Use Trends of Cholinesterase-Inhibiting Pesticides: Pounds Applied

Text files of data are available. The reported pounds of chemicals used that are cholinesterase-inhibiting pesticides. Cholinesterase (ChE) inhibiting pesticides block the enzyme cholinesterase that breaks down acetylcholine, which can result in overstimulation of the nervous symptom. Organophosphates and carbamates are the two primary chemical classes of ChE-inhibiting pesticides, although not all pesticides in these two classes exhibit Ch-E inhibition. Values greater than one are rounded. For more information, see Pesticide Use Annual Report Data Access, References, and Definitions Guide.

Chemical	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
3-iodo-2-propynyl butylcarbamate	28	2,769	2,700	1,795	1,202	1,415	946	1,461	1,480	18
Acephate	170,760	204,700	192,145	214,356	158,659	123,761	121,474	117,951	138,111	146,126
Azinphos-methyl	1	0	1	0	0	0	0	0	0	0
Bendiocarb	1	4	3	2	2	< 1	< 1	< 1	< 1	0
Bensulide	346,236	294,502	285,284	312,138	311,982	336,684	341,080	328,245	373,170	360,699
Butylate	0	10	0	0	0	0	0	0	0	0
Carbaryl	155,525	221,095	107,470	128,935	113,755	110,504	99,403	85,258	84,492	91,083
Carbophenothion	0	0	< 1	0	0	< 1	0	0	0	0
Chlorpropham	4,028	6,460	5,173	5,529	7,087	3,245	2,289	1,529	1,382	486
Chlorpyrifos	1,107,435	903,260	947,954	602,946	12,817	14,121	7,507	1,825	1,933	2,445
Coumaphos	< 1	0	< 1	5	0	0	0	0	< 1	0
Crotoxyphos	0	< 1	0	0	0	0	0	0	< 1	0
Cycloate	39,767	45,627	49,844	41,749	43,660	41,520	41,854	40,466	40,321	40,751
Ddvp	4,132	3,919	3,523	3,581	3,350	4,582	3,542	4,984	4,068	3,582
Ddvp, other related	34	35	22	28	42	88	31	45	22	30
Desmedipham	112	168	52	77	146	13	68	0	< 1	0
Diazinon	52,665	48,992	72,612	33,497	40,113	45,569	36,397	43,062	39,932	16,302
Dicrotophos	< 1	0	0	0	0	0	0	0	0	0
Dimethoate	288,977	243,891	223,336	167,955	161,660	152,952	92,560	86,792	111,215	94,635

Chemical	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Dioxathion	0	0	< 1	0	0	0	< 1	0	0	0
Dioxathion, other related	0	0	< 1	0	0	0	< 1	0	0	0
Disulfoton	415	10	12	16	20	4	< 1	1	< 1	< 1
Epn	< 1	2	< 1	< 1	4	16	38	11	< 1	< 1
Eptc	238,017	255,431	259,751	218,451	187,727	181,345	133,018	153,863	140,806	160,440
Ethephon	319,367	399,909	485,246	433,810	445,070	348,395	318,323	335,111	345,095	382,851
Ethion	< 1	0	< 1	0	2	0	99	< 1	0	8
Ethoprop	1,820	2,023	2,134	5,848	5,950	7,792	9,490	14,200	13,006	10,302
Fenamiphos	97	143	131	< 1	0	0	0	0	< 1	0
Fenoxycarb	9	2	3	< 1	< 1	< 1	< 1	< 1	< 1	2
Fenthion	0	< 1	0	0	< 1	< 1	0	< 1	< 1	0
Formetanate hydrochloride	31,172	42,037	36,709	40,183	42,675	34,132	55,250	55,806	69,797	30,196
Malathion	443,262	355,452	334,893	361,854	325,357	360,251	252,116	320,238	272,942	318,349
Methamidophos	0	0	< 1	< 1	0	0	0	0	0	0
Methidathion	245	146	11	140	2	< 1	3	0	0	< 1
Methiocarb	3,371	2,810	2,803	2,485	1,850	1,327	1,002	568	323	73
Methomyl	282,520	262,111	234,580	224,662	204,228	259,254	236,159	251,956	193,292	203,349
Methyl parathion	182	24	5	10	4	74	54	22	< 1	< 1
Methyl parathion, other related	5	< 1	0	0	< 1	< 1	0	0	0	< 1
Mevinphos	9	4	0	7	150	19	0	0	< 1	0
Mevinphos, other related	6	3	0	5	100	12	0	0	< 1	0
Molinate	< 1	5	0	0	< 1	4	0	0	0	0
Naled	288,491	316,868	283,944	330,866	317,847	209,914	199,245	226,060	232,875	224,439
Oxamyl	17,236	2,466	38,302	78,741	103,801	63,438	26,011	36,711	87,942	90,673
Oxydemeton-methyl	6,610	3,764	1,533	1,460	9	< 1	< 1	< 1	0	0

Chemical	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Parathion	836	41	3	3	49	11	< 1	149	68	280
Parathion, other related	1	< 1	0	0	0	0	0	7	2	13
Phenmedipham	285	388	271	376	395	177	184	251	175	240
Phorate	19,519	20,378	29,897	25,477	30,815	17,841	10,604	10,109	3,452	9,891
Phosacetin	< 1	0	< 1	< 1	< 1	0	0	0	< 1	0
Phosmet	19,278	28,971	16,869	22,585	24,856	32,075	23,973	13,271	6,615	15,965
Phosphamidon	0	6	0	0	1	0	0	39	0	0
Phosphamidon, other related	0	< 1	0	0	< 1	0	0	1	0	0
Potassium dimethyldithiocarbamate	0	0	0	0	0	0	0	0	0	19,830
Propamocarb	110	228	121	139	400	551	473	2,599	192	162
Propamocarb hydrochloride	78,143	67,078	66,035	61,993	63,281	72,817	69,070	78,838	64,711	88,763
Propetamphos	5	2	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1
Propoxur	100	49	43	29	15	5	3	3	2	< 1
Ronnel	< 1	< 1	< 1	0	< 1	< 1	0	0	< 1	0
S,s,s-tributyl phosphorotrithioate	6,472	6,882	8,151	8,911	8,104	6,546	6,804	3,974	3,503	2,768
Sodium dimethyl dithio carbamate	9,357	18,414	18,854	11,257	4,797	1,082	7	< 1	< 1	0
Temephos	5	3	4	2	2	3	< 1	9	0	< 1
Tetrachlorvinphos	173	66	55	109	63	31	38	< 1	< 1	2
Thiobencarb	523,582	698,888	603,226	592,804	654,018	595,147	393,690	229,657	465,525	244,602
Thiodicarb	0	0	< 1	0	0	0	0	0	0	0
Triallate	4,830	5,217	1,568	3,796	1,422	286	898	326	871	923
Trichlorfon	< 1	< 1	< 1	4	7	2	< 1	< 1	1	0
Total	4,465,237	4,465,253	4,315,274	3,938,619	3,277,498	3,027,011	2,483,708	2,445,399	2,697,325	2,560,281