

TABLE 13 – Toxicity, Solubility, Adsorptivity and Persistence of Herbicides

| Trade Name | Toxicity ¹ LD ₅₀ mg/kg | | Water Solubility (ppm at 25°C) | Adsorptivity to Soil | Soil Persistence at Standard Rate (months) | Runoff/ Leaching Potential ² |
|---------------------|---|-----------|-----------------------------------|-------------------------|---|---|
| | Oral | Dermal | | | | |
| Accent Q | >5000 | >2000 | 70 (pH 7.0) | weak–moderate | 1–10 | 3/1 |
| Affinity BroadSpec | >5000 | >2000 | * | * | 0.5 | 2/2 |
| Aim | >5000 | >5000 | 22 | strong | – | –/– |
| Armezon/Impact | >2000 | >4000 | 15,000 ppm@20° C | moderate | 1–8 | –/– |
| Assure II | 4100–5900 | >2000 | <1 | moderate | 0.5 | 1/2 |
| Atrazine | 1075–4346 | >3100 | 33 | strong | 2–8 | 2/1 |
| Authority XL | 1750 | >5000 | – | strong | 2–10 | 2/1 |
| Balance Flexx | >2000 | >2000 | 6.8 | strong | – | –/– |
| Banvel/Clarity | 2629–3512 | >2000 | 4500 | weak | 1–6 | 3/1 |
| Basagran | 2063 | >10,000 | 500 | weak | 0.5 | 3/1 |
| Basis Blend | >5000 | >2000 | – | – | – | –/– |
| Beacon | >5050 | >2010 | 18,000 (pH 7.2) | weak | 1–5 | 2/1 |
| Callisto | >5000 | >5000 | – | – | – | – |
| Capreno | >2000 | >2000 | – | – | – | – |
| Classic | >5000 | >2000 | 300 | strong | 1–10 | 2/1 |
| Cobra | 2400–2600 | >2000 | 0.1 | strong | 0.5 | 2/3 |
| Command | 2084–5000 | 2000–5000 | 1100 | v. strong | 3–6 | 2/2 |
| 2,4-D | 375–1492 | >2000 | 900 | weak | 1 | 2/2 |
| 2,4-DB | >1706 | 2000 | insoluble | weak | 1 | 2/3 |
| Dual II Magnum | 2672–2952 | >2020 | 530 | strong | 1–3 | 2/1 |
| Eptam | 1325–5000 | 1500–5000 | 370 | strong | 1.5–2 | 2/3 |
| Express | >5000 | >2000 | 286 | – | 0.5 | 2/2 |
| FirstRate | >5000 | >2000 | 184 | moderate | 1–4 | –/– |
| glyphosate** | >5000 | >5000 | 900,000 (pH 7.0) | v. strong | 1 | 1/3 |
| Gramoxone SL | 310 | >2000 | infinite | v. strong | 1 | 1/3 |
| Harmony Extra | >5000 | >2000 | * | * | 0.5 | 2/2 |
| Harmony | >5000 | >2000 | 2400 | – | 0.25 | 2/2 |
| Harness | 1249–2948 | 4166–5000 | 223 | moderate | 1–2 | 2/2 |
| Hornet | >5000 | >5000 | – | – | – | 3/1 |
| Kerb | >5000 | >2000 | 15 | strong | 2–9 | 2/1 |
| Laudis | 1750 | 5000 | – | – | – | 1/1 |
| Liberty | 2119-2030 | 1390-5319 | – | – | – | –/– |
| Lorox | 3600–4833 | >2000 | 75 | v. strong | 2–4 | 1/2 |
| Matrix | >5000 | >2000 | – | – | 0 | –/– |
| MCPA | 800 | 1500 | insoluble | v. weak | 1–4 | 1/3 |
| Metribuzin | 1500–2794 | >5000 | 1200 | moderate | 2–4 | 2/1 |
| Moxy | 780 | 2000 | 50 | moderate | 0.5 | 2/3 |
| Nortron SC/Ethotron | >2100 | >4100 | 110 | strong | 1–4 | 2/2 |
| Optill | >2000 | >2000 | – | weak | 2-8 | – |
| Osprey | >2000 | >2000 | – | – | – | –/– |

