**Section 259.APPENDIX E Pesticide Organic Carbon Partition Coefficients and Henry's Law Constants**

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| --- | --- | --- | --- |
| Pesticide Name | CAS No.a | Organic Carbon  Partition  Coefficients  Koc (L/kg)b | Henry's Law Constant  H' (unitless)c |
|  |  |  |  |
| acetochlor | 34256-82-1 | 952d | 9.14E-07f |
| acifluorfen sodium | 62476-59-9 | 113 | 8.10E-13 |
| alachlor | 15972-60-8 | 124 | 1.32E-06 |
| aldicarb | 116-06-3 | 26 | 5.07E-09 |
| aldrin | 309-00-2 | 17500 | 1.65E-02 |
| atrazine | 1912-24-9 | 147 | 1.01E-07 |
| bentazon sodium | 50723-80-3 | 35 | 4.63E-14 |
| bromacil | 314-40-9 | 15h | 4.57E-09 |
| bromoxynil(o) | 1689-99-2 | 190 | 1.31E-03 |
| butylate | 2008-41-5 | 304 | 3.46E-03 |
| carbofuran | 1563-66-2 | 46 | 2.10E-08 |
| chlordane | 57-74-9 | 60000 | 3.86E-03 |
| chlorimuron-ethyl | 90982-32-4 | 91h | 7.48E-14 |
| chlorpyrifos | 2921-88-2 | 9930 | 3.02E-04 |
| cyanazine | 21725-46-2 | 218 | 1.34E-10 |
| 2,4-D | 94-75-7 | 48 | 7.35E-11 |
| 4,4'-DDD | 72-54-8 | 231000 | 3.64E-04 |
| 4,4'-DDE | 72-55-9 | 883000 | 4.15E-03 |
| 4,4'-DDT | 50-29-3 | 921000h | 3.65E-04 |
| diazinon | 333-41-5 | 1520 | 2.90E-05 |
| dicamba | 1918-00-9 | 13 | 1.79E-08 |
| dieldrin | 60-57-1 | 12000 | 2.65E-05 |
| dimethoate | 60-51-5 | 20 | 5.61E-10 |
| dinoseb | 88-85-7 | 30g | 2.44E-07 |
| disulfoton | 298-04-4 | 1345 | 6.68E-05 |
| endosulfan | 115-29-7 | 12400 | 1.19E-05 |
| endothall | 145-73-3 | 85 | 1.56E-14i |
| endrin | 72-20-8 | 10000 | 5.99E-05 |
| EPTC | 759-94-4 | 223 | 6.56E-04 |
| glyphosate | 1071-83-6 | 2100 | 5.732-11 |
| HCH-alpha | 319-84-6 | 5440d | 3.53E-04e |
| heptachlor | 76-44-8 | 24000 | 1.43E-01 |
| heptachlor epoxide | 1024-57-3 | 78600d | 2.05E-03e |
| lindane | 58-89-9 | 1355 | 7.42E-05 |
| linuron | 330-55-2 | 496 | 2.56E-07 |
| malathion | 121-75-5 | 1200 | 4.64E-07 |
| methoxychlor | 72-43-5 | 76000 | 4.80E-04i |
| metolachlor | 51218-45-2 | 70 | 9.91E-07 |
| metribuzin | 21087-64-9 | 52 | 1.48E-09 |
| parathion, ethyl | 56-38-2 | 7660 | 9.57E-06 |
| parathion, methyl | 298-00-0 | 6300 | 3.88E-07 |
| pendimethalin | 40487-42-1 | 12400 | 4.98E-04 |
| permethrin | 52645-53-1 | 39300 | 7.68E-05 |
| phorate | 298-02-2 | 1057 | 4.07E-04 |
| simazine | 122-34-9 | 140 | 3.96E-08 |
| 2,4,5-TP | 93-72-1 | 5440d | 2.04E-06e |
| terbufos | 13071-79-9 | 650 | 1.09E-03 |
| toxaphene | 8001-35-2 | 100000 | 2.97E-05 |
| trifluralin | 1582-09-8 | 7200 | 6.21E-03 |

Notes:

a Chemical Abstract Service (CAS).

b Selected values from U.S. Department of Agriculture, Agriculture Research Service, Pesticide Properties Database (PPD), Alternate Crops & Systems Laboratory, Beltsville, Maryland, http://wizard.arsusda.gov/acsl/ppdb3.html, unless otherwise noted.

c H' = KH as atm-m3/mol {vapor pressure x molecular weight / solubility in water} x {R (gas constant) x T (temperature as degrees Kelvin)} = KH x 41 at 25° C. Values from the ARS Pesticide Properties Database (PPD), unless otherwise noted.

d Koc = 10**(**(0.983 x log Kow) + 0.00028**)**, log Kow linear relationship with Koc by Di Toro, 1985 (Technical Background Document, p. 140, incorporated by reference at Section 259.150), log Kow values from Syracuse Research Corporation, Physical Properties Database (PHYSPROP), http://esc.syrres.com/interkow/physprop.htm.

e Estimated KH values using data from the SRC Physical Properties Database (PHYSPROP) then converted to H' as noted in c above.

f KH values from the SRC Physical Properties Database (PHYSPROP) then converted to H' as noted in c above.

g Low Koc based on anionic nature (high solubility, low vapor pressure and above pH 5).

h Mean of values listed in ARS Pesticide Properties Database (PPD).

i Estimated using vapor pressure from SRC Physical Properties Database (PHYSPROP).

(Source: Amended at 32 Ill. Reg. 1308, effective January 21, 2008)