E+06 | 1.4E+01 | 1.9E+02 | 9.9E+02 | 7.3E+01 | 2.5E+00 | 9.1E+01 | 3.1E+02 | 7.1E+02 |
| 7.9 | 3.1E+01 | 5.0E+01 | 6.9E+04 | 2.9E+03 | 4.3E+06 | 1.4E+01 | 1.9E+02 | 1.4E+03 | 8.9E+01 | 2.4E+00 | 9.4E+01 | 4.0E+02 | 7.1E+02 |
| 8.0 | 3.1E+01 | 5.2E+01 | 1.0E+05 | 4.3E+03 | 4.3E+06 | 1.4E+01 | 2.0E+02 | 1.9E+03 | 1.1E+02 | 2.2E+00 | 9.6E+01 | 5.3E+02 | 7.1E+02 |
| 8.1 | 3.2E+01 | ---a | ---a | ---a | ---a | 1.3E+01 | ---a | ---a | ---a | 2.1E+00 | 1.0E+02 | ---a | 7.1E+02 |
| 8.2 | 3.2E+01 | ---a | ---a | ---a | ---a | 1.3E+01 | ---a | ---a | ---a | 1.9E+00 | 1.0E+02 | ---a | 7.1E+02 |
| 8.3 | 3.2E+01 | ---a | ---a | ---a | ---a | 1.3E+01 | ---a | ---a | ---a | 1.8E+00 | 1.0E+02 | ---a | 7.1E+02 |
| 8.4 | 3.2E+01 | ---a | ---a | ---a | ---a | 1.2E+01 | ---a | ---a | ---a | 1.7E+00 | 1.1E+02 | ---a | 7.1E+02 |
| 8.5 | 3.2E+01 | ---a | ---a | ---a | ---a | 1.2E+01 | ---a | ---a | ---a | 1.6E+00 | 1.1E+02 | ---a | 7.1E+02 |
| 8.6 | 3.3E+01 | ---a | ---a | ---a | ---a | 1.2E+01 | ---a | ---a | ---a | 1.5E+00 | 1.1E+02 | ---a | 7.1E+02 |
| 8.7 | 3.3E+01 | ---a | ---a | ---a | ---a | 1.2E+01 | ---a | ---a | ---a | 1.4E+00 | 1.2E+02 | ---a | 7.1E+02 |
| 8.8 | 3.3E+01 | ---a | ---a | ---a | ---a | 1.1E+01 | ---a | ---a | ---a | 1.3E+00 | 1.2E+02 | ---a | 1.9E+03 |
| 8.9 | 3.3E+01 | ---a | ---a | ---a | ---a | 1.1E+01 | ---a | ---a | ---a | 1.2E+00 | 1.2E+02 | ---a | 1.9E+03 |
| 9.0 | 3.3E+01 | ---a | ---a | ---a | ---a | 1.0E+01 | ---a | ---a | ---a | 1.1E+00 | 1.2E+02 | ---a | 1.9E+03 |

a No data available for this pH.

(Source: Amended at 31 Ill. Reg. 4063, effective February 23, 2007)