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|------------------------------|---|-----------|-----------------------------------|-------------------------|---|---|
| | Oral | Dermal | | | | |
| Outlook | 695 | >2000 | 1174 | moderate | 1–2 | 2/2 |
| Permit | 1287 | >5000 | 15 | – | – | 2/2 |
| Poast | 2200–4100 | 2000–5000 | 48 | moderate | 0.25 | 2/3 |
| Princep | >5000 | 2000–2500 | 5 | strong | 2–8 | 2/1 |
| Prowl/Prowl H ₂ O | 3956 | >2200 | <1 | v. strong | 3–6 | 1/3 |
| Pursuit | 3506–5000 | >2000 | 1,400 | weak | 2–8 | 1/1 |
| Python | >5000 | >2000 | 49 | moderate | 2–8 | 3/1 |
| Raptor | >5000 | >4000 | – | weak | 1–2 | –/– |
| Reglone | 600–810 | 260–315 | infinite | v. strong | – | 1/3 |
| Reflex/Flexstar | 3683–8160 | >1000 | 600,000 | weak | 6 | 2/1 |
| Resolve Q | 1611 | >2000 | – | – | – | 1/1 |
| Resource | 3200–4100 | >2000 | 0.189 | strong | – | 3/2 |
| Ro-Neet | 3160–3690 | >4640 | 85 | strong | 1–3 | 2/2 |
| Select Max | 2920–3610 | >5000 | infinite | moderate | 0.25 | 3/3 |
| Sharpen | >2000 | >5000 | 2100 | weak | 0.5 | – |
| Sinbar | 5000–7500 | >5000 | 710 | moderate | 5–6 | 2/1 |
| Sonalan | 3300–5000 | >5000 | 1 | v. strong | 3–5 | 1/3 |
| Spartan | 2416 | >5000 | 110 | moderate | 2–8 | –/– |
| Steadfast Q | >5000 | >2000 | – | – | – | – |
| Stinger HL | >5000 | >5000 | 1000 | moderate | 1–10 | 3/1 |
| Surpass NXT | 1249–2948 | 4165–5000 | 223 | moderate | 1–2 | 2/2 |
| Synchrony XP | >5000 | >2000 | 300 | strong | 1–10 | 2/1 |
| Trifluralin | 3738 | >2000 | <1 | v. strong | 3–6 | 1/3 |
| Ultra Blazer | 4790 | 3250 | infinite | strong | 1 | 2/2 |
| Upbeet | >5000 | >2000 | 110 (pH 7.0) | weak | – | –/– |
| Valor/Valor EZ | >5000 | >2000 | 1.78 | – | – | – |
| Velpar | 1100–4120 | >5000 | 33,000 | strong | 4–6 | 2/1 |
| Verdict | >2000 | >5000 | – | moderate | 1–2 | 2/2 |
| Vida | >5000 | >2000 | – | – | – | – |
| Warrant | >5000 | >5000 | 223 | moderate | 1–2 | 2/2 |
| WideMatch | >5000 | >5000 | 1000 | moderate | 1–10 | 3/1 |
| Zidua | >2000 | >2000 | 3.49 @ 20° C | weak | 1–2 | –/– |
| (Table Salt) | 3320 | – | 360,000 | – | – | – |
| (Aspirin) | 1200 | – | 2,500 | – | – | – |

– No information available; Sources: Herbicide Handbook

1 The LD50 is a standard toxicological term which indicates the number of milligrams (mg) of pesticide per kilogram (kg) of test animal body weight required to kill 50% of a test animal population. Values less than 10 indicate extremely high toxicity to mammals. The LD50 data have been obtained from the Material Data Safety Sheets.

2 The runoff/leaching potential ratings are from the ARS/NRCS pesticide properties database and were developed for use with the NRCS soils ratings for water quality in the NRCS “Soil-Pesticide Interaction Ratings.” 1=high, 2=medium, 3=low.

** Glyphosate IPA salt; active ingredient in products in Table 10